

MONTFORD COMPLEX PARK MASTER PLAN



TABLE OF CONTENTS

BACKGROUND SUMMARY	1-5
a. Purpose of the Plan	2-3
b. Planning Process	3
c. Summary of Recommendations	3-5
PROJECT INVENTORY & ANALYSIS	6-19
a. Existing Park Facilities Inventory & Analysis	6-10, 16
b. Cultural / Man-made Inventory & Analysis	11, 17
c. Natural & Utility Inventory	12, 18
d. Slope & Soils Analysis	13, 19
e. Analysis Findings & Implementation Considerations	14-15
PUBLIC INVOLVEMENT	20-24
a. Public Meeting #1:	21-22
Dot Survey	22
b. Public Meeting #2:	23
c. Public Meeting #3:	23-24
MASTER PLAN ALTERNATIVES	25-33
a. Alternative # 1	26-27
b. Alternative # 2	28-30
c. Alternative # 3	31-33
PREFERRED MASTER PLAN	34-42
a. Master Plan Alternative Review Meeting	34-35
b. Preferred Master Plan	36-41
c. Site Sections	42
PHASING/PERMITTING/MAINTENANCE & OPERATIONS	43-47
a. Phasing Plan	43
b. Phasing	44
c. Permitting	45
d. Maintenance & Operations	45-47
COST & IMPLEMENTATION ANALYSIS	48-60
a. Balancing Needs with Capabilities	48
b. Master Plan Summary & Detail	49
c. Phase Summaries	50-53
d. Phase Details	54-60
APPENDIX	61-115
a. Existing Conditions Survey	61
b. Existing Conditions Survey Report & Certification	62-76
c. USDA Custom Soil Resource Report	77-96
d. Geotechnical Engineering Exploration and Analysis	97-113
e. Public Announcements	114
f. Acknowledgements	115

BACKGROUND SUMMARY

PURPOSE OF THE PLAN
PLANNING PROCESS
SUMMARY OF RECOMMENDATIONS





Scale: Not to Scale

BACKGROUND SUMMARY

The Montford Recreation Complex is a 17-acre community park located at 34 Pearson Drive. It is adjacent to and partially within the Montford Area Historic District and Riverside Cemetery, both listed on the National Register of Historic Places. The City of Asheville adopted the Riverside Cemetery in 1952 and also provides maintenance and operations for it through the Parks and Recreation Department. The park is also in an area historically known as “Stump Town”, an African-American community consisting of approximately 120 homes and businesses developed between 1900-1950. In the late 1970’s, the park and recreation center were constructed with grant money in an effort to revitalize the declining neighborhood. The Stump Town community, located on the southern portion of the park and east of the Amphitheater, no longer exists today, however some infrastructure, foundation remnants and historic presence still prevail today within the Montford Community.

Since its initial construction, the park has provided public open space and indoor recreation programming for the neighborhood residents and citizens of Asheville. In 1983, the Hazel B. Robinson Amphitheatre was constructed and has been managed and operated by The Montford Park Players for outdoor theatre and play performances ever since. The majority of the park, however, has essentially remained untouched, with few improvements or new construction.

More recent improvements to park facilities relate to the interior of the existing recreation center. In March 2014, renovations were completed including the removal and replacement of the gymnasium floor system, gymnasium lighting with high efficiency LED lighting and new bleachers and painting.

In addition, construction documents have been completed for the renovations to the existing men's and women's restrooms including a small expansion for code compliant fixture capacity as well as upgrades to bring these facilities into ADA compliance. Upon bidding and construction, this work will include all new finishes, high efficiency plumbing fixtures and lighting.

The Montford Recreation Complex currently offers neighborhood residents as well as the greater community the following recreational facilities:

- Recreation Center
 - Climbing wall
 - Recently renovated gymnasium
 - Two multi-purpose rooms
 - Restrooms
- Two (2) Tennis Courts
- One (1) Basketball
- One (1) Lighted Ballfield - 300'
- Concession Area/Restroom
- Hazel B. Robinson Amphitheatre
- Off-street Parking (upper, middle, lower terraces)
- Natural Wooded Areas
- Community Garden

PURPOSE OF THE PLAN

In 2009, the City of Asheville Parks, Recreation and Cultural Arts Department adopted the Asheville Parks, Recreation, Cultural Arts and Greenways Master Plan to help meet the current needs of the community. A primary goal of the recommendation and action plan is to increase the level of service for facilities and parks. The Montford Recreation Complex was identified as an existing park in need of an increased level of service with specific strategies to improve facilities in order to meet community standards. These include updates to the playground, as well as improved walkable access to the park from adjacent residents and within the park to facilities.

