



CENTERVILLE-WASHINGTON PARK DISTRICT

GRANT PARK MASTER PLAN

CENTERVILLE, OH | 14 DECEMBER 2020



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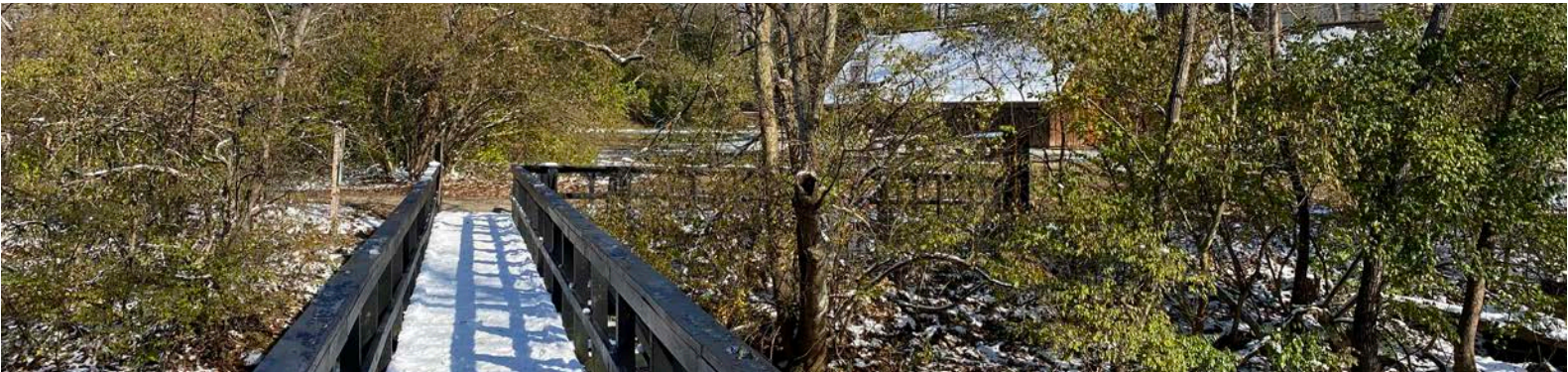
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ACKNOWLEDGMENTS

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**“I TOOK A
WALK IN THE
WOODS AND
CAME OUT
TALLER THAN
THE TREES”**

HENRY DAVID THOREAU

CWPD MISSION & VISION

MISSION STATEMENT

Deliver fun, healthy, and outstanding park experiences that connect the community with the outdoors.

VISION

To become the outdoor recreation destination of choice for the community we serve.

VALUES (we believe in ...)

- Creating positive memories.
- Integrity.
- Public service.
- Fiscal responsibility.
- Environmental responsibility.



EXECUTIVE SUMMARY

GRANT PARK is a beautiful and scenic 189-acre natural area that stretches along Holes Creek from Normandy Elementary School to McEwen Road. Developed on the former country estate, Normandy Farms, the park still contains remnants of buildings and structures developed by Richard H. Grant, Sr. Today, the park is surrounded primarily by residential neighborhoods, I-675 to the south, two schools, and a retirement community. The park provides access to protected forests, meadows, prairies, wetlands, and a meandering stream. A popular and extensive trail network connects the park's natural and historic features with amenities which include a nature nook, natural play area, storybook trail, campfire circles, sled hills, picnic areas and more.

The master plan recommendations reflect a large number of passionate voices from the community, feedback from park staff members, and information gathered from a desktop analyses and a multi-day site visit. Overwhelmingly, community members stressed the importance of having great trails that provide diverse experiences and can be readily maintained. The community also requested additional park programming, picnic areas, and benches, valued the remaining historic remnants, and expressed continued support for invasive species removal and efforts to limit streambank erosion along Holes Creek. Park staff members provided additional insight from their experiences regarding opportunities and challenges within the park with a focus on programming, natural resource management, and trail maintenance.

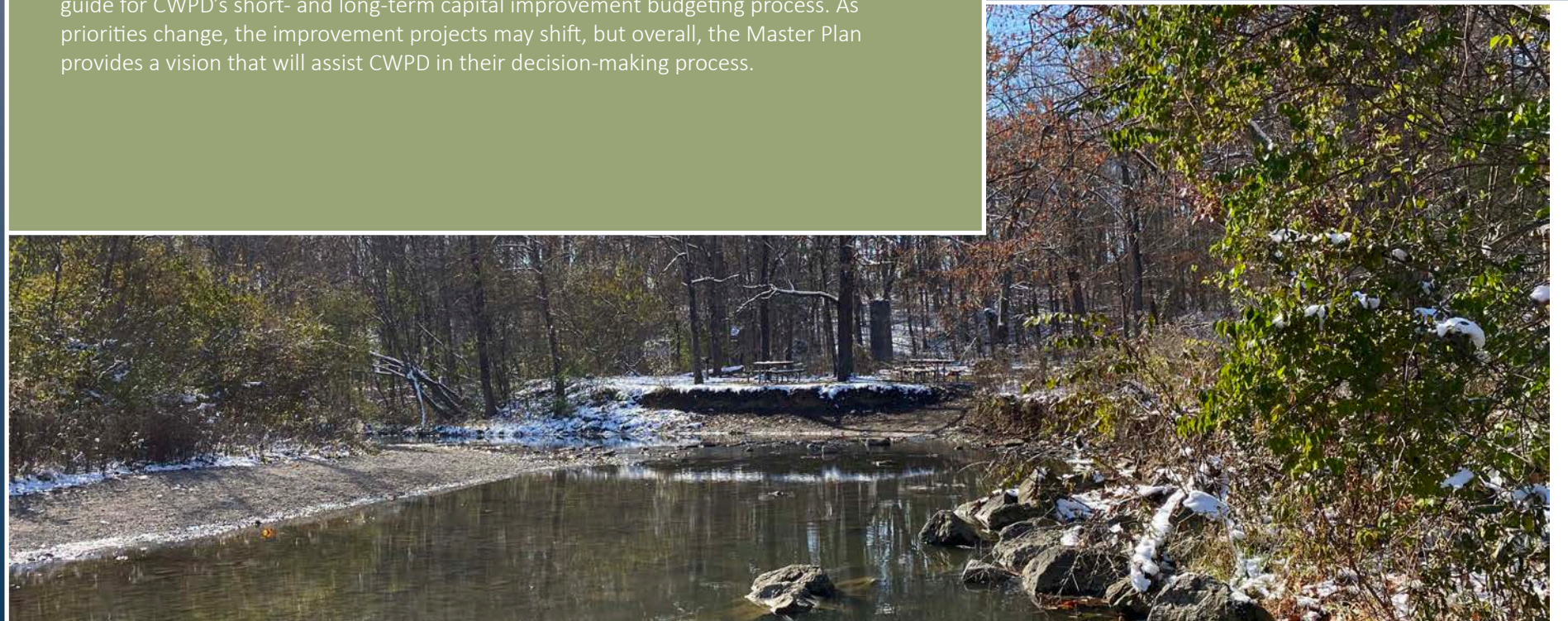
Overwhelmingly, community members stressed the importance of having **great trails** that provide **diverse experiences** and can be **readily maintained**.

Based on the collective input from the community and in collaboration with park staff, the project team developed a number of recommendations. The recommendations below reflect the passion of the community, the enthusiasm of the park staff and the vision of a park that will better serve the community today and in the coming years. The recommendations are as follows:

1. Provide a quality trail network:
Develop a balanced system of trails within the park that offers a variety of experiences, range of difficulty levels, clear wayfinding, and can be readily and easily maintained by CWPDP staff
2. Enhance the primary entrances:
Reimagine and enrich the primary entrances to create clearly identifiable and memorable arrival experiences that orient and draw visitors into the park and provide a sense of wonder and excitement for both new and existing park customers.
3. Develop quality program areas:
Improve existing and support program expansion focusing on age appropriate nature-based recreation, education, and wellness.
4. Advance ecological resiliency:
In cooperation with other agencies and organizations, continue efforts to manage and stabilize streambank erosion, improve water quality, control invasive species, and improve habitats for flora, fauna, and wildlife.

These recommendations set the stage for future improvements at Grant Park to improve the guest experience and provide, as noted later in the report, a prioritized guide for CWPDP's short- and long-term capital improvement budgeting process. As priorities change, the improvement projects may shift, but overall, the Master Plan provides a vision that will assist CWPDP in their decision-making process.

The Master Plan provides a **vision** that will assist CWPDP in their decision-making process.



PROJECT APPROACH

PARKS have the ability to strengthen the connections between people and places that we share. Great parks are those places where people belong, where friends run into each other, habitats thrive, experiences are shared, fun is had, and cultures mix. They are our front and back porches – where we interact with one another and our natural surroundings. When these spaces work well, they become an integral part of the individual and our community’s shared memory.

This project is a natural iteration of an organization that wants to push the envelope to make the greatest impact in the lives of our community and to “deliver fun, healthy, and outstanding park experiences that connect the community with the outdoors.”

The project approach focused on providing the Centerville-Washington Park District (CWPD) with a design process that would result in an inspirational, yet practical roadmap that reflects the voice of the community and the natural environment of Grant Park. The design approach had three (3) primary phases of work: Needs Assessment, Recommendations, and Implementation Strategy intertwined with a stakeholder engagement plan that provided regular opportunities for community and staff members to participate throughout the design process.



PROJECT FOCUS

While the initial intent of the master plan focused on trails, wayfinding, park programming, buildings, and amenities, it was clear from the community’s initial feedback through the online survey and input from CWPD staff that an increased emphasis on natural resources was needed. In late spring, the project team revised the scope of work to include an expanded assessment of the park’s natural resources including existing conditions, field notes, and general recommendations to be included in the final report. In order to accommodate this change, the focus on park programming, buildings, and utilities was reduced to provide general recommendations.

STAKEHOLDER ENGAGEMENT

Stakeholder engagement is centered on observing, listening to, and asking questions of the people from the area who live, work, and play in Grant Park in order to understand their needs and aspirations for that space and for their community as a whole. Due to the COVID-19 pandemic, the proposed community engagement strategies were modified to include an online survey and virtual community meeting. With the parks’ visitation numbers skyrocketing, the online survey was posted in late spring and kept open through the end of August and the virtual meeting was held in early July. Collaboration with CWPD staff took place during site visits, focus group meetings, and design charrettes held during the first week of July, and regular project update meetings held throughout the course of the project.

NEEDS ASSESSMENT

Over the course of the spring, a significant amount of information was collected, documented and analyzed to understand the current conditions, operations and programming opportunities to provide a starting point for the project. The needs assessment focused on research, observations, and analysis that provided a baseline for the site and facility conditions as well as determined the property’s development potential and limitations. Areas of study and information gathered included review and analyses of past planning documents, the history of the property and surrounding region, demographic trends, base maps, site inventories, habitats, streambank erosion, trails and wayfinding, existing facilities and amenities, codes and regulations, programming and operations. In July, EDG staff members visited the site over the course of four days to inventory existing conditions and collaborate with CWPD staff members.

PROJECT APPROACH

RECOMMENDATIONS

The master planning phase typically includes several inter-dependent plans that outline the separate aspects of physical improvement: Concept Exploration, Site Utilization Plans, Preliminary Plan, and a Final Master Plan. Within each plan, the team evaluated the park from three lenses: Natural Resources, Trails and Wayfinding, and Facilities and Amenities.

IMPLEMENTATION STRATEGY

The Implementation Plan is a narrative guideline for accomplishing the recommendations and designs outlined in the Master Plan. This plan includes an Analysis of Grant Funding Opportunities, a high-level Opinion of Probable Construction Cost estimates, and a Phasing Plan. Together, the documents indicate costs, priorities, and development strategies within a practical framework of action.



The **Design Concepts** and **Recommendations**, and **Implementation Strategy** were developed between July and September in collaboration with CWPD staff and followed by development of the draft master plan report which was presented to the Board in November 2020.

PROJECT SCHEDULE

PROJECT LAUNCH

MARCH 2020
Project Kick-Off Meeting

NEEDS ASSESSMENT & STAKEHOLDER ENGAGEMENT

APRIL – JUNE 2020
Data Collection and Document Review
Existing Conditions – Basemap Development
Online Survey

JULY 2020
On-Site Work Sessions
Site Visits
Focus Group Meetings
Virtual Community Meeting
Preliminary Design Concepts

RECOMMENDATIONS & IMPLEMENTATION STRATEGY

AUGUST - SEPTEMBER 2020
Design Concept Exploration
Preliminary and Final Master Plans
Natural Resource Recommendations
Grant Funding Analysis
Opinion of Probable Construction Cost
Phasing Plan

SUMMARY REPORT

OCTOBER - NOVEMBER 2020
Summary Report Text and Graphics
Final Documentation

PARK HISTORY

When CWPD was formed in 1959, the commissioners had their eye on the area surrounding Hole’s Creek as a nature reserve. The horseshoe-shaped flow of the creek ran through Normandy Farms, formerly the country estate of Richard H. Grant, Sr. When Grant died in 1957 the family chose to divide the estate into parcels. They are Normandy United Methodist Church in the mansion, Grant Park, Normandy Elementary School, Grant Life Nature Center and residential housing.

In 1963, a zoning agreement stated that the title for this 45-acre nature area that the Park District was interested in would be given to the Washington Township trustees. The trustees then assigned their rights to the Park District.

Over the years, the park grew as a result of a number of open space transfers and purchases. In 1966, the Park District decided that the forest and field areas within the original park space along the horseshoe bend should be added to the park in order to preserve the entire significant, unique and beautiful natural area forever. A study made by the Miami Valley Regional Planning commission concluded it should all be acquired by the Park District and preserved at all costs. The report also suggested acquiring the adjacent agricultural land to the south for a buffer zone.

The Park District also wanted to connect the park to McEwen Road on the west. A 12-acre open space transfer acquisition resulted in a 1/3-mile Hole’s Creek westward extension in 1974.

In 1993, the Township Trustees, which owned four acres on McEwen Road, and the Park District, which owned approximately the same amount of land next to the Rec Center on Miamisburg-Centerville Road, traded properties. Ohio said the law did not allow such a swap, but Bob Corbin, state representative got the law changed and the frontage was acquired for the Park District and the Rec Center received land it needed.

Note: Park history from 1959 to 1993 provided courtesy of Pat Aldrich, Centerville-Washington History



1878

Richard H. Grant born in Ipswich, Massachusetts



1904

Richard H. Grant moves to Dayton to work for National Cash Register Company (NCR)



1927

An executive with Chevrolet, RHG buys 6 parcels totaling 193.54 acres

Named estate Normandy Farms after the area of Northern France

Started construction of mansion –CA cost \$1.0M in 1927



1938

Family purchases an additional 209.7 acres— estate eventually totals approximately 800 acres.



1957

Washington Township approves open space zoning law including a park in each square mile of the township

Richard H. Grant dies in New York City

Laura (Williams) Grant is born in Dayton, Ohio

1883



Richard H. Grant and Laura Elinor Williams are wed in Dayton

1906



Mansion is completed and Grants host a house warming party

1930



Richard and Laura Grant move to New York City

Grants sell their mansion and 12 acres to Normandy United Methodist Church

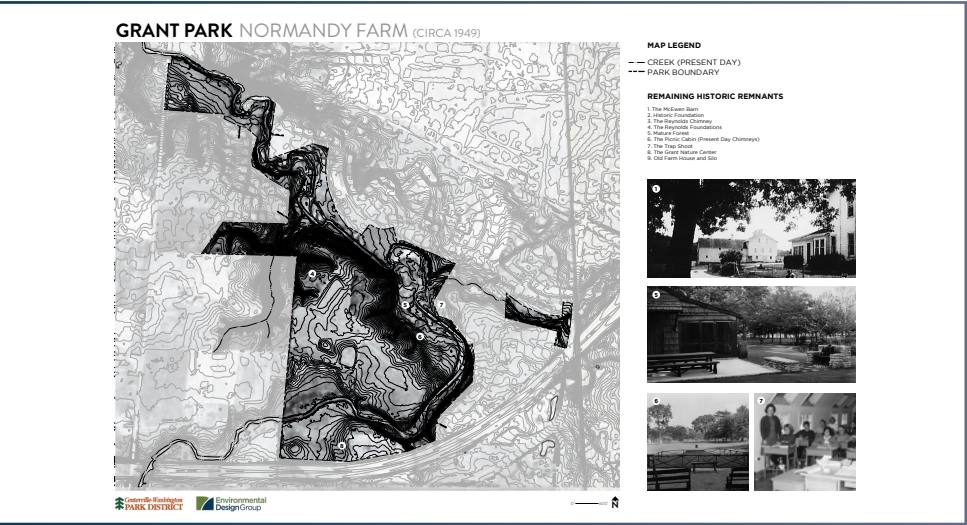
1955



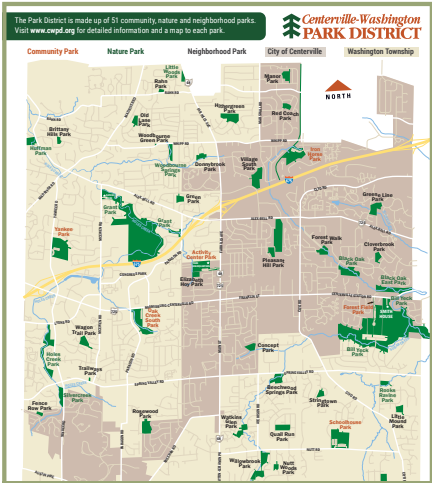
Centerville Washington Park District (CWPD) is formed with Bill Yeck as founding chairman

1959





PARK HISTORY



1960

Masterplan by CWPDP shows 32 park locations



1964

Normandy Elementary School Opens
Centerville school creates Grant Life Science Center



1970

Laura Grant passes away



1981

New bridge to link Normandy Elementary School to Grant Park constructed



1989

Grant Nature Center celebrates 25-year anniversary



2006

Kennard Nature Nook constructed

47 acres of Normandy Farms purchased as a "Nature Walk"
Permission given by family to name the 47 acres Grant Park

1963



County wide levy passed that provided funding for CWPDP land acquisition

1968



Grant Life Science Center renamed Grant Nature Center

1979



CWPDP acquires Grant Barn on McEwen Road

1987



15 parcels purchased to create 187 acre park

1964-1993



Note: Due to the outstanding circumstances surrounding the COVID pandemic, collaboration meetings were not possible with the Centerville City School District. CWPD will initiate these conversations at a later date.