An improved Montford Recreation Complex, focusing on exterior/site facilities, particularly in light of the recent interior improvements to the recreation center, will further demonstrate the City of Asheville's commitment to raising the quality and functionality of the facility all the while addressing the evolving needs of the community.

The primary goal and objective of the Montford Complex Master Plan intends to address following:

Goal:

- Develop a comprehensive park master plan that promotes a strong sense of community and provides recreation and open space facilities desired by park users.

Objectives:

- Promote health, safety and welfare for all park users
- Provide recreation opportunities / programs desired by the community
- Improve vehicular and pedestrian circulation, connections and park access
- Establish a sense of place / unique park character
- Develop an understanding of cost and a phasing strategy for implementation

Site Specific goals and objectives of the Montford Complex Master Plan intend to address the following:

- Expand upon the recent success of interior recreation improvements to the park facilities
- Coordinate improvement plans for the Hazel B. Robinson Amphitheatre by the Montford Park Players
 - Shared restroom / plaza facilities with existing ballfield improvements
- Improvement recommendations for:
 - Previously removed playground
 - Opportunities for new or desired park facilities (i.e. pickleball & basketball)
 - Vehicular circulation
 - Off-street parking
 - Pedestrian circulation, connectivity to adjacent neighborhood(s) and future greenway
 - ADA compliance

PLANNING PROCESS

The City of Asheville retained a local, Asheville-based design team including Site Design Studio, McGill Associates and Gentry Geotechnical Engineering who commenced the master planning process on February 19, 2014. With collaboration and guidance from Park and Recreation Staff, the planning process generally included:

Inventory / Assessment & Analysis

- Acquire and review inventory of the project area and previous planning documents / efforts
- Conduct site visit and evaluate the existing facilities and site conditions to verify such data
- Facility and recreation programming inventory / assessment
- Prepare comprehensive, horizontal, vertical, utility and boundary survey

Public Involvement

- Identify adjacent property owners, potential stakeholders, organizations, funders and/or other individual representatives that may have an invested interest and need to be involved throughout the process.
- Conduct a series of public input sessions

Master Plan Development

- Three (3) Conceptual Master Plan Alternatives
- Preferred Master Plan
- Site Sections

Cost & Implementation Analysis

- Develop a Phasing Plan / Strategy
- Prepare Overall Master Plan Budget, Phase Summaries and Phase Detail Budgets

SUMMARY OF PREFERRED MASTER PLAN RECOMMENDATIONS

The Montford Complex Park Master Plan serves as a guide for future park improvements and associated construction costs. It is important to note that the implementation of the following recommendations may require a phased implementation strategy, but must be considered comprehensively for long term facility and programming success. For the purposes of this plan, the key recommendations have been identified in four (4) separate categories and include:

CIRCULATION / PARKING

- **OFF-STREET PARKING & CIRCULATION** - Expand existing parking and improve circulation to appropriately accommodate phased programming. Eliminate tennis courts in Recreation Center Area, replace and expand the existing 27 space parking lot with 56 spaces. Maintain orientation of parking in Ballfield Area and expand to three terraces with vehicular access between terraces. Improve Jersey Street access and provide additional parking for future amphitheater improvements and trailhead access to future greenway connection. (See 1)
- **FACILITY DROP-OFF ZONES** - Provide drop-off areas at both the Recreation Center and ballfield / amphitheater parking lots / plazas to facilitate safe pedestrian and vehicular circulation during event and program time frames and transitions. (See 2)
- **ACCESSIBLE (ADA) PARKING & FACILITY ACCESS** - Provide designated and appropriate number of accessible parking spaces for each phase of implementation with accessible routes to facilities. (See 3)
- **VEHICULAR CIRCULATION** - Eliminate the Morrow Street cut-through from Gay Street to Jersey Street, widen and accommodate a 2-way traffic pattern and attached sidewalk for entire Gay Street section to the Chestnut / Pearson Intersection. Provide traffic calming facilities as necessary to reduce vehicle speeds. (See 4)
- **PEDESTRIAN CIRCULATION & ACCESSIBILITY** - Improve pedestrian circulation and access from adjacent neighborhood(s) and throughout park. Eliminate stairs and access to Recreation Center from Chestnut / Pearson intersection and provide attached sidewalk along Pearson to vehicular access point. Provide accessible route from Recreation Center to Transition Area parking lot and sports courts. Provide a series of park trail types and routes through Stump Town, around the existing ballfield and north as well as to Amphitheater / Trailhead parking area and future greenway connection. (See 5)
- **"STUMP TOWN" LOOP TRAIL** - Provide a passive / pervious loop trail through existing wooded / Stump Town area from Transition Area sports courts highlighting the History of the Stump Town community with opportunities for interpretive areas, signage and placards. (See 6)