400 comments

- better maps and signage
- variety of trails (type and length)
- access to and over the creek
- more places to sit
- ongoing trail maintenance
- JD!

448 individuals participated in the survey between April 15, 2020 and August 31, 2020. In addition to responses to each of the questions, just under 800 comments were received.

- 70% enter from Normandy Elementary School and about 25% enter from McEwen Road. This result may reflect the construction work that closed a portion of the Barn Trail (Yellow Trail) for much of the spring and part of the summer.
- While over 80% of people drive to the park, about 24% walk to the park.
- People come to the park to hike (almost 90%) and experience the natural areas (over 50%). They also enjoy spending time around The Chimneys (26%).
- Walking and Hiking is the most important activity at the park (selected by over 96% of the respondents) followed by access to the creek and wildlife viewing/observation. People want trails with views and photo opportunities, creek access, and loop trails. Trail navigation is okay, but many would like improved wayfinding signage.
- Trail use is balance between each of the loops with slightly more people using the Prairie/Meadow Loop (Blue) and the Long Loop (Brown). In the comment section, many people also noted appreciation for the natural, unmarked trail system that has developed over time.
- Over 35% of respondents (or their children) participate in park programs. Top programs include: summer camp, wildlife/nature, organized hikes/walks.
- 50% of respondents are interested in picnicking/small group gathering. Picnicking/gathering should be close to parking area and restrooms, offer views/buffers, proximity to a shelter/pavilion, near a natural area/outdoor education opportunity and/or a play area.
- Only 16% of respondents are part of an organized group that utilizes the park for activities. They generally come to the park to utilize the trails.
- Restoration of natural resources was important with balanced focus on woodlands, wetlands, prairie/meadow, and pollinator gardens.
- Most people are reasonably pleased with the maintenance, cleanliness and safety of the park.
- Close to 80% of people bring their phone to take photos, for personal safety, or to track a workout.
- People generally spend 30 minutes to 2 hours at the park and tend to visit more often in the afternoon during the weekend.
- 80% of respondents live in Centerville-Washington.

Over 35% of respondents (or their children) participate in park programs.

50% of respondents are interested in picnicking/small group gathering.

STAKEHOLDER ENGAGEMENT

PROJECT TEAM MEETINGS AND WORK SESSIONS

The project was also supported by a series of meetings and work sessions that provided opportunities for EDG and CWPD staff to review the project status, schedule, responsibilities, and plan for upcoming activities. Held at regular intervals via video conference, the meetings also provided time for the team to work through design opportunities and implementation strategies.



PARK INVENTORY

NATURAL FEATURES

VEGETATION

The park provides a wide range of plant communities including third growth woods, mature second growth woods, emergent wetlands (both natural and human-made), prairie, and many different types of meadows. As with most communities, they are in varying degrees of succession and stress from invasive species due to past disturbances. CWPD actively manages invasive species in a large portion of the core of the park. The results of these efforts are transforming this area into a very diverse forested ecosystem.

SLOPES AND SOILS

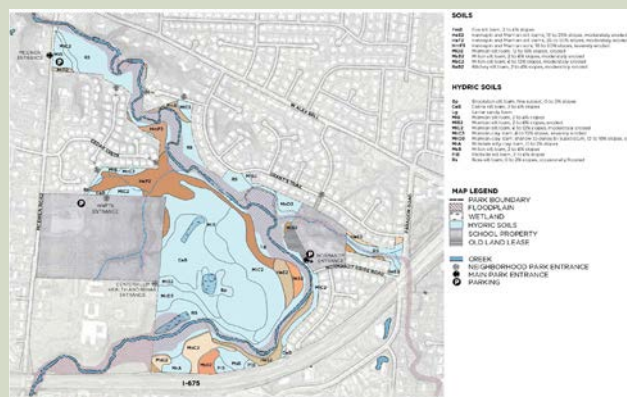
Topography dominates areas of the park, while other areas have gentle rolling features. The primary cause for this

topography is a result of thousands of years of erosion by Holes Creek and its tributaries. This has carved a valley along the south, east and north portions of the park. In areas, a floodplain was able to develop and in other areas the creek sliced through bedrock leaving a narrow, but stunning bedrock lined valley cut. The core of the park is an elevated plateau with subtle slopes. Many deeper valleys also developed as tributaries to Holes Creek formed.

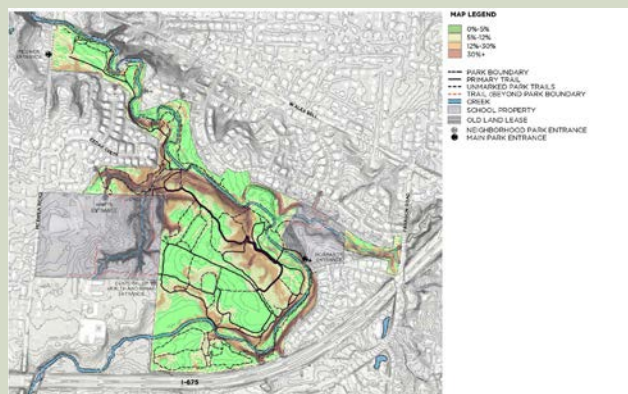
Soils are largely hydric or poor draining. Even the elevated plateau is covered in these soils. As a result, park soils take a long time to dry out in the spring and become easily wet after the fall rains return. This in turn causes muddy trail conditions that are an additional challenge to park users and maintenance personnel.



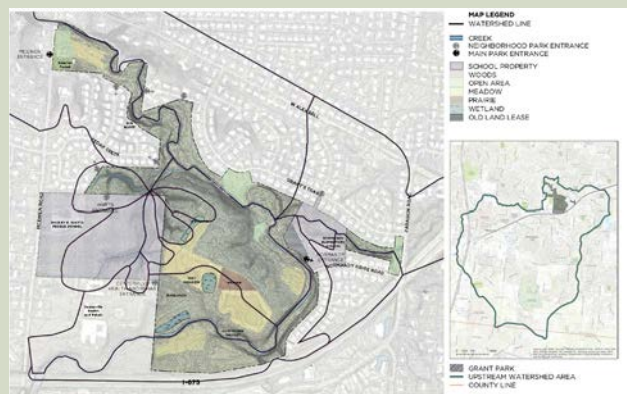
Grant Park | Existing Land Cover



Grant Park | Existing Soils and Hydrology



Grant Park | Existing Slope Analysis



Grant Park | Existing Watershed

TRAILS AND WAYFINDING

The existing trail network within Grant Park is a diverse mix of natural surface trails. They provide park visitors, not only with access to the park, but access to unique and varied landscapes. Over the years, the trails have become beloved and have organically evolved into a complex network that provides users a multitude of challenges and rewards. These challenges range from the difficulty level each trail is to navigate to maintenance access and repair issues.

In order to understand how to enhance the existing trail network, a review of the existing trail conditions was necessary. To aid in this understanding, the network was evaluated using the USDA Forest Service's Trail Fundamentals and Trail Management Objectives' Trail Class Matrix and Trail Design Parameters for Hiker/Pedestrian to classify the network and develop a baseline understanding of the network's developed condition (refer to the Appendix).

THERE ARE FIVE TRAIL CLASSES AS FOLLOWS:

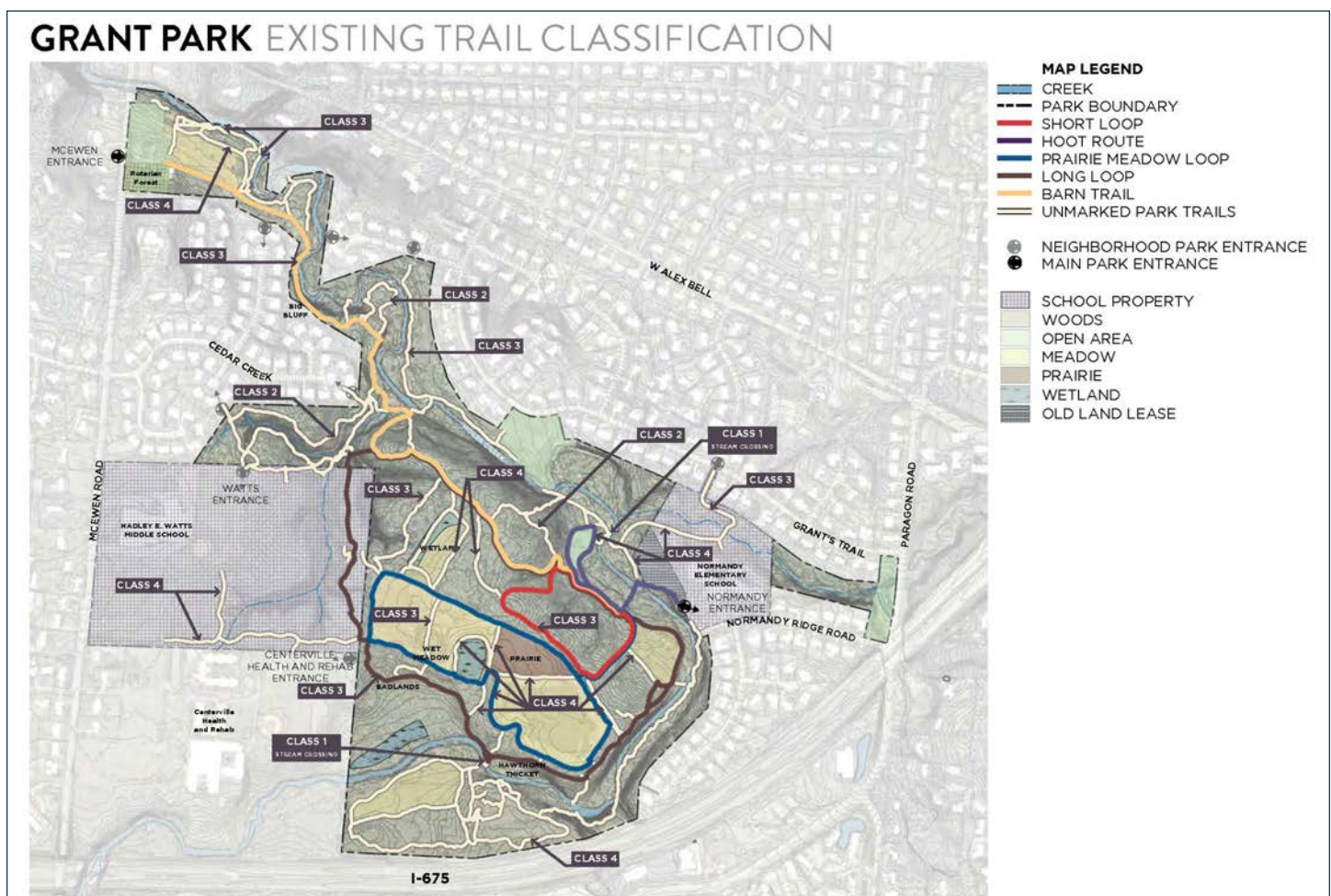
Trail Class 1 — Minimally Developed

Trail Class 2 — Moderately Developed

Trail Class 3 — Developed

Trail Class 4 — Highly Developed

Trail Class 5 — Fully Developed



Meetings with the public and park officials provided further understanding into the challenges and opportunities faced by both park users and maintenance personnel. These meetings underlined the love for the diverse trail experiences and the challenges with maintenance in such a large and varied network.

PARK INVENTORY

There are also many trails that extend beyond the park's boundary. Historically, there has been general cooperation with the City of Centerville and the school district for their development and maintenance. At Normandy Elementary School, a land lease was also created between the CWPDP and the school district however the lease lapsed in 2018. While a few of these trails are located within park owned land that

directly touch public right-of-way, most of the trails located on lands not owned by CWPDP do not have agreements or easements in place. Some of these trails connect the park to its surroundings and others leave the park boundary only to reenter elsewhere. These non-formal agreements have resulted in unclear direction as to who is responsible for maintenance activities.

WITHIN THE TRAIL NETWORK, THERE ARE FIVE BRANDED OR NAMED TRAILS AS WELL AS NUMEROUS UNMARKED TRAILS:

BARN (YELLOW) TRAIL

This trail runs from the Kennard Nature Nook to the chimneys and is approximately 1.0 mile long. It is a critical connecting trail since it is the only option that directly connects the northern portion of the park (including the Kennard Nature Nook) to the main part of the park. The Barn Trail exposes the user to a wide range of plant communities and views of Holes Creek,

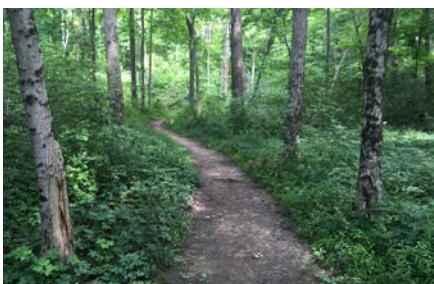
but it also contains elements that limit useability. These include irregular trail widths, differing trail surfaces, and abrupt changes in topography. Its surface material is largely earthen with some areas that are aggregate. In addition, it begins at one of two primary entrances to the park, and is the only one wholly on CWPDP land. It has a Trail Class of 3.



LONG (BROWN) TRAIL

This trail makes a large loop throughout the park and utilizes a portion of the Hadley R. Watts Middle School property in order to create this loop. It acts somewhat like a park perimeter trail that is approximately 1.3 miles long and connects many of the park features. The park's topography is displayed along this route with many locations that overlook ravines. Yet, localized

abrupt changes in trail topography, uneven cross slope, areas of highly eroded trail surface, and irregular trail widths limit both user and maintenance access alike. Its surface material is largely earthen with some areas that are mown lawn. It has a Trail Class of 3.



SHORT (RED) LOOP

This trail creates a short loop approximately 0.4 miles long. It showcases the park's topography and diversity linking floodplain communities to hilltop prairie and meadows. The Short Loop's trail locations are more often working against itself as the trail climbs slopes directly and steeply. Trail features like stairs or the original trail have been bypassed from the resulting

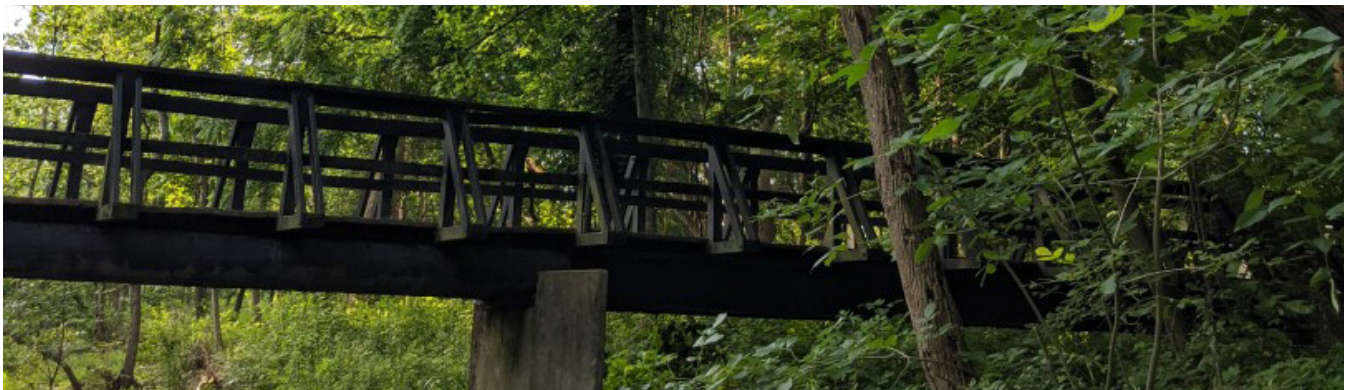
erosion as users seek a more even walking surface. Its surface material is largely earthen with some areas that are aggregate. It has a Trail Class of 3.



HOOT (PURPLE) ROUTE

This trail runs from the Normandy Elementary School trailhead to the chimneys and is approximately 0.5 miles long. It is a critical connecting trail since it begins at one of two primary entrances to the park. This trail uses a long but narrow pedestrian bridge for its connection. While the narrowness of the bridge restricts park users to single file, single direction flows,

it provides an elevated view directly above Holes Creek. Most of the trail surface is aggregate, but the aggregates vary in compaction and size that make traversing the trail surface challenging. In addition, a section is located within existing mown lawn which makes it difficult to understand the trail's route. It has a Trail Class of 4.



PARK INVENTORY

PRAIRIE MEADOW (BLUE) LOOP

This trail creates a loop around the prairie and meadows in the core of the park and is approximately 1.2 miles long. It is an unexpected hidden feature to have such an inviting trail and vista after an adventurous hike through the woods. While the surface material is largely a well-defined mown lawn, small areas do contain an aggregate surface. However, this

aggregate is so large that walking across this material is a challenge. In addition, while other trails throughout the park suffer from localized drainage issues, this trail is located on soils that retain moisture for extended periods in the spring and fall. This causes the trail not to be used except in extended dry periods resulting in a one or two season trail (summer and winter). It has a Trail Class of 4.



WAYFINDING

Wayfinding is limited in the park both in its physical presence and clarity. The organic trail development combined with the limited signage has made wayfinding throughout the park not intuitive. Some park features that are labeled on park maps, are not labeled at the specific feature's location. In addition, the park's physical location and shape make park user's understanding of the park boundaries much larger than is true. This leads to users' misconstruing what features, or areas of the park are CWPDP responsibilities.



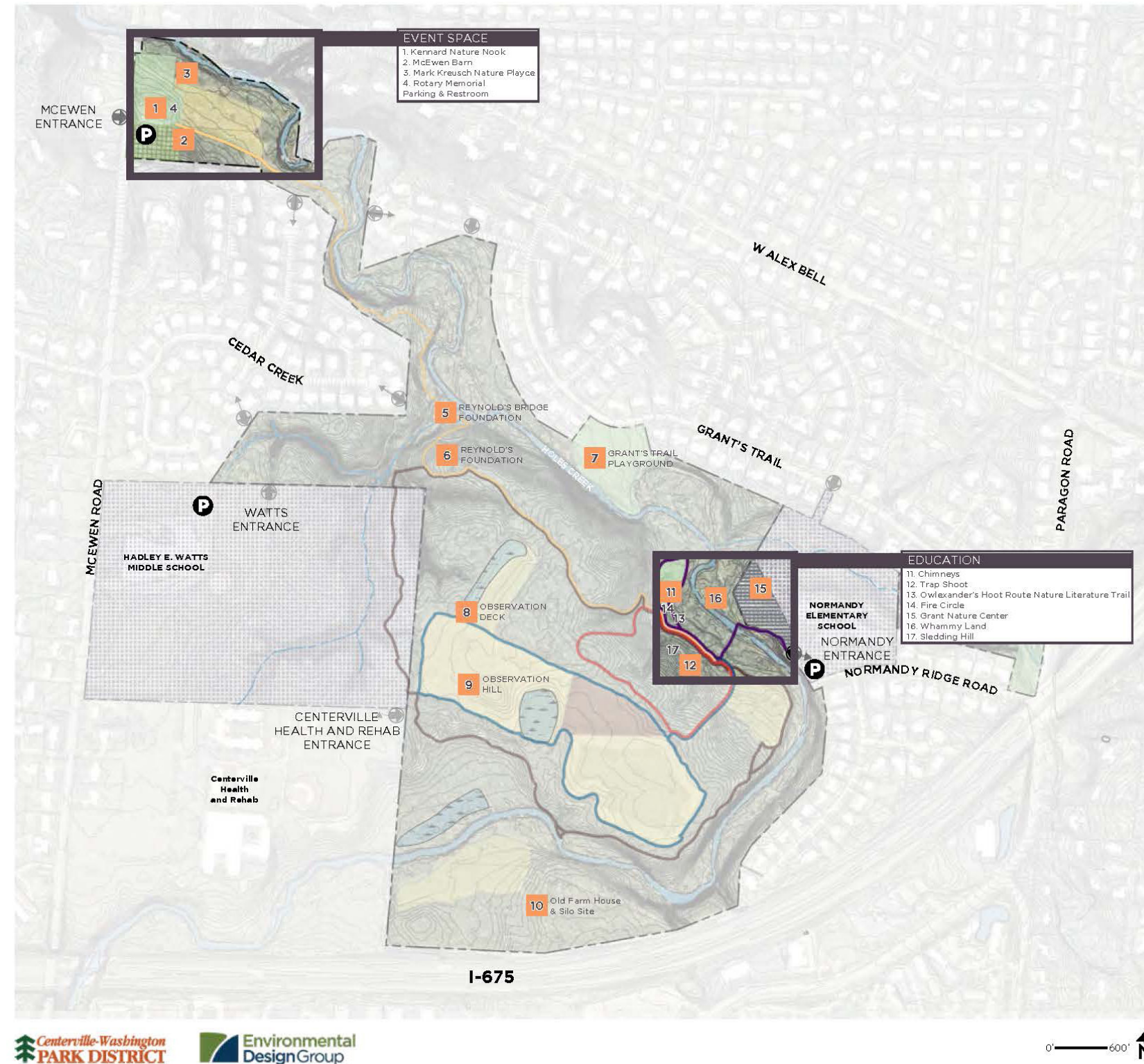
EXISTING FACILITIES & AMENITIES

Park facilities and amenities are loosely categorized into the following areas:

- McEwen Entrance
- Reynold's Foundation
- The Chimneys
- Normandy Entrance
- Grant's Trail Park

Additional amenities such as picnic areas and observation points are located throughout the park.

GRANT PARK EXISTING BUILDINGS & ACTIVITY AREAS



EXISTING FACILITIES & AMENITIES

GRANT PARK EXISTING BUILDINGS & ACTIVITY AREAS



EXISTING FACILITIES & AMENITIES



MCEWEN ENTRANCE AREA

The McEwen Entrance is the primary entrance and gateway to Grant Park. It is the only area with dedicated parking for park visitors and provides direct access to the Kennard Nature Nook, McEwen Barn, Mark Kreusch Nature Playce, Holes Creek, and the trail system.

Visible from the north, but obscured by evergreen trees from the south, the entrance is functional, but does not create a sense of arrival nor provide visitors with a good understanding of the park. The main parking area is located in front of the Kennard Nature Nook (13 paved spaces) with overflow areas near the barn and along McEwen Road (14-18 spaces). The parking area is not well organized, nor does it provide enough spaces to support special events and programming or periods when park use is heavier than normal as was seen during the COVID-19 pandemic.

KENNARD NATURE NOOK

Constructed in 2006, the Kennard Nature Nook provides the only indoor, climate-controlled programming area and public restroom at Grant Park. The building is in very good condition and provides an Assembly Area with a small kitchen to the side, two single-user restrooms (one that can only be accessed from the interior and one that can only be accessed from the exterior), two storage rooms (one interior and one exterior), and a large deck overlooking the meadow. Over time, park programming has outgrown the existing building due to the popularity of their programs. This building is ADA compliant.



EXISTING FACILITIES & AMENITIES

MCEWEN BARN

The original footprint of the historic barn was a Pennsylvania Dutch-style bank barn, typical of the region. The bank of earthen ramp led to the upper timber-framed area. The opposite broad side of the barn is unique in that it is cantilevered, presumably to allow for the tacking of horses and livestock care while being sheltered from the elements. The cantilever is largely covered now by a barn addition to the north (referred to as north barn addition in this report). Judging from the construction and materials of the original barn, the barn was likely constructed after 1850 but before 1900. The original barn is comprised of stone masonry foundations, wood timber framing, wood siding, and standing seam metal roofing. To the north of the original barn, on the cantilever side, is a barn addition that appears to have been erected at a later date. The use of dimensional lumber combined with what appear to be salvaged hewn timbers assembled with modern building techniques dates the addition to well after the turn of the nineteenth century. Other than its contribution in the form of storage, the north barn addition has no real historic value.



Information documented in the “Architectural Assessment for the Historic Barn at Grant Park” as prepared by Barge Design Solutions in consultation with Wilson Historical Concepts.

ROTARY EVERGREEN FOREST AND MEMORIAL

On the south side of the entrance drive, the evergreen trees surround a small plaque inset into a large boulder with a small brick plaza that memorializes past members of the Centerville Rotary Club. In its current location, the tribute is often overlooked as visitors navigate the parking area. The bricks are engraved with individual names and have become uneven over time.



MARK KREUSCH NATURE PLAYCE

Opened for play in June 2012, the Nature Playce is one of the first natural playgrounds in the park district. The play area features stump jumps, wooden teeter totters, digging pit, fort building area, mulch hill for climbing, and more. Constructed from natural materials, the play components have weathered and need repair and/or replacement over time.



EXISTING FACILITIES & AMENITIES



REYNOLDS HOUSE FOUNDATION

The concrete structure is the foundation of a home that was started, but never finished. It was meant to be the home of the Reynolds Family who were friends of Richard Grant. The foundation walls that remain have a story to tell but are deteriorating and need to be stabilized and repaired.

Below the home, the concrete bridge abutments that provided vehicular access to the farm still stand along Holes Creek. These structures appear to be structurally sound but are difficult to access and attract graffiti.

THE CHIMNEYS

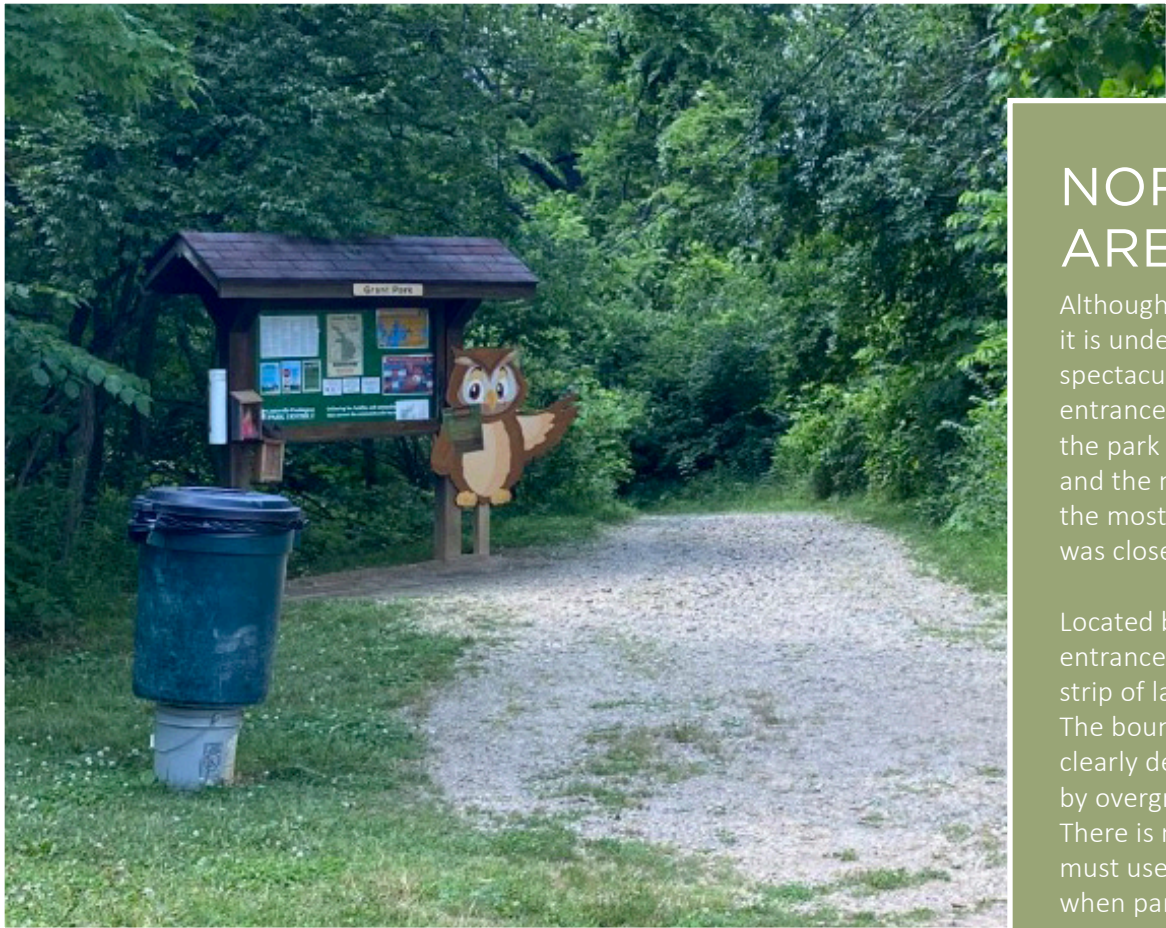
The Chimneys area is one of the most popular destinations for park visitors. The area named after the two chimneys that are the only remaining remnants of Richard Grant’s family weekend cabin after a fire in the late 1960s. A concrete and stone pad indicates the extents of the original cabin footprint along the north and east sides. A section of the rock wall that formed the edge of cabin’s swimming hole can also be found near the southeastern chimney. The chimneys were constructed from stones out of Holes Creek and are in reasonably good repair.

South and east down the path from the Chimneys, one can still find the concrete platform for trap shooting over the old meadow. Largely overgrown, the platform is difficult to spot.

The Chimneys area also features a large fire ring, picnic area, and is a popular access point to the creek. Park programming often takes place in this area.



EXISTING FACILITIES & AMENITIES



NORMANDY ENTRANCE AREA

Although Normandy Entrance is used by many park visitors, it is underwhelming and fails to take advantage of the spectacular views over Holes Creek and into the park. This entrance provides the most direct access to the largest area of the park including the Chimneys area, meadows and prairie, and the majority of the trail network. It is heavily used and was the most popular park entrance in 2020 when the yellow trail was closed for construction.

Located behind the school and just over a small rise, the entrance can be difficult to spot. CWPDP only owns a narrow strip of land that follows the cliff overlooking Holes Creek. The boundary between school property and the park is not clearly demarcated, views overlooking the park are obscured by overgrown shrubs, and the trailhead gets lost in the trees. There is no dedicated parking area for the park and visitors must use the school parking lot which can be challenging when park programs occur when school is in session.

A split rail fence provides a protective barrier along the cliff over Holes Creek. At this location, the drop down to the creek is approximately one hundred feet and additional safety measures are warranted. A small picnic area lines the fence adjacent to the trailhead and provides a convenient place to gather, picnic or rest.

Today, ADA access to the park from the Normandy Entrance is limited to those who can navigate the gravel path down to the pedestrian bridge or those who are able to park at the Grant Nature Center.



GRANT NATURE CENTER

As the Grant family sold property from the original estate, they worked with the school district to establish in the Grant Nature Center in the 1960s. Originally hog and sheep barns, the four buildings were relocated behind the school and adjacent to the park. At one point, CWPDP utilized the buildings for park programming, but they are currently owned and utilized by the school district.



EXISTING FACILITIES & AMENITIES



GRANT'S TRAIL PARK

Grant's Trail Park is part of the CWPDP and is a small neighborhood park located along Holes Creek and Grant Park. It features a large open field, trails, and a small playground area. The playground is already slated to be upgraded in the upcoming years. This park will be connected to Grant Park as part of the master plan, but it will continue to serve as a neighborhood park.



SITE UTILITIES

Municipal utilities services including drinking water, sanitary sewer and electric are available along McEwen Road and serve the Kennard Nature Nook and barn. Similar utilities services are also available at Normandy Elementary School. An existing sanitary trunk sewer runs roughly parallel to Holes Creek through the park and can be support existing and future amenities within the park boundaries. No other site utilities are available within the park boundaries.