PROGRAMMING

- **LARGE PLAYGROUND** - Provide large playground area and equipment to replace previously removed playground near existing basketball. Locate playground facility in Phase 1 - Recreation Center for improved access to restrooms, program space and recreation center staff interaction. (See 7)
- **SPORTS COURTS** - Remove Morrow Street cut-through, parking and existing basketball court. Provide new basketball court with 6 goals and two (2) Pickleball courts replacing the existing tennis courts removed as part of the Recreation Center improvements. (See 8)
- **BALLFIELD IMPROVEMENTS** - Remove existing ballfield restroom facility, press box, dugouts, backstop, bleachers and field fencing. Reorganize dugout / bleacher configuration and replace with new dugouts, backstop, bleachers and field fencing to meet current ballfield complex standards. (See 9)

CHARACTER

- **PLAZA SPACE** - Provide enhanced paving / shaded plazas with landscape improvements, planters, seat walls and site furnishings at both the Recreation Center and Ballfield / Amphitheater facilities. (See 10)

PARTNERSHIPS

- **COMMUNITY GARDEN** - Formalize and expand efforts made by adjacent neighborhood to improve community garden space and future participation with Recreation Center programming. (See 11)
- **HAZEL B. ROBINSON AMPHITHEATRE IMPROVEMENTS**- Implement improvements for Amphitheater proposed by Montford Park Players. Provide accessible access to facility from improved lower level parking and also from proposed ticket center via improved upper level plaza and parking. Coordinate the design and implementation of a shared restroom / concession / storage facility with ballfield improvements. (See 12)



PROJECT INVENTORY & ANALYSIS

EXISTING PARK FACILITIES INVENTORY & ANALYSIS
CULTURAL / MAN-MADE INVENTORY & ANALYSIS
NATURAL & UTILITY INVENTORY
SLOPE & SOILS ANALYSIS
ANALYSIS FINDINGS & IMPLEMENTATION CONSIDERATIONS

PROJECT INVENTORY & ANALYSIS

GENERAL PARK INFORMATION

The Montford Recreation Complex is a 17-acre community park located north of I-240 and east of I-26 at 34 Pearson Drive. Primarily surrounded by single-family residential uses, it is adjacent to and partially within the Montford Area Historic District and the Riverside Cemetery. The City of Asheville Parks and Recreation Department provides maintenance and operations for both the Montford Recreation Complex as well as the Riverside Cemetery.

CITY PARK SYSTEM CONTEXT

The Montford Recreation Complex is centrally located within the City's Parks and Greenways System. Positioned in the upper 1/3 of the Central Sub Area, as identified in the 2009 Asheville Parks, Recreation, Cultural Arts and Greenways Master Plan, the Montford Complex offers the only community center and indoor recreational programming north of I-240. Park and Greenway users can easily access this recreational hub and community center from many other institutional, park and greenway facilities in the Central and North Sub Areas including:

CENTRAL SUB AREA

- Riverside Cemetery
- Isaac Dickson Elementary
- Randolph Learning Center
- Hummingbird Park
- Food Lion Skate Park
- Magnolia Park
- Montford Park
- Reed Creek Greenway
- Future greenway connection to the Riverside Arts District Transportation Improvement Project greenway and multi-use path

NORTH SUB AREA

Glenn's Creek Greenway
Weaver Park

INVENTORY & ANALYSIS INTRODUCTION

After the initial kick-off meeting and site investigation, a project analysis, including a series of graphic exhibits, was prepared for the park. The primary focus of the analysis was to inventory existing site conditions / facilities and identify elements that may influence the master plan and future development. For the purposes of this master plan, we have divided the park into four areas, primarily due to topography and programming, as identified in the previous Background Summary section.