TRAIL AMENITIES

Trail amenities include an Observation Deck at the wetland and Observation Hill which overlooks the wet meadow. Each of these overlooks are functional and could be improved to better accommodate park visitors in the future.



RECOMMENDATIONS

The master plan for Grant Park was developed through a series of engaging and collaborative work sessions with a CWPD staff that was excited by the master plan process and how best to improve Grant Park in the future. The recommendations reflect CWPD’s mission and vision to “Deliver fun, healthy, and outstanding park experiences that connect the community with the outdoors” and “To become the

outdoor recreation destination of choice for the community we serve.” Based on passionate and enthusiastic feedback from the community and CWPD staff, the master plan focuses on enhancing and realigning the existing trail system to simplify wayfinding and provide a variety of trail experiences; reimagining through creative design the entrances along McEwen Road and at Normandy Elementary School

to create a sense of arrival, build excitement in anticipation, and support future programming needs; managing invasive species and restoring fringe habitats to improve the natural landscape; and restoring the streambank to minimize erosion and improve water quality.



NATURAL RESOURCES

ADVANCE ECOLOGICAL RESILIENCY

HOLES CREEK RESTORATION

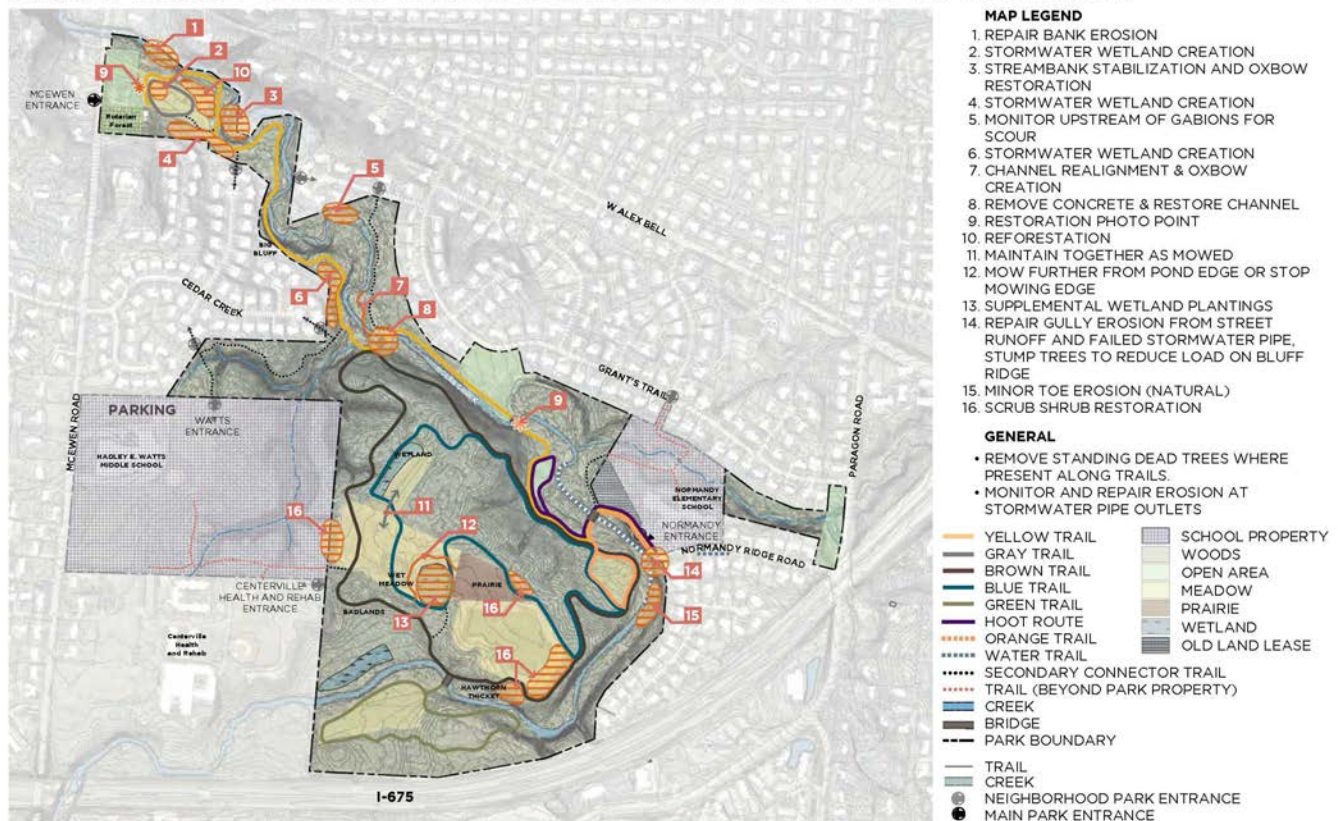
There are multiple locations along Holes Creek downstream from the Cascades area where the banks have destabilized due to flashy flows and stormwater runoff from surrounding development, as well as legacy infrastructure like old bridge abutments and sewer lines, that have forced the creek to realign and carve a new channel. Severe bank erosion from high flows and channel realignment is threatening trail infrastructure and diminishing water quality in those reaches.

Locations where trail infrastructure is being threatened should be prioritized for streambank stabilization, restoration or channel realignment to divert the force of flow away from the eroding banks and provide more stable channel morphology. Where possible, improving or creating stream access to riparian floodplain along the creek will help dissipate the energy of high flow events from upstream, further reducing downstream erosion. Soil and structural bioengineering methods such as, but not limited to, live stakes and fascines, vegetated riprap, brush matting, log,

tree, rootwad or boulder revetments, and stream barbs are ways to protect streambanks from scour and erosion that can also help restore the physical, biological, and chemical functions and values of the stream. Using natural channel design and bioengineering for these projects would benefit CWPD financially as they could leverage funds from state and federal restoration grant programs and potentially reduce their amount of capital expenditure. The projects would also benefit the downstream water quality of Holes Creek and maintain and enhance in-stream and riparian habitat, further improving the park's natural assets.

Specific stream, wetland, and floodplain restoration projects identified through this planning process on the Potential Restoration & Habitat Enhancement map are referenced by their map legend numbers and described below. The specific restoration activities described in these recommendations are to be considered preliminary based on a visual assessment of the current conditions, and more detailed design analysis may necessitate alternative solutions.

GRANT PARK POTENTIAL RESTORATION & HABITAT ENHANCEMENT





MAP LEGEND NUMBER 1

Repair bank erosion just upstream of Kennard Nature Nook. Severe bank erosion and undercutting has caused trees to pull away from the bank, further destabilizing the slope. We recommend stump cutting leaning trees to reduce pressure on the slope, removing any woody debris from channel contributing to scour, and stabilizing the eroding banks in this area with bioengineering techniques such as vegetated riprap with toe protection in this area.



MAP LEGEND NUMBER 3

Streambank stabilization and oxbow restoration. The channel in this location is eroding its western banks and, if left alone, may eventually abandon a portion of its channel to form an oxbow and reconnect further downstream. However, the erosion currently occurring as part of this process is threatening a portion of current trail and storm sewer outfalls and may eventually impact proposed future trails. Developing a new channel and redirecting flow towards the preferred channel may encourage the oxbow formation and reduce erosive pressure on the affected slopes.



MAP LEGEND NUMBER 5

Monitor upstream of gabions for scour. A gabion wall in this location appears to be stable with no structural failings observed. However, upstream of the gabion wall there are signs of scour that could potentially undermine and destabilize the gabion wall. Recommend monitoring this location and performing additional stabilization if scour becomes worse, potentially by extending the gabion wall upstream to the crossover reach.

MAP LEGEND NUMBER 7

Channel realignment and oxbow creation. This is another location where the stream channel is seeking a more stable planform, eroding into a slope and threatening trail infrastructure in the process. Realigning the channel away from the slope affords the opportunity to create more floodplain access to an existing floodplain the channel has lost connection to, as well as the opportunity to transform the abandoned channel into an oxbow wetland. Creating more sinuosity and floodplain access in the new channel will help reduce the erosive velocity of flows further downstream.



MAP LEGEND NUMBER 8

Remove concrete and restore channel. Ideally this work should be performed prior to or concurrently with Recommendation #7. Concrete debris remaining from an old bridge and sewer line has forced the channel to realign and is contributing to the erosive destabilization occurring just downstream. The sewer line is acting similarly to a lowhead dam, causing a backwater condition that is lowering water quality, limiting natural sediment transport, and creating stagnant, poor in-stream habitat. Just upstream of the backwater, the in-stream habitat is in excellent condition, indicating a significant opportunity for ecological lift should this area be restored.

NATURAL RESOURCES

STORMWATER MANAGEMENT

Excessive stormwater flowing into streams from surrounding and upstream impervious surfaces can generate significant erosive velocity and force, scouring vegetation from slopes and streambanks and throwing stream channels out of equilibrium. In addition, stormwater runoff of at least 3 feet/second suspends and carries pollutants like silt, sediment, nutrients, and other chemicals as it flows across the land's surface. Polluted stormwater entering natural waterways can negatively impact sensitive aquatic wildlife and encourage the proliferation of nutrient-loving species such as algae.

Grant Park is surrounded by and downstream of suburban development. Stormwater runoff from the surrounding and upstream development flows into Holes Creek via pipes located prior to and along the park boundary and within the park at multiple locations including Sycamore Creek Court, Cedar Creek Circle, Normandy Ridge Road, and near Hadley E. Watts Middle School. Erosion is occurring at many of these

pipe outlets and in the case of Normandy Ridge Road, also occurring along the bluff ridge as surface stormwater runoff from the road itself. This outlet erosion should be repaired as a short-term solution to prevent further slope deterioration and failure along Holes Creek. At Normandy Ridge Road, the surface flow from the road also needs to be diverted to eliminate erosion along the bluff ridge, possibly as part of parking improvements to that area. Locations within the park property at Sycamore Creek Court and Cedar Creek Circle and outside the park property at Hadley E. Watts Middle School should be examined as opportunities to develop stormwater wetlands, in cooperation with Washington Township and the Middle School, to provide a creative solution to manage, slow down, and clean stormwater more effectively before it enters the park and Holes Creek. Stormwater wetlands or other innovative "green infrastructure" methods would create additional native habitat, enhance the educational experience for park visitors and students, and have the potential to be funded under state and federal grant programs.

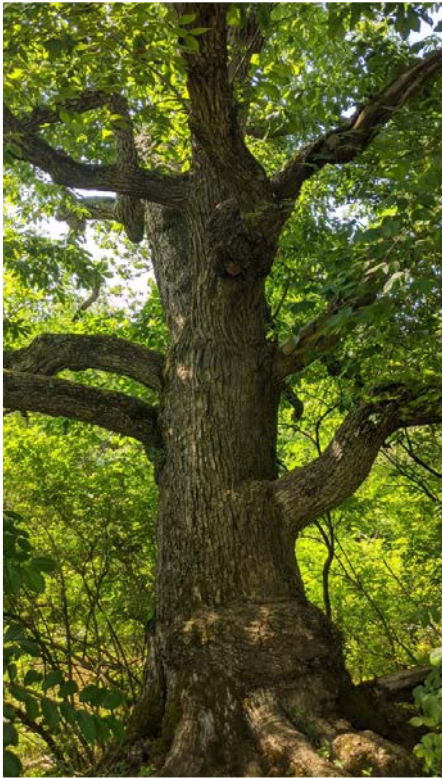
HABITAT ENHANCEMENT

The varied habitat at Grant Park presents multiple opportunities for further enhancement or improvement. Recommendations identified for some of the various habitat areas include:

1. Standing dead trees along the trails should be removed or have their crowns dropped to prevent branches falling across trails and impeding access.
2. Management of the meadow is performed by controlled burn along with the adjacent prairie. Controlled burning is an effective management method to rapidly increase aboveground plant biomass, control woody species, and is an essential component of prairie management. However, burns can favor warm season grasses, and it may be worthwhile to switch management of the western portion of the meadow to mowing for a couple of seasons to encourage a different, more forb-heavy plant community in that location.
3. The old mitigation wetland could benefit from supplemental plantings of additional emergent native species to further enhance the wetland habitat. Waterfowl such as ducks prefer about a 50/50 mix of open water to emergent vegetation, so enhancing this area with additional plantings may provide better opportunity for bird watching by visitors.
4. The wetland fringe around the old mitigation wetland is currently narrow and constrained by a mowed path. The path could be mowed in a more undulating pattern around the pond to create more area for wetland fringe habitat, which will improve the overall quality of the wetland. Removing the path altogether would create a transitional area between the wet meadow/wetland and the upland meadow, providing varied and important habitat for wildlife and maximizing the ecological benefit of the area.



NATURAL RESOURCES



5. Future partnerships with Watts Middle School and/or the Centerville Health and Rehabilitation facility could facilitate the creation of additional meadow acreage in those locations, significantly increasing available habitat and food for native plant and animal species as well as providing diverse and healthy outdoor spaces for the residents, families, and staff.
6. A “restoration photo point” could be installed at the park’s recent floodplain and stream restoration project to allow park guests to participate in citizen monitoring of the site as it matures. Taken over time and at the same location, the photos will document change and help monitor progress. A good location for this photo point could be on the proposed pedestrian bridge between Grant’s Trail Park and the Chimney’s.
7. Specimen trees along the trails can be identified and tagged with small numbered tags which could be referenced on a park “tree tour” map or online application to inform visitors on the different species present without being intrusive to the overall natural experience.

Help us monitor this preserve!

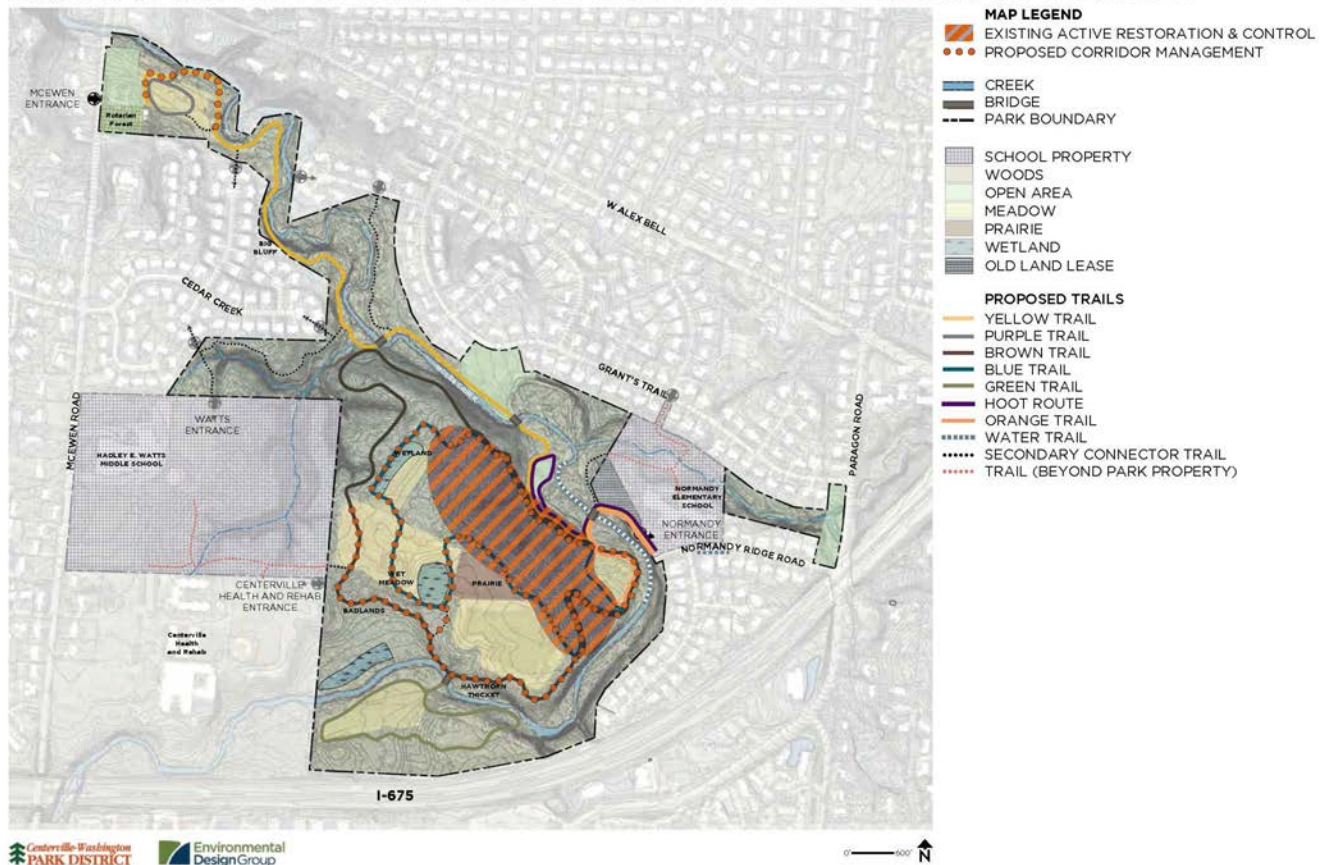
This former pasture is being restored to native tallgrass prairie. We're tracking how the ecosystem responds to prescribed burning and planting. Here's how you can help:

- 1 Place your device into the bracket.
- 2 Take a photo of the view, without a filter.
- 3 Post your picture using hashtag #PhotoMonitorLCWM to Instagram or Twitter, or email us the photo at lcwm@naturenearby.org

Results are being compiled into a crowdsourced timelapse of ecosystem recovery. See the results for yourself at www.naturenearby.org.