Kick-off Meeting and Site Investigation

EXISTING PARK FACILITIES INVENTORY & ANALYSIS

RECREATION CENTER AREA

INVENTORY:

The Recreation Center is delineated by the southern property boundary from Pearson Drive to Morrow Street, Pearson Drive to the east, Gay Street to the north and the bottom of the slope towards the Transition Area to the west. Existing facilities within this area include the Recreation Center (1), 27 space parking lot (2), two (2) tennis courts (3) and the western facing slope down to the Transition Area. The Recreation Center and associated facilities are utilized for community recreation and after school programming.



ANALYSIS:

The following list describes the existing condition of the Recreation Center facilities:

- Roll out trash area needs screening or moved (1)
- Facility / park entrance sign needs repaired or replaced (1)
- 27 space parking lot does not meet facility, programming and staff needs (2)
- Tennis courts damaged / cracking on court surface, around net posts and fencing (3)
- Lacks pedestrian connection from Pearson / W. Chestnut to park access along Pearson Drive (4)
- Existing trees around recreation center provide screening / shade (4)
- No pedestrian connection along Pearson Drive to Courtland Avenue
- Informal / gravel staff parking on Gay Street not sufficient and inconvenient (5)
- Lacks pedestrian connection to Gay Street and down slope to Transition Area (6)
- Playground was previously removed at bottom of slope north of existing basketball court (6)
- Long-range mountain views from top of slope and west facade of Recreation Center (6)



TRANSITION AREA

INVENTORY:

The Transition Area is delineated by Jersey Street to the south, Morrow Street and the bottom of Recreation Center slope to the east, Gay Street to the north including the Pearson / W. Chestnut Intersection and the bottom of the slope at the Ballfield Area parking to the west. Existing facilities within this area include the Gay Street, Madison Lane / Morrow Street cut-through (1), 12 space parking lot (2), and one (1) basketball court with 2 goals (3). The basketball court and parking lot are utilized for recreation programming and informal community purposes. The Madison Lane / Morrow Street cut-through is utilized for amphitheater / ballfield / Transition Area egress since Gay Street is currently a one-way ingress only.



ANALYSIS:

The following list describes the existing condition of the Transition Area facilities:

- Parking lot and vehicular access inefficient (2)
- Basketball court surface cracked / damaged (3)
- Basketball fence in need of repair / replacement (3)
- One-way Gay St. ingress / no park signage / informal neighborhood access (4)
- Lacks safe pedestrian connection along Gay Street (4)
- Lacks pedestrian connection to Montford Recreation Center (5)
- Limited development potential due to steep slopes (5)
- Location of Historic Stumptown Neighborhood to the south (6)
- Existing undesirable activity in wooded / Stumptown area (6)



BALLFIELD AREA

INVENTORY:

The Ballfield Area is delineated by the Amphitheater / Trailhead Area to the south, bottom of the slope from the Transition Area to the east, the property boundary and Richie Street to the north and the property boundary / Riverside Cemetery to the west. Existing facilities within this area include a 63 space 2-tiered parking lot (1 & 2), ballfield with associated field lights, dugouts, bleachers (3) and restroom facility (4) as well as an informal community garden area. The ballfield is currently used by the community for little league and adult softball purposes and the parking lot shared for ballfield and Montford Park Player performances.



ANALYSIS:

The following list describes the existing condition of the Ballfield Area facilities:

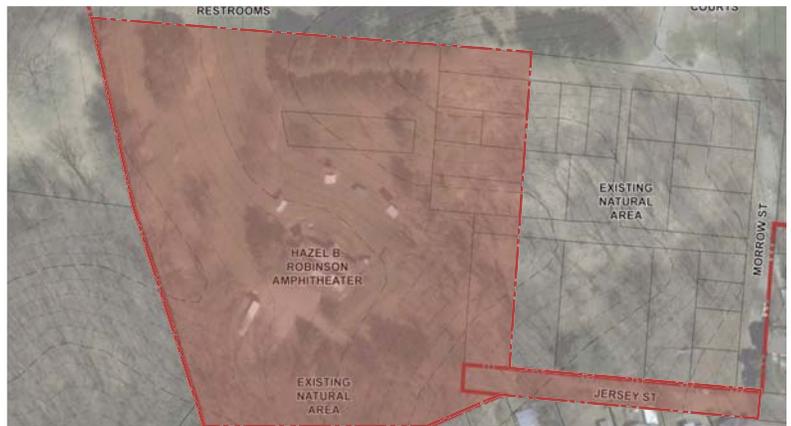
- Gravel upper-tier parking lot - lacks pedestrian connectivity and accessibility (1)
- Paved lower-tier parking lot - lacks pedestrian connectivity, drop-off & accessibility (2)
- ± 300' Ballfield (3)
 - Poor drainage
 - Damaged / outdated fencing & backstop
 - Outdated dugouts (do not currently meet standards for size, location)
 - Inaccessible bleachers
 - Recently upgraded field lighting (current standard)
 - Outdated restroom & storage facility
 - Eroded hillside
 - Lacks gathering / plaza space for Ballfield / Amphitheater events
- Poor drainage outside of ballfield (3 & 4)
- Low depression / wet area outside ballfield center field
- Maintain existing buffer around ballfield / right field (5)
- Existing informal pedestrian connection onto Riverside Cemetery (6)
- Lack of visual access to Amphitheater/Trailhead Area