Example signage for citizen photo monitoring from the Land Conservancy of West Michigan. See: https://naturenearby.org/portfolio_page/projects/citizen-photo-monitoring/

GRANT PARK EXISTING & POTENTIAL INVASIVE SPECIES MANAGEMENT



TRAILS AND WAYFINDING

PROVIDE A QUALITY TRAIL NETWORK

As CWPDP improves and enhances the Natural Resources of the park, the proposed trail network will encourage park visitors to wander through the park and experience the variety of natural and built wonders and beauty of Grant Park. The revised trail network will take advantage of existing trails, decommission those that are duplicative and/or are difficult to maintain, and add new trails to highlight natural features and improve access where needed. Ultimately, the proposed trail network strives to provide a balanced system of trails that offers a variety of experiences, range of difficulty levels, clear wayfinding, and can be readily and easily maintained by CWPDP staff.

TRAIL NETWORK OVERVIEW

While the existing trail network is valued by the community for its variety, the current network is not able to be sustainably maintained by park staff. Park users' love of the trails has taken its toll on the condition of the trails, and the numerous and duplicate trails throughout the park make maintenance efforts difficult and less effective as resources are stretched too thin. A new approach to trails within the park was needed to continue the great customer experience expressed by the community in our stakeholder engagement process while providing a trail system that has better wayfinding, connects well to amenities in the park and easier to maintain.

The master plan recommends decreasing the total number and mileage of trails to reduce overall maintenance while still providing park users with the meaningful trail experience they have come to enjoy. Portions of the reimagined trails would be built from existing trails while others would create new alignments that are more easily maintained. An important

emphasis for all the trails is to provide the park user with a diverse experience through exposure to the park's various plant communities, historic remnants, and other natural resources and features. Another objective is to retain the wide range of trail classifications that provide users of all ages and abilities an engaging trail experience.

Accessibility is yet a further consideration for the trail network. While the park is a welcomed respite from the urban lifestyle and environment, access to the core of the park has been limited to able body persons. The master plan recommends three trails be made not just Trail Class 5, but ADA compliant to allow the disabled of all ages better park access. Additional bridges or bridge replacements are also recommended to increase access to areas of the park that only the hardest of users currently tread.

The existing trails have a variety of surface conditions as a result of drainage, trail material, use, maintenance, and topography.

THE FOLLOWING PARK PHOTOS PROVIDE AN OVERVIEW SHOWING CONDITIONS THAT SHOULD BE AVOIDED.

The trail surface contains uneven aggregates that are rather large and difficult to navigate. Additionally, the trail's cross slope has failed, and stormwater runoff now flows down the center of the trail causing runnels to develop. The cross slope of the trail should be reformed, and water bars should be installed and spaced appropriately to prevent runoff from eroding the trail's surface.



Park photos are continued on the following pages.

TRAILS AND WAYFINDING



Exposed culverts are hazards to walk across, and result in culvert damage from direct contact with people and maintenance equipment. Broken and failing culverts should be replaced to maintain proper drainage while exposed culverts should be properly encased. If culverts are located where flows may over top the trail, an larger open-graded aggregate choked with smaller open-graded aggregate should be used to limit trail washout.

While some of the aggregate is large, it is all well incorporated into the surrounding material providing a firm and stable surface.



Large aggregate that is not well incorporated presents a stability issue for even the most able-bodied individual. If the aggregate cannot be blended with smaller aggregates to create a firm and stable surface, they should be removed and replace with acceptable material.

Stormwater runoff should be directed away from the trail surface and not allowed to flow down the center of the trail. Install water bars, regrade the trail cross slope, and/or relocate the trail to reduce erosion from runoff.



TRAILS AND WAYFINDING



Improperly graded or located trails will cause continuous maintenance issues. If not maintained, the resulting trail surface can be drastically altered causing access issues for all. The stick in the foreground (photo A) shows several inches have been lost of this trail surface while (photo B) shows feet. Note- trail users have created a second trail (photo B) which further widens the trail impact to the surrounding landscape.

Functioning water bar.



Not enough water bars have been located to prevent erosion. In photo C, the water has filled trail material to the top of the water bar making it irrelevant as can be seen from the resulting downstream erosion.

Localized areas of poor drainage should be corrected. In this picture, the boardwalk could be extended or drainage directed away from the trail through adjacent swales.



TRAILS AND WAYFINDING

GENERAL TRAIL DESIGN RECOMMENDATIONS

All recommended trails within the master plan have a trail class target in mind. Detailed review of the existing trails designated for repurposing should be performed to determine what conditions should be altered to meet the intended trail class target. All design parameters should follow the USDA Forest Service's Trail Fundamentals and Trail Management Objectives' Trail Class Matrix and Trail Design Parameters for Hiker/Pedestrian (refer to the Appendix).



Trail Class Matrix (FSH 2353, Section 14.2, Exhibit 01)

Trail Classes are general categories reflecting trail development scale, arranged along a continuum. The Trail Class identified for a National Forest System (NFS) trail prescribes its development scale, representing its intended design and management standards.¹ Local deviations from any Trail Class descriptor may be established based on trail-specific conditions, topography, or other factors, provided that the deviations do not undermine the general intent of the applicable Trail Class.

Identify the appropriate Trail Class for each National Forest System trail or trail segment based on the management intent in the applicable land management plan, travel management direction, trail-specific decisions, and other related direction. Apply the Trail Class that most closely matches the management intent for the trail or trail segment, which may or may not reflect the current condition of the trail.

Trail Attributes	Trail Class 1 Minimally Developed	Trail Class 2 Moderately Developed	Trail Class 3 Developed	Trail Class 4 Highly Developed	Trail Class 5 Fully Developed
Tread & Traffic Flow	<ul style="list-style-type: none">Tread intermittent and often indistinctMay require route findingSingle lane with no allowances constructed for passingPredominantly native materials	<ul style="list-style-type: none">Tread continuous and discernible, but narrow and roughSingle lane with minor allowances constructed for passingTypically native materials	<ul style="list-style-type: none">Tread continuous and obviousSingle lane, with allowances constructed for passing where required by traffic volumes in areas with no reasonable passing opportunities availableNative or imported materials	<ul style="list-style-type: none">Tread wide and relatively smooth with few irregularitiesSingle lane, with allowances constructed for passing where required by traffic volumes in areas with no reasonable passing opportunities availableDouble lane where traffic volumes are high and passing is frequentNative or imported materialsMay be hardened	<ul style="list-style-type: none">Tread wide, firm, stable, and generally uniformSingle lane, with frequent turnouts where traffic volumes are low to moderateDouble lane where traffic volumes are moderate to highCommonly hardened with asphalt or other imported material
Obstacles	<ul style="list-style-type: none">Obstacles common, naturally occurring, often substantial and intended to provide increased challengeNarrow passages; brush, steep grades, rocks and logs present	<ul style="list-style-type: none">Obstacles may be common, substantial, and intended to provide increased challengeBlockages cleared to define route and protect resourcesVegetation may encroach into trailway	<ul style="list-style-type: none">Obstacles may be common, but not substantial or intended to provide challengeVegetation cleared outside of trailway	<ul style="list-style-type: none">Obstacles infrequent and insubstantialVegetation cleared outside of trailway	<ul style="list-style-type: none">Obstacles not presentGrades typically < 8%

Trail Attributes	Trail Class 1 Minimally Developed	Trail Class 2 Moderately Developed	Trail Class 3 Developed	Trail Class 4 Highly Developed	Trail Class 5 Fully Developed
Constructed Features & Trail Elements	<ul style="list-style-type: none">Structures minimal to non-existentDrainage typically accomplished without structuresNatural fordsTypically no bridges	<ul style="list-style-type: none">Structures of limited size, scale, and quantity; typically constructed of native materialsStructures adequate to protect trail infrastructure and resourcesNatural fordsBridges as needed for resource protection and appropriate access	<ul style="list-style-type: none">Structures may be common and substantial; constructed of imported or native materialsNatural or constructed fordsBridges as needed for resource protection and appropriate access	<ul style="list-style-type: none">Structures frequent and substantial; typically constructed of imported materialsConstructed or natural fordsBridges as needed for resource protection and user convenienceTrailside amenities may be present	<ul style="list-style-type: none">Structures frequent or continuous; typically constructed of imported materialsMay include bridges, boardwalks, curbs, handrails, trailside amenities, and similar features
Signs²	<ul style="list-style-type: none">Route identification signing limited to junctionsRoute markers present when trail location is not evidentRegulatory and resource protection signing infrequentDestination signing, unless required, generally not presentInformation and interpretive signing generally not present	<ul style="list-style-type: none">Route identification signing limited to junctionsRoute markers present when trail location is not evidentRegulatory and resource protection signing infrequentDestination signing typically infrequent outside of wilderness; generally not present in wildernessInformation and interpretive signing not common	<ul style="list-style-type: none">Route identification signing at junctions and as needed for user reassuranceRoute markers as needed for user reassuranceRegulatory and resource protection signing may be commonDestination signing likely outside of wilderness; generally not present in wildernessInformation and interpretive signs may be present outside of wilderness	<ul style="list-style-type: none">Route identification signing at junctions and as needed for user reassuranceRoute markers as needed for user reassuranceRegulatory and resource protection signing commonDestination signing common outside of wilderness; generally not present in wildernessInformation and interpretive signs may be common outside of wildernessAccessibility information likely displayed at trailhead	<ul style="list-style-type: none">Route identification signing at junctions and for user reassuranceRoute markers as needed for user reassuranceRegulatory and resource protection signing commonDestination signing commonInformation and interpretive signs commonAccessibility information likely displayed at trailhead
Typical Recreation Environments & Experience³	<ul style="list-style-type: none">Natural, unmodifiedROS: Typically Primitive to Roaded NaturalWROS: Typically Primitive to Semi-Primitive	<ul style="list-style-type: none">Natural, essentially unmodifiedROS: Typically Primitive to Roaded NaturalWROS: Typically Primitive to Semi-Primitive	<ul style="list-style-type: none">Natural, primarily unmodifiedROS: Typically Primitive to Roaded NaturalWROS: Typically Semi-Primitive to Transition	<ul style="list-style-type: none">May be modifiedROS: Typically Semi-Primitive to RuralWROS: Typically Portal or Transition	<ul style="list-style-type: none">May be highly modifiedCommonly associated with visitor centers or high-use recreation sitesROS: Typically Roaded Natural to UrbanGenerally not present in wilderness

¹ For National Quality Standards for Trails, Potential Appropriateness of Trail Classes for Managed Uses, Design Parameters, and other related guidance, refer to FSM 2353, FSH 2309.18, and other applicable agency references.

² For standards and guidelines for the use of signs and posters along trails, refer to the Sign and Poster Guidelines for the Forest Service (EM-7100-15).

³ The Trail Class Matrix shows the combinations of Trail Class and Recreation Opportunity Spectrum (ROS) or Wilderness Recreation Opportunity Spectrum (WROS) settings that commonly occur, although trails in all Trail Classes may and do occur in all settings. For guidance on the application of the ROS and WROS, refer to FSM 2310 and 2353 and FSH 2309.18.

TRAILS AND WAYFINDING



Trail Design Parameters

Hiker/Pedestrian (FSH 2309.18, Section 23.11, Exhibit 01)

Design Parameters are technical guidelines for the survey, design, construction, maintenance, and assessment of National Forest System trails, based on their Designed Use and Trail Class and consistent with their management intent.¹ Local deviations from any Design Parameter may be established based on trail-specific conditions, topography, or other factors, provided that the deviations are consistent with the general intent of the applicable Trail Class.

Designed Use HIKER/PEDESTRIAN		Trail Class 1	Trail Class 2	Trail Class 3 ²	Trail Class 4 ²	Trail Class 5 ²
Design Tread Width	Wilderness (Single Lane)	0" – 12"	6" – 18"	12" – 24" Exception: may be 36" – 48" at steep side slopes	18" – 24" Exception: may be 36" – 48" at steep side slopes	Not applicable
	Non-Wilderness (Single Lane)	0" – 12"	6" – 18"	18" – 36"	24" – 60"	36" – 72"
	Non-Wilderness (Double Lane)	36"	36"	36" – 60"	48" – 72"	72" – 120"
	Structures (Minimum Width)	18"	18"	18"	36"	36"
Design Surface ³	Type	Native, ungraded May be continuously rough	Native, limited grading May be continuously rough	Native, with some onsite borrow or imported material where needed for stabilization and occasional grading Intermittently rough	Native with improved sections of borrow or imported material, and routine grading Minor roughness	Likely imported material, and routine grading Uniform, firm, and stable
	Protrusions	≤ 24" Likely common and continuous	≤ 6" May be common and continuous	≤ 3" May be common, not continuous	≤ 3" Uncommon, not continuous	No protrusions
	Obstacles (Maximum Height)	24"	14"	10"	8"	No obstacles
Design Grade ³	Target Grade	5% – 25%	5% – 18%	3% – 12%	2% – 10%	2% – 5%
	Short Pitch Maximum	40%	35%	25%	15%	5% FSTAG: 5% – 12% ²
	Maximum Pitch Density	20% – 40% of trail	20% – 30% of trail	10% – 20% of trail	5% – 20% of trail	0% – 5% of trail

1

10/16/2008

Designed Use HIKER/PEDESTRIAN		Trail Class 1	Trail Class 2	Trail Class 3 ²	Trail Class 4 ²	Trail Class 5 ²
Design Cross Slope	Target Cross Slope	Natural side slope	5% – 20%	5% – 10%	3% – 7%	2% – 3% (or crowned)
	Maximum Cross Slope	Natural side slope	25%	15%	10%	3%
Design Clearing	Height	6'	6' – 7'	7' – 8'	8' – 10'	8' – 10'
	Width	≥ 24" Some vegetation may encroach into clearing area	24" – 48" Some light vegetation may encroach into clearing area	36" – 60"	48" – 72"	60" – 72"
	Shoulder Clearance	3" – 6"	6" – 12"	12" – 18"	12" – 18"	12" – 24"
Design Turn	Radius	No minimum	2' – 3'	3' – 6'	4' – 8'	6' – 8'

¹ For definitions of Design Parameter attributes (for example, Design Tread Width and Short Pitch Maximum) see FSH 2309.18, Section 05.

² Trail Classes 3, 4, and 5, in particular, have the potential to provide accessible passage. If assessing or designing trails for accessibility, refer to the Forest Service Trail Accessibility Guidelines (FSTAG) for more specific technical provisions and tolerances (FSM 2350).

³ The determination of trail-specific Design Grade, Design Surface, and other Design Parameters should be based upon soils, hydrological conditions, use levels, erosion potential, and other factors contributing to surface stability and overall sustainability of the trail.

Trail Design Parameters

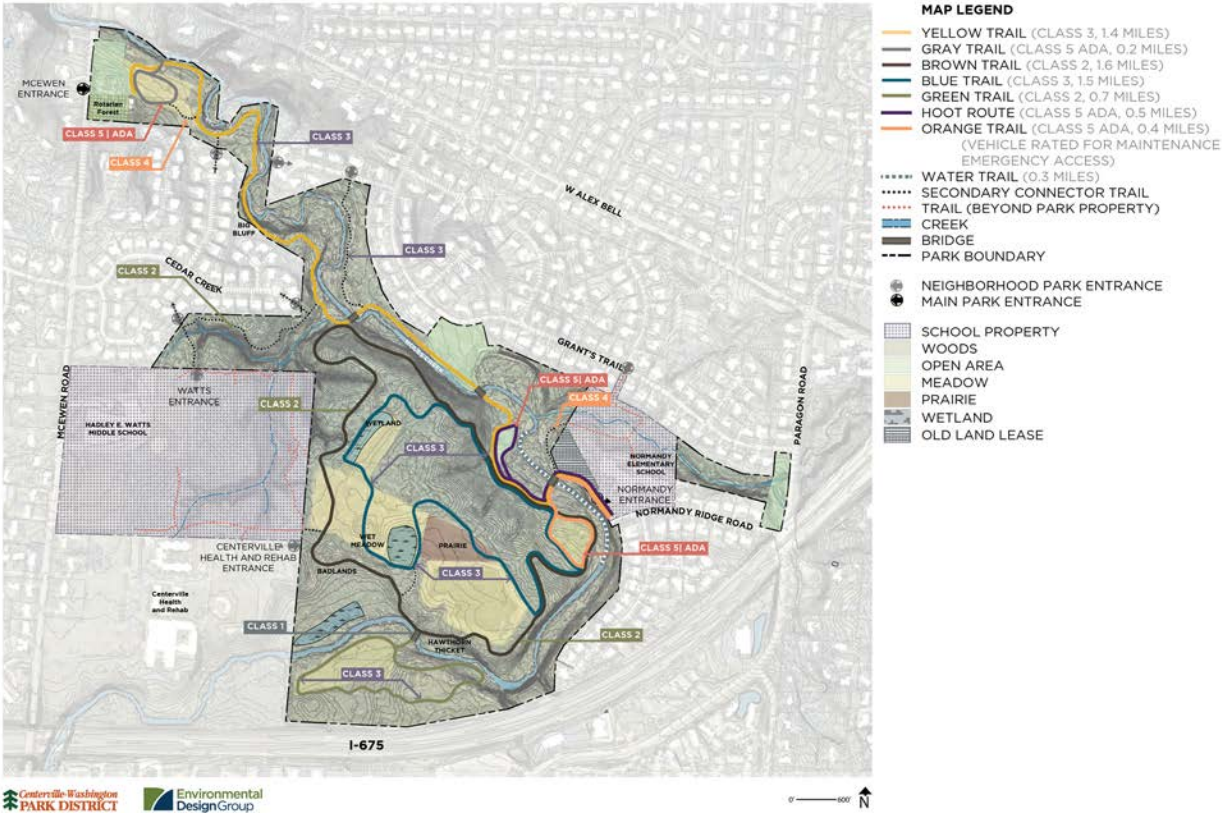
Hiker/Pedestrian (FSH 2309.18, Section 23.11, Exhibit 01)

SPECIFIC TRAIL DESIGN RECOMMENDATIONS

Refer to the maps on the following page for the trail master plan, proposed trail classifications, and specific locations of re-purposed proposed, and decommissioned trails.

2

GRANT PARK TRAIL MASTER PLAN & PROPOSED TRAILS CLASSIFICATION



GRANT PARK EXISTING, POTENTIAL & DECOMMISSIONED TRAILS



TRAILS AND WAYFINDING

GRAY TRAIL

Located at the McEwen Entrance, the Gray Trail is a short ADA accessible loop that provides a variety of experiences (0.17 miles). The trail begins in front of the Kennard Nature Nook, follows along the edge of a proposed wet meadow to the Mark Kreusch Nature Playce, then meanders along the adjacent woodlands to provide access to the creek via a trail spur, and finally winds back around through the native prairie. Within the prairie, trail bends could be added to create points of interest for interpretive signage and add a greater variety of viewsheds.

- Surface Material: Compacted Aggregate
- Trail Class: 5/ADA



YELLOW TRAIL

The Yellow Trail forms that backbone for the park's proposed trail network. Largely following Holes Creek, this trail will run from the McEwen Entrance to the Normandy Entrance, and connect to all but one of the park's primary trails (1.35 miles). It will provide some of the best opportunities to view and access the creek as well as navigate through forests, across Grant's Trail Park, and pass by a few of the historic relics found on site.

Beginning at the McEwen Entrance, the Yellow and Gray Trails form the western gateway into the park. As they head across the wet meadow and native prairie to the Nature Playce, the Yellow Trail splits off to follow along the creek where the proposed bank stabilization efforts should incorporate several clear access points to protect the creek while still encouraging creek exploration in designated areas. From there, the Yellow Trail quickly climbs the recently stabilized slope installed with the bank restoration project to the top of the Big Bluff area. From there it winds through the forest before dropping back down to the creek near the old bridge foundations. Here, a new pedestrian bridge will provide access across the creek to allow the trail to continue along the northern bank of the creek. This is a fairly flat section with good views over the creek and provides a connection to the neighborhood park, Grant's Trail Park. From here, a second pedestrian bridge provides views of the newly restored riparian corridor and returns across the creek to the Chimney's Area where it joins up with the Hoot Root (Purple Trail) and continues to the Normandy Entrance.

The proposed trail alignment will build upon the existing Barn (Yellow) Trail and incorporate other existing trails to create the continuous connection between the entrances. Both pedestrian bridges will be designed to meet ADA accessibility requirements to provide access to areas of the park that were previously limited. The bridges will be at least 6-feet wide (8-feet preferred) and rated for pedestrian and UTV loading.

While much of the trail is fairly easy to navigate, steep slopes at the bank restoration project and near the old bridge foundation limit the ability to make this trail more accessible. The new, at least 6-feet wide (8-feet preferred), pedestrian bridges extend accessibility for users by providing a flatter trail slope and increasing maintenance access through bridge load rating that accommodates the use of UTVs.

Improving trail drainage is the top recommendation for this trail. There are areas that pond water within the trail and areas where water flows along the trail edge or across the trail's surface causing erosion. Water should be directed away from the trail's surface by regrading to provide positive drainage.

- Surface Material: Natural Surface / Earthen or Aggregate
- Trail Class: 3



BROWN TRAIL

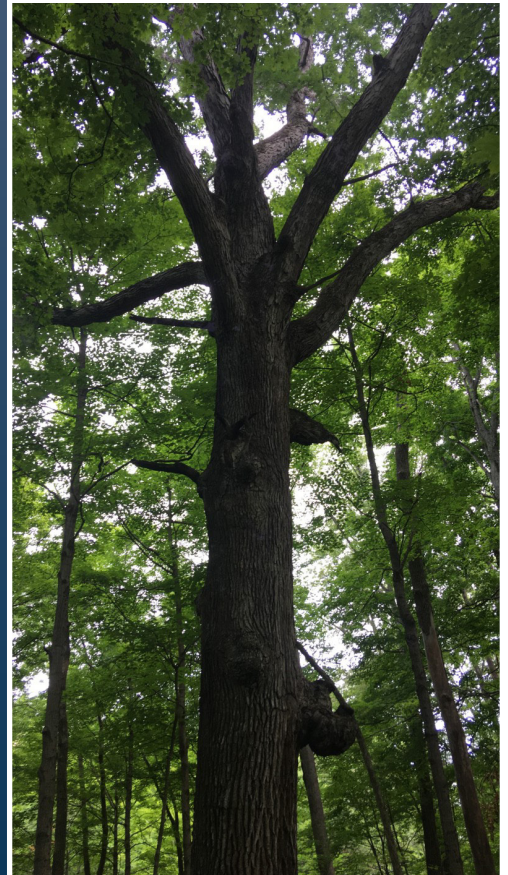
As the longest loop trail in the proposed trail network, the Brown Trail incorporates the greatest amount of elevation change and variety of trail experiences (1.6 miles). Along its route, the trail showcases the park's many woodland communities, skirts through the central meadows, passes by several historic remnants, and provides access to the Green Trail.

Many park users will access the Brown Trail from the Normandy Entrance where the Hoot Route (Purple Trail) descends the hillside and crosses the creek. From here, the trail follows the Orange Trail along the meadow where it breaks away with the Blue Trail to navigate up the hillside to the upper meadow. In effort to minimize erosion and avoid adding structures that add cost and must be maintained, the trail gradually ascends the slope by heading north into the forest where it will then switch back to complete the climb. At this point, the Blue Trail breaks away and the Brown Trail continues along the bluff overlooking the creek. A short trail spur from this trail intersection could provide a designated, safe, and impressive overlook into the creek valley. From here, the Brown Trail continues to meander along the contours of the creek valley through the Hawthorn Thicket, pass the bend in the creek which provides access to the Green Trail, and into the Badlands. At this point, the trail turns north, breaking out of the forest cover and across the meadow where it then reenters the forest and into the most mature stand of trees within the park boundary. Here, two ravines drop down to the west providing remarkable views through the forest canopy. As the trail bypasses the Reynold's House Foundations, it wraps around the hillside to descend down to the old bridge foundations, where it briefly meets up with the Yellow Trail before threading up along the steep contours along the south bank of Holes Creek. As this portion of the trail will include an elevation climb, care should be taken to identify one or two resting locations where views over the creek or into the canopy provide respite. At the top of this climb, the trail will reunite with the Blue Trail before descending back into the valley to complete the loop.

While much of the proposed trail retains large portions of its former self, several sections have been realigned to ease gradients, take advantage of views over Holes Creek, and to shift the trail wholly within the park boundaries.

This trail travels the full range of the park's topography. With such grade change, the Brown Trail will require switchbacks in areas to create trail slopes that are self-sustaining. There are currently areas where water flows down the trail's surface causing erosion, multiple feet of erosion in the worst cases. Water should be directed away from the trail's surface by recontouring to create a uniform cross slope and/or the installation of water bars.

- Surface Material: Natural Surface / Earthen with some Aggregate
- Trail Class: 2



BLUE TRAIL

The Blue Trail forms a dramatic loop that takes advantage of portions of the Brown Trail. It, too, showcases the parks' topography as it climbs out of the creek valley and highlights a wide variety of habitats as it traverses through woodlands, prairie, meadows, and wetlands making this trail a good option for wildlife observation and for groups wanting to focus on environmental education. As a medium length loop trail, the trail contains several elevation changes, but most can be accommodated with gentle gradients (1.3 miles).

Similar to the Brown Trail, many park users will access the Blue Trail from the Normandy Entrance where the Hoot Route (Purple Trail) descends the hillside and crosses the creek. From here, it follows the Orange Trail along the southwestern edge of the meadow where passes by the Re-Leaf project and wraps around to meet up with the Brown Trail again to ascend the hillside to the upper meadow. At this point, the Blue Trail heads north skirting in and out of the meadow and forest edge where there is an opportunity for a treehouse overlook into the forest canopy. Eventually, the trail turns south and wraps around the southern edge of the wet meadow where a break in the forest trees provides a natural setting for a bird blind overlooking the water. On the opposite side of the wet meadow, a mowed path continues to wrap around the northern edge of the wet meadow. As noted above under Habitat Enhancement, this path should either be decommissioned or relocated further up the hillside slope to protect the edge habitat and still provide picturesque views over the water. From the wet meadow, the trail ascends up to Observation Hill for expansive views over the meadow, prairie and forest before descending down to the wetland. At the wetland, the trail traverses by the existing Observation Platform and then along the forested edge along the west side of the wetland. On the northern edge, a boardwalk and small pier may be constructed to provide views and educational access to the wetland habitat. From here, the trail slowly descends until it meets up with the Brown Trail where it drops into the valley to complete the loop.

Like the Brown Trail, this trail generally takes advantage of existing trails, but several sections have been realigned to ease gradients, enhance edge habitats, and provide a more diverse user experience.

The portions of this trail that cross the prairie/meadow will require the trail subgrade be improved. As was mentioned earlier, the existing soils through the prairie/meadow area are poorly draining retaining moisture for extended periods in the spring and fall. In order to improve drainage and extend access to all four seasons, the trail should be constructed using geosynthetics and open grade aggregate material to create a more stable trail surface in all seasons and weather conditions. Water also should be directed away from the trail's surface through the use of culverts and swales. Alternatively, surface water could be redirected toward the existing wetlands. This would require extensive grading and impact a significant area of land, however, the short term impact may be worthwhile in the long run.

- Surface Material: Natural Surface / Earthen and Mown Lawn with some Aggregate and Geosynthetics for stabilization
- Trail Class: 3



OWLEXANDER'S HOOT ROUTE (PURPLE TRAIL)

The Hoot Route is a short loop trail that starts up at the Normandy Entrance then drops down into the valley where it crosses the creek and remains relatively flat as it circles around the Chimneys and the adjacent lawn (0.5 miles). As one of the most popular trails, it provides access to the creek, scenic views from the bridge, and incorporates a literature trail featuring the park district's mascot, Owlexander.

Beginning at the Normandy Entrance, the Hoot Route, Yellow and Orange Trails form the eastern gateway into the park. The combined trails will start at the proposed parking area at the end of Normandy Ridge Road and traverse across the bluff that overlooks Holes Creek and the park. Before heading into the forest, a shelter cantilevered over the bluff will signify the entrance to the park and provide a good opportunity for interpretive signage and impressive views into the park. As the trails enter the forest, the route will be regraded with a new bridge crossing to provide ADA accessibility and access for maintenance vehicles. The new bridge will be vehicle load rated (H10 loading), 10-foot wide (12-foot preferred), and ADA accessible. From here, the trail will follow the existing trail northward to the Chimneys and wrap around the lawn. At the northern end of this loop, the existing ford that crosses the creek will remain as an access point for creek exploration and for maintenance vehicles or equipment that are too heavy to cross over the new bridge.

Aside from the trail extension and regrading at the park entrance, this trail takes the same course as the existing trail, but the trail surface will be enhanced to provide ADA accessibility. Asphalt or chip and seal should be used for the regraded slope and areas that will receive the heaviest wear patterns. The mown lawn portion should also be converted to xxx to provide ADA compliance.

- Surface Material: Compacted Aggregate
- Trail Class: 5/ADA

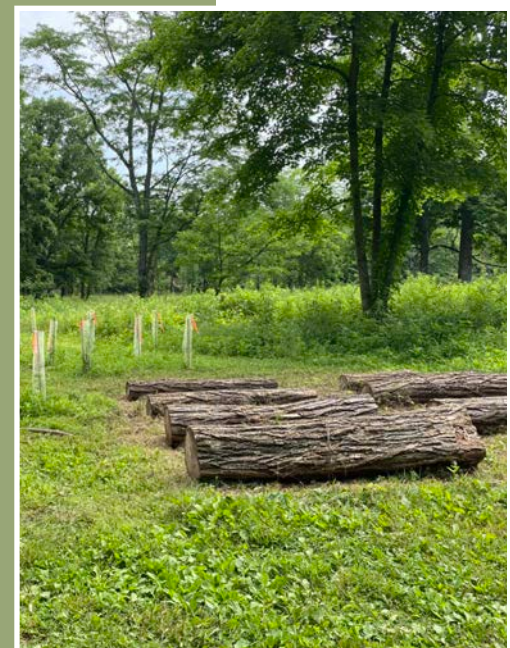


ORANGE TRAIL

This trail takes advantage of existing trails to form a short ADA accessible loop that follows the creek and wraps around a small meadow (0.37 miles). Starting from the Normandy Entrance, the Orange Trail descends into the park along with the Hoot Route and Yellow Trail. Once the trails cross the creek, the Orange Trail breaks away and heads south along the creek through an oak savanna. When the trail reaches the Cascades (a special area of the creek), a short trail spur will provide access to the creek and the Water Trail. From this point, the trail turns away from the creek and heads gently upward to wrap around the meadow, past the Re-Leaf project, and finally back down toward the bridge.

While the Orange Trail will be created from existing trails, the surface will be enhanced with asphalt or chip and seal to provide ADA accessibility.