AMPHITHEATER / TRAILHEAD AREA

INVENTORY:

The Amphitheater / Trailhead area is delineated by the southern park property boundary and Jersey Street to the south, Stumptown to the east, the Ballfield Area to the north and the property boundary / Riverside Cemetery to the west. Existing facilities within this area include the Hazel B. Robinson Amphitheater (1), stage house (2) and seating (3) as well as an informal parking area accessed from Jersey Street and currently utilized for Montford Park Players staff for parking and storage (4).



ANALYSIS:

The following list describes the existing condition of the Amphitheater/Trailhead Area facilities:

- Opportunity to improve / expand parking as future greenway trailhead (4)
- Shared ballfield parking (5)
- Informal parking & access to amphitheater (6)
- Lacks drop off, accessible parking and accessible access at both lower & upper seating levels (6)
- Narrow and limited access via Jersey Street
- Lacks designated pedestrian connection
- Maintain existing buffers around amphitheater to the east and north
- Incorporate Montford Park Players recommended improvements



GENERAL PARK OBSERVATIONS

- Park lacks overall wayfinding & directional signage
- Dark unlit spaces throughout park (lack of security lighting)
- Highly eroded / unplanted slopes
- Existing trees need pruned / thinning

CULTURAL / MAN-MADE INVENTORY & ANALYSIS

MONTFORD AREA HISTORIC DISTRICT

Historic Montford was initially established in 1893 by approximately 50 local businessmen when a small area north of Battery Park Hill was incorporated. By 1905, the Village of Montford was annexed to the city and development, predominately single-family residential, occurred over the next half a century by primarily middle class individuals who carried out the day-to-day activities of the city (businessman, lawyers, doctors, and a few architects). In 1977, Montford was placed on the National Register of Historic Places. Then in December 1980, Asheville City Council designated the Montford Area Historic District as the city's first local historic district. The Montford Recreation Complex is adjacent to and partially within (the Recreation Center Area) this designation and under the jurisdiction of the Historic Resources Commission (HRC) and associated Guidelines. The intent of the guidelines are to provide guidance to property owners within the Montford Area Historic District in planning exterior changes and to assist the Historic Resources Commission in reviewing the appropriateness of the proposed changes. With that being said, the Preferred Master Plan has been shared with the HRC for preliminary review and consideration with no objection. Any changes or future development within the Historic District boundaries shall be subject to future review and consideration by the HRC.

HISTORIC "STUMPTOWN" COMMUNITY

Beginning at the northeastern corner of the Riverside Cemetery, traveling east along Gray Street to Pearson Drive, south past the Montford Recreation Center to Courtland Avenue, and back to the southeastern corner of the cemetery via Jersey St. and past Hazel B. Robinson Amphitheatre is a 30-acre area still recognized as "Stumptown." In the late 1800's, residential development began here for one of only a handful of African-American communities in Asheville. By the 1950's, Stumptown had grown to approximately 120 households and was considered a safe place to live, attend church and throw festivals. In the late 1960's and 1970's, with the aging community along with urban renewal ideologies, the community's population began to decline. At that time, the idea of a park began to evolve and by the late 1970's, the Recreation Center and park were constructed with grant money in an effort to revitalize the declining neighborhood.

VEHICULAR & PEDESTRIAN CIRCULATION

INVENTORY:

The main park / Recreation Center vehicular entrance is accessed from Pearson Drive, which is a 2-way local street. The Transition and Ballfield Areas are accessed from Gay Street, which is currently a One-way ingress from the Pearson / W. Chestnut intersection to Madison Lane, transitioning to 2-way west of the Madison / Gay intersection. Egress from the Transition and Ballfield Areas currently occurs via Madison Lane to the north or south via the Morrow Street cut-through to Jersey Street. The Amphitheater Area (mainly used by Montford Park Players and performance staff) is accessed by way of Jersey Street.