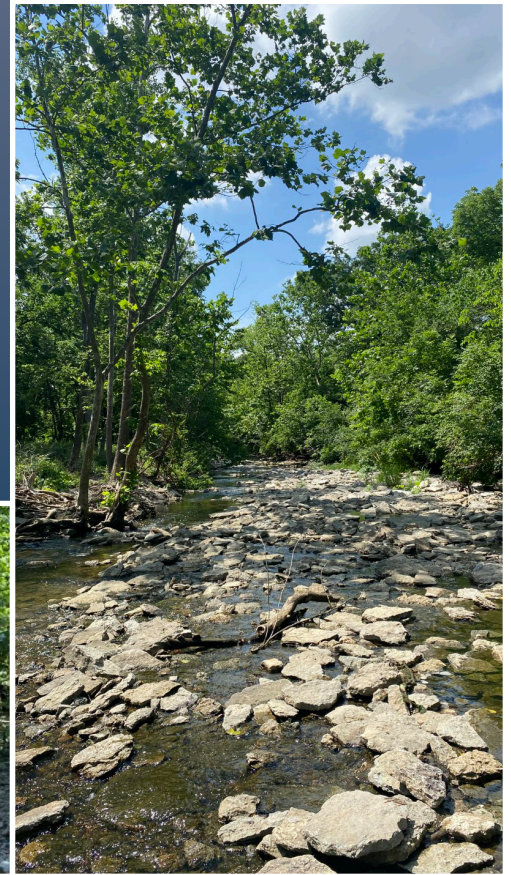
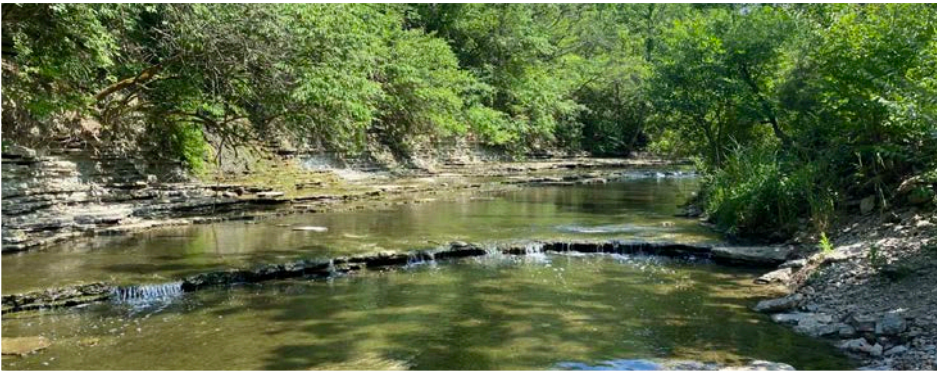
- Surface Material: Compacted Aggregate
- Trail Class: 5/ADA



HOLES CREEK WATER TRAIL

Holes Creek Water Trail takes advantage of the creek's relatively flat bed to encourage park users to get in and explore the creek from a unique perspective. The trail can be accessed from the Orange Trail at the Cascades (a special area of the creek bound by a bluff on one side and rippled with small rapids formed by the shale) or the ford along the Hoot Route (Purple Trail). From either access point, park users can travel through this stretch of the creek along the flood plain, under a bridge, beneath the steep cliffs under Normandy Elementary School and up to the rippling cascades. Along the Orange and Purple Trails, boulder outcroppings should be used to identify the trail entrance and exit points to encourage park users to limit creek exploration to this area and protect more sensitive areas and habitats along the creek.

- Surface Material: Natural Surface / Creek Bed
- Trail Class: NA



UNMARKED TRAILS

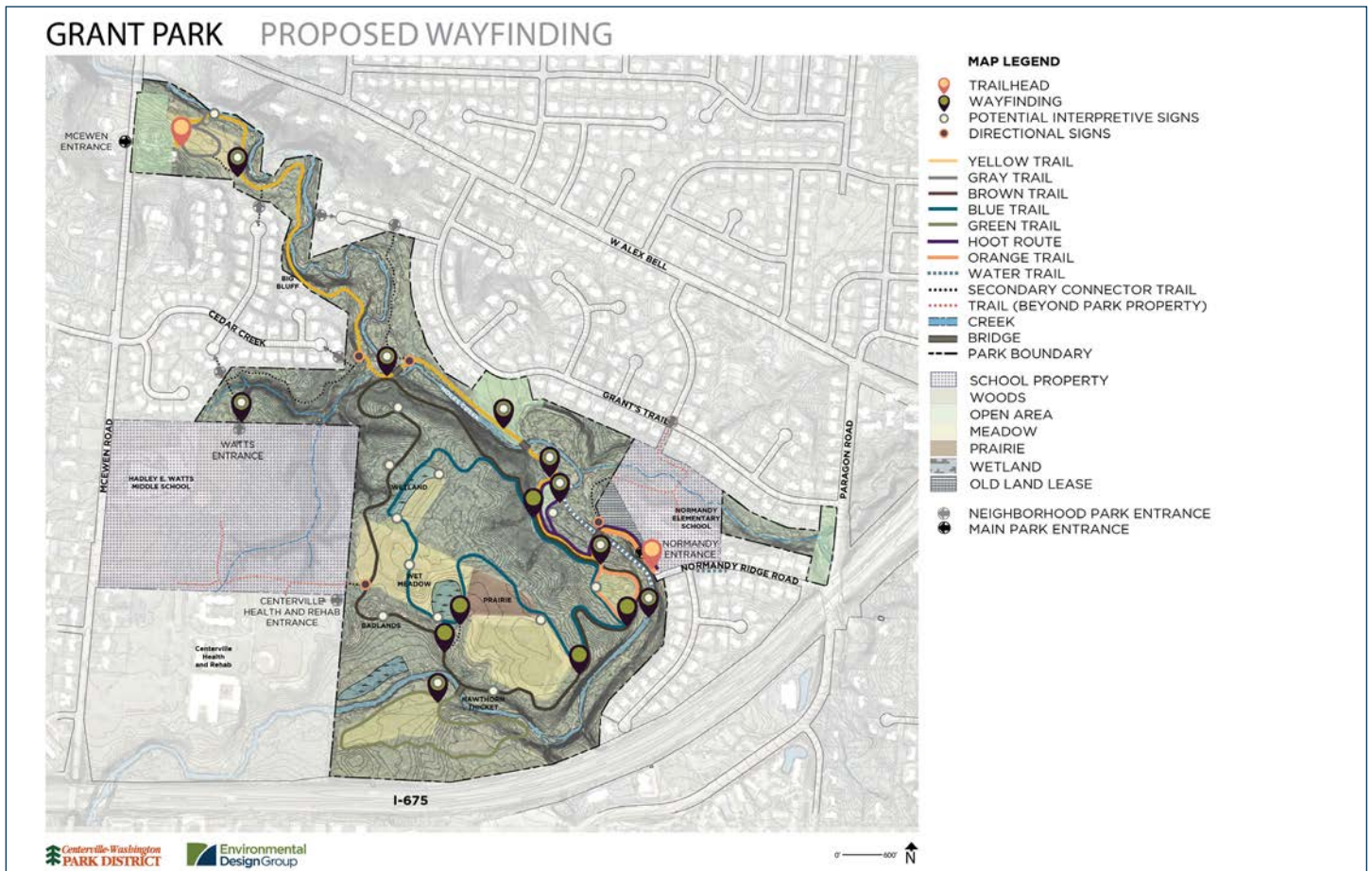
It is recommended that many of the unmarked trails within the park be removed or repurposed to the proposed trail network. As has been noted, there are too many trails for park staff to maintain effectively and sustainably. Trails that connect the primary trail network to the surrounding neighborhoods should be maintained as indicated on the maps.

Trails connections that allow Grant Park users to access areas beyond the park are highly encouraged and recommended. These connections provide vital access to the surrounding neighborhoods, schools, the community at large, and the park

itself. In addition, it is recommended that discussions occur with Centerville Health and Rehab and the local school district to partner and create additional trails to the schools and the skilled nursing home and restore plant communities. These features would be amazing assets to both facilities while also expanding the opportunities for park experiences and trail mileage. However, trail easements or agreements for all trails outside the park boundary are recommended to set clear roles and responsibilities for operations and maintenance for all parties involved.

WAYFINDING

Park navigation will be aided by the reduction in trails and trail intersections, and by providing consistent signage across the park. At each of the primary entrances, trailhead signage will provide an overview of the park, interpretive panels, and general park information. At each of the primary trail intersections, signage with “you are here” maps will help orient park users and may also be combined with interpretive panels. Neighborhood entrance and park boundary signs are recommended to further guide users where secondary park entrances/exits are located and when users are leaving park property. Interpretative signage is recommended at all park features, including both natural and human-made. The specific language for each panel will be determined at a later date. Refer to the map below for specific sign locations.



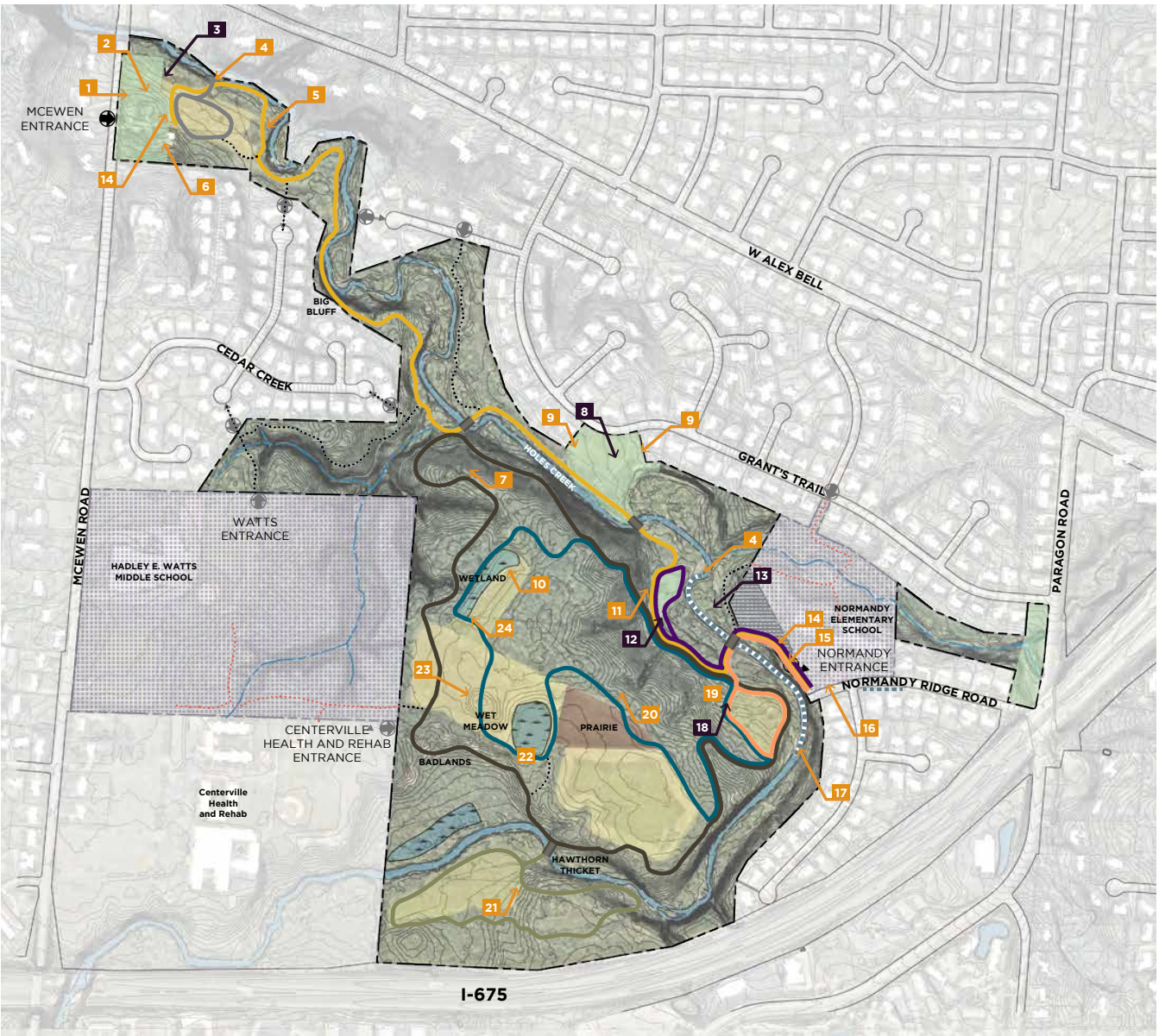
FACILITY RECOMMENDATIONS

ENHANCE PRIMARY ENTRANCES AND DEVELOP QUALITY PROGRAM AREAS

As natural resources are enriched and the trail system improved, it is critical that park customers can intuitively find and access the beauty and wonder of the park and the enhanced program areas within the park. We recommend, as noted below, improving the customer experience from the moment they approach the park at the various entrances. In addition, existing program areas, such as the Chimneys for example, should be improved and amenities added, repaired, or improved throughout the park.



GRANT PARK EXISTING & PROPOSED FACILITIES & AMENITIES



- MAP LEGEND**
- 1. EXPANDED PARKING AREA
 - 2. RENOVATED NATURE NOOK & SHELTER
 - 3. EXISTING NATURE PLAYCE
 - 4. PROPOSED CREEK ACCESS AND OVERLOOK
 - 5. PROPOSED OVERLOOK
 - 6. RENOVATED BARN AREA
 - 7. RENOVATED REYNOLD'S FOUNDATION AREA
 - 8. EXISTING PLAY AREA
 - 9. PROPOSED LANDSCAPE BUFFER
 - 10. PROPOSED BOARDWALK
 - 11. PROPOSED SHELTER WITH STORAGE & RESTROOMS
 - 12. EXISTING "THE CHIMNEYS" AREA
 - 13. EXISTING WHAMMY LAND
 - 14. PROPOSED "GATEWAY" TRAILHEAD
 - 15. PROPOSED OVERLOOK
 - 16. PROPOSED PARKING
 - 17. PROPOSED CREEK ACCESS AND CASCADES OVERLOOK
 - 18. EXISTING RELEAF PROJECT
 - 19. RENOVATED TRAP SHOOT AREA
 - 20. PROPOSED TREEHOUSE OVERLOOK
 - 21. PROPOSED OBSERVATION AREA
 - 22. PROPOSED POND BOULDERS & BIRD BLIND
 - 23. RENOVATED OBSERVATION POINT
 - 24. RENOVATED OBSERVATION DECK
- PROPOSED, RENOVATED OR EXPANDED
EXISTING
- YELLOW TRAIL
 - GRAY TRAIL
 - BROWN TRAIL
 - BLUE TRAIL
 - GREEN TRAIL
 - HOOT ROUTE
 - ORANGE TRAIL
 - WATER TRAIL
 - SECONDARY CONNECTOR TRAIL
 - TRAIL (BEYOND PARK PROPERTY)
 - CREEK
 - BRIDGE
 - PARK BOUNDARY
 - NEIGHBORHOOD PARK ENTRANCE
 - MAIN PARK ENTRANCE
- SCHOOL PROPERTY
 - WOODS
 - OPEN AREA
 - MEADOW
 - PRAIRIE
 - WETLAND
 - OLD LAND LEASE

FACILITY RECOMMENDATIONS / MCEWEN ENTRANCE

MCEWEN ENTRANCE

The reimagined McEwen Entrance will create an arrival experience that draws visitors into the park- to the meadow, creek, Rotarian memorial, trail system; to improved and better organized programing with the buildings; and provide additional parking with improved pedestrian safety.

The proposed improvements reorient the circulation and parking areas to organize the site and draw attention to the Kennard Nature Nook, the historic barn, and the meadow beyond. The main trailhead kiosk will be located at a central drop-off area to provide a gateway into the park, parks maps, and educational information. From this location, visitors will be able to visit the Nature Nook to participate in park programs, view the historic barn, picnic under the tree canopy, play at the Mark Kreusch Nature Playce, and access the park's vast and improved trail system.

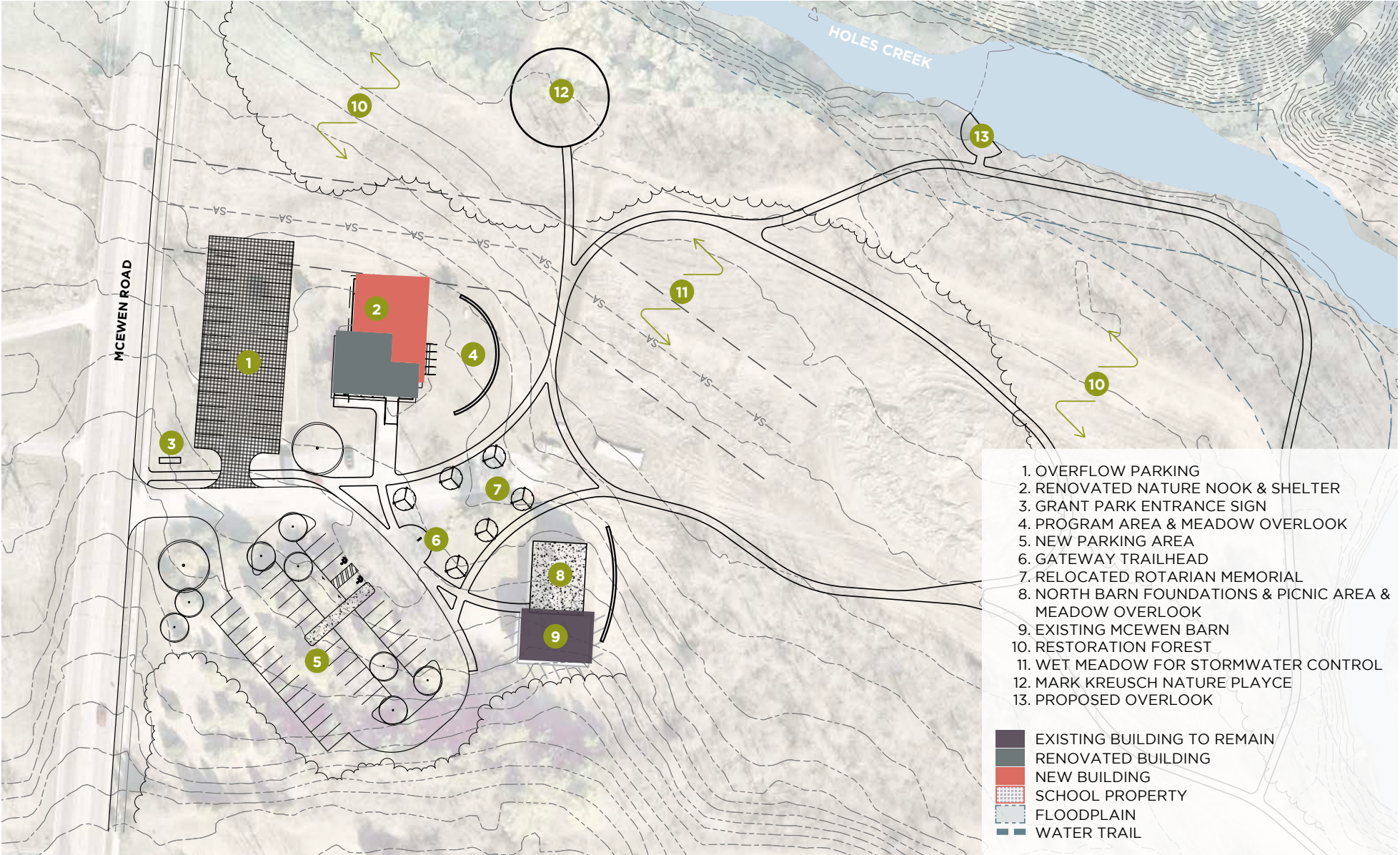
ENTRANCE DRIVE AND PARKING AREAS

The new parking area will be visible from the entry but nestled into the existing evergreen forest to soften the look. The loop design will provide a clear circulation pattern with forty parking spaces and a large drop-off area that can accommodate up to two buses or five vehicles at any time. Stormwater will be collected and managed in the center of this parking lot and provide an additional educational opportunity. The existing overflow parking lot on the north side of the Nature Nook will maintain its current green lawn at the front of the park and be expanded with open cell pavers to accommodate up to thirty additional parking spaces if needed.

TRAILHEAD KIOSK AND ROTARY CLUB MEMORIAL

The new trailhead kiosk will be framed by two rows of shade trees that will draw visitors from the parking area into the park. The columns of trees will provide a natural picnic and gathering area as well as a new location for the Rotary Club Memorial. The memorial plaque, boulder, and bricks will be salvaged and rebuilt beyond the kiosk and overlooking the meadow.

GRANT PARK MCEWEN ROAD ENTRANCE



Centerville-Washington
PARK DISTRICT

Environmental
Design Group

0' 60' N

FACILITY RECOMMENDATIONS / MCEWEN ENTRANCE

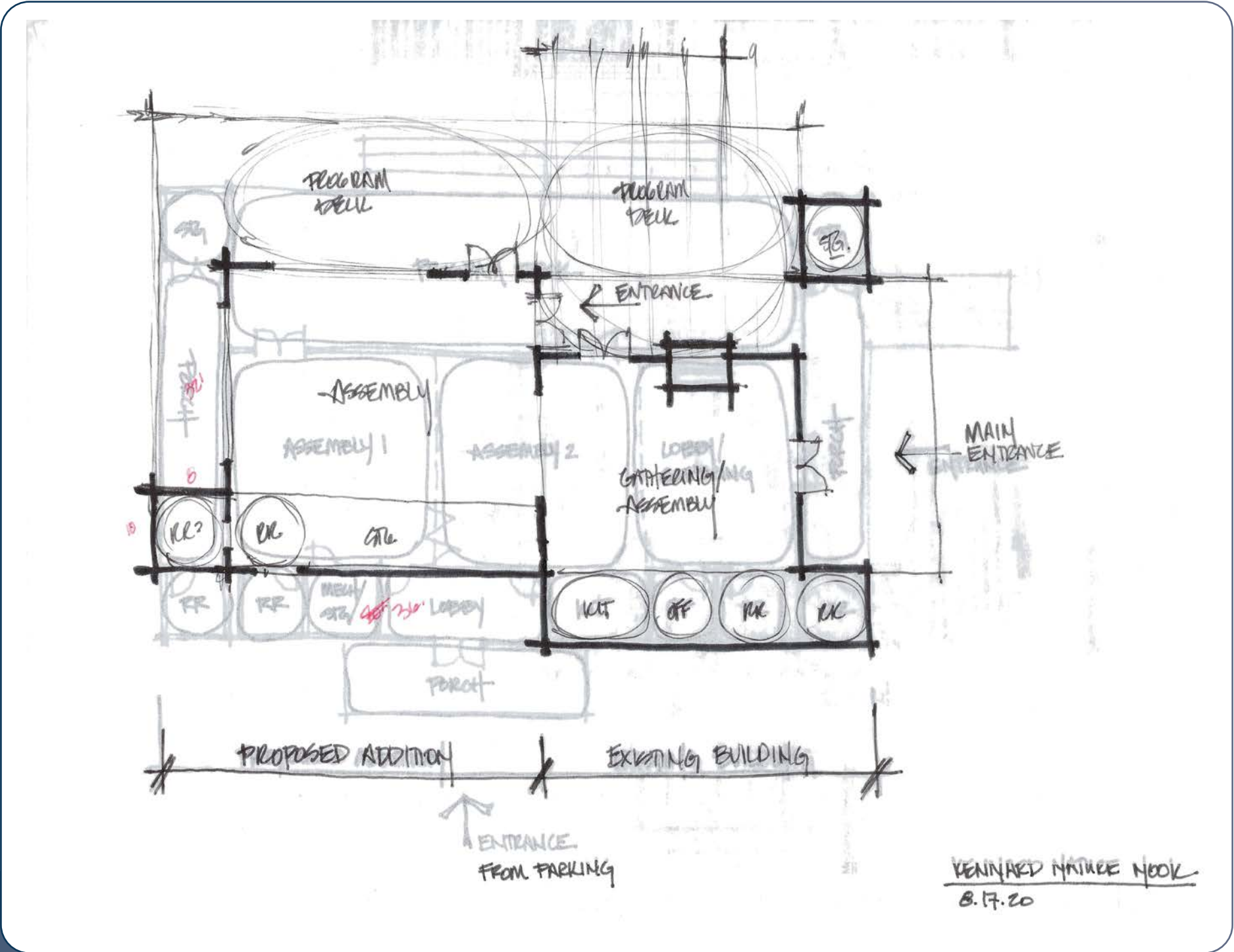
KENNARD NATURE NOOK

Constructed in 2006, the Kennard Nature Nook provides the only indoor, climate-controlled programming area at Grant Park. The building is in very good condition but does not provide adequate space for park programming needs. Based on feedback from CWPD staff and community members, the building should be expanded to include:

1. At least two multi-purpose rooms with or without a movable partition between the spaces. At times, the existing multi-purpose room could be used as a lobby/reception area while the larger multi-purpose room remains dedicated for program use. Both rooms should have access to restrooms and sinks for washing hands and for arts and craft activities.
2. At least four restrooms (two with access from the interior and two with access from the exterior).
3. Maintain or create a new kitchen area to support park programming as needed.
4. Extend the deck to accommodate at least 80 campers (1,500 sf) or an activity class with 20 to 24 participants (1,500 sf). The majority of the deck area should overlook the meadow and be shaded by extending the roof.
5. Provide an open and maintained grass area nearby to accommodate additional outdoor activities such as archery, crafts, games, etc...

The proposed improvements will roughly double the size of the existing building footprint. Although the site appears to be generally open, available area to expand the building is limited. An existing 36" diameter sanitary trunk sewer runs north of the building from McEwen Road across the park and over Holes Creek. The utility easement is sixty feet wide and limits new building structures or an expansion of the existing building to the north. Relocation of the line is prohibitively expensive and was not considered feasible or required for the proposed improvements. Expansion to the south is limited by the site topography and the proposed area required for parking. Expansion to the east and west is feasible but must be weighed with viewsheds, encroachment of the setbacks from the McEwen Road Right-of-Way and the relationship between the building and site.

Refer to the Appendix for a more detailed program summary and cost estimate.



FACILITY RECOMMENDATIONS / MCEWEN ENTRANCE

MCEWEN BARN

In the “Architectural Assessment for the Historic Barn at Grant Park” dated January 2020, Barge Design Solutions recommended restoring the original Pennsylvania Dutch-style bank barn and removing the northern addition. The original barn has historic value, while the addition adds no historic value aside from providing CWPD with additional storage area. Short-term, the original barn should be repaired to maintain a secure structure and structural integrity. Long-term, the upper level of the barn may be maintained as a storage barn or if the cost is justified, converted to a three season or year-round program space. Based on previous studies conducted by others, the cost to convert the barn for public use is likely around \$1,000,000.

Foundations for the northern addition may be maintained to define a picnic area that is reminiscent of the past structure. Depending on the condition, portions of the foundation walls may be retained to provide sitting ledges while others may be removed and exposed at grade. While the original barn will provide shade for the area for much of the day, additional shade may be added by planting shade trees outside of the foundation area, adding shade sails, or possibly retaining the original structure and roof. Grade level of the picnic area may be ADA compliant crushed limestone or planted with grass to further define the area.



FACILITY RECOMMENDATIONS / NORMANDY ELEMENTARY SCHOOL ENTRANCE AREA

NORMANDY ELEMENTARY SCHOOL ENTRANCE AREA

As one of the most popular park entrances, this area will be elevated with a new observation platform overlooking Holes Creek and the park, a dedicated parking area, and new trail that leads to the main trailhead.

ENTRANCE AND PARKING

While the approach drive to this entrance cannot be altered, a small parking lot will be developed at the end of Normandy Ridge Road. This parking area will be able to accommodate approximately 10-12 cars and provide ADA access to the trailhead.

OBSERVATION PLATFORM

Perched at the edge of the cliff with spectacular views over the creek and southern portions of the park, the observation platform has an opportunity to become an impressive landmark and favorite park destination. If resources allow, the platform may cantilever over the edge of the cliff to expand views along the creek. Educational and interpretive signage will provide an overview of the park's history and geology as well as orient visitors for their experience. The platform may be designed to also serve as a shelter. As shown, it will accommodate up to 40 people.

PICNIC AREA

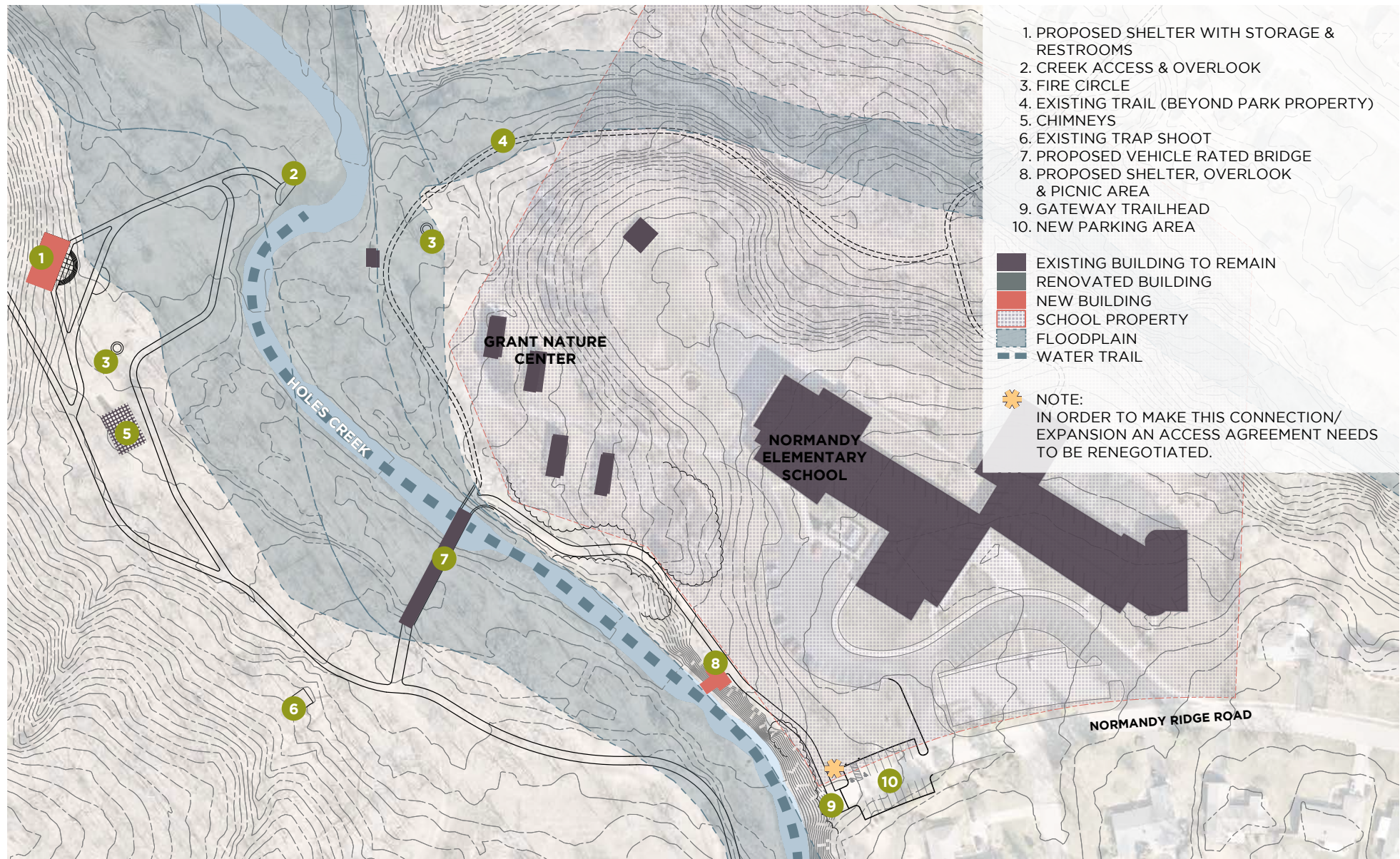
The small picnic area provides a good opportunity for groups to gather before heading down the trail into the park. The area will remain but will be redesigned along with the Observation Platform. In the short term, selective thinning should occur to provide views over the creek and into the park.

The split rail fence that keeps visitors away from the edge of the cliff should be evaluated to improve safety.



View from picnic area over Holes Creek and into the park. Image from Google Earth

GRANT PARK NORMANDY RIDGE ROAD ENTRANCE



Centerville-Washington
PARK DISTRICT

Environmental
Design Group

0' 100' N

FACILITY RECOMMENDATIONS / CHIMNEYS AREA

CHIMNEYS AREA

Settled between the forested hills and Holes Creek, the Chimneys Area is a unique open space that will continue to be a popular destination for park visitors. A new shelter with public restrooms and improved creek access will enhance the guest experience and better support park programming and events.

THE CHIMNEYS

While no changes are recommended for the chimneys, the remaining rock wall from the old swimming pool could be uncovered and included as part of the historic interpretation of this area.

SHELTER

The proposed shelter will be nestled into the hillside above the base flood elevation overlooking the open lawn, fire pit and creek. Designed to accommodate up to 100 people, the shelter will also include two unisex, single-use restrooms and a small, lockable storage room. A series of stairs and bench seats on the east side of the structure will provide access and a program area where audiences can either be located in the green space looking up into the shelter or perched on the stairs looking down into the green space.

CREEK ACCESS

Playing and exploring in the creek is a favorite activity from this area. Boulders placed along the bank will provide defined areas to access the creek.



FACILITY RECOMMENDATIONS / TRAIL AND SITE UTILITIES

TRAIL AMENITIES

To enhance the trail system improvements, the existing Observation Deck structure will be repaired and enhanced with updated interpretive signage. The overlook area Observation Hill will be enhanced with boulders to better define the area and provide additional seating. A new treehouse perched off the Blue Trail will provide an accessible overlook into the tree canopy. And throughout the park, boulders and benches will be installed at overlooks to provide areas to pause and rest.

SITE UTILITIES

Based on information from CWPDP, site utilities are adequate to support the Kennard Nature Nook expansion but will need to be provided to serve the new shelter near the Chimneys. For the shelter, water and electric service will be provided from the Normandy Elementary School area and the sanitary can be connected to the existing trunk sewer that runs through the park parallel to Holes Creek.