ANALYSIS:

Currently, pedestrian circulation is inconsistent and inefficient. Only two designated / formal pedestrian routes exist today from public ROW's. One, from the Pearson / W. Chestnut intersection via a set of stairs with direct access to the Recreation Center. The second one occurs along Pearson Drive, south of the main vehicular access. This access is segmented and does not currently have safe pedestrian connectivity south towards Courtland or north towards the Pearson / W. Chestnut intersection along Pearson Drive. Pedestrian circulation throughout the remainder of the park occurs informally, without designation or accessibility.

NATURAL & UTILITY INVENTORY

EXISTING UTILITIES

WATER & SANITARY SEWER:

City of Asheville Public Works and Metropolitan Sewerage District (MSD) records indicate that the existing Recreation Center has a water lateral served by the water main in Pearson Drive. It also has a sanitary sewer lateral served by a 6" sanitary sewer main in Pearson Drive. The existing Ballfield Restroom facility has a separate lateral served by the water main in the Campbell Avenue ROW via the Morrow Street cut-through. A sanitary sewer lateral for the restroom facility is serviced by the manhole and 8" sewer main located at the bottom of the park along the western property boundary and the Riverside Cemetery.

STORMWATER:

Existing Stormwater facilities begin around the existing tennis courts in the Recreation Center Area. 12" CMP run along the north and west fence lines and tie into an existing dropbox, which also collects runoff from the existing 27 space parking lot. These facilities drain downhill towards the Transition Area via an 18" CMP and extend further west through the Ballfield Area via a 24" CMP. In addition, a 36" CMP carries stormwater from the low depression / wet area outside the Ballfield center field. The two stormwater facilities discharge at the stream located along the western park property boundary and the Riverside Cemetery. A few additional/minor 10"-18" stormwater facilities drain the Recreation Center parking lot towards the Pearson / W. Chestnut intersection, a low area outside the ballfield left field as well as the amphitheater seating.

STORMWATER MANAGEMENT:

Although acknowledged as a potential, future design requirement and delineated on the Preferred Master Plan as a place holder for future consideration, it is assumed that the proposed impervious surface area will be nearly equal to the existing impervious surface area and therefore stormwater treatment and detention may not be required. As redevelopment is implemented and/or a shift in programmatic desires occurs, specific stormwater needs and calculations may need to be addressed.

DESIGNATED STREAMS

According to USGS and NCDENR data and confirmation by field survey research, there are two locations identified and classified as streams, both along the western / southwestern park property boundary. Please reference the Natural & Utility Inventory Exhibit for their locations. These streams require a 30' top of bank undisturbed aquatic buffer. If future development impacts these streams and or buffer areas, USACE and/or NCDWQ permitting may be required.

EXISTING VEGETATION

The majority of the proposed development for the Montford Recreation Complex will occur within previously disturbed and currently developed areas. The more heavily wooded / Historic Stumptown area is recommended to remain undeveloped, with minor impacts associated with the construction of passive trails and interpretive areas. The predominately large maturing tree species on the site are:

Birch	Oak
Blackgum	Sweetgum
Cherry	Walnut
Maple	White Pine

SLOPE & SOIL ANALYSIS

SLOPE ANALYSIS

Utilizing the most accurate and available data resources, available GIS data and Property Survey information, a slope analysis was conducted for the park property. A slope analysis is a color-coded overlay intended to delineate a range of slope percentages in an effort to identify areas of potentially steep slopes and otherwise challenging to develop. Appendix - Slope & Soil Analysis identifies the ranges of slope percentage provides a breakdown as follows:

- 0-8% - Light Green
- 8-15% - Dark Green
- 15-20% - Blue
- 20-30% - Yellow
- 30% + - Red

LANDSLIDE HAZARD MAPPING

In 2009, the North Carolina Geological Survey (NCGS) issued a Landslide Hazard Map for Buncombe County based on several years of research on historical landslide activity and potential future hazard areas, created by both natural and human causes. This research resulted in a series of three separate mapping criteria available to property owners as well as developers in the evaluation of public safety and slope stability requirements. According to the findings of the NCGS, there is NO documented history of landslide activity on the property, the majority of the property is identified as LOW hazard in terms of Slope Stability and NO portion delineated as a Debris Flow Pathway. Areas identified as MODERATE or HIGH in terms of Slope Stability are minimal and directly correlate with slope percentages exceeding 30%. This information is available through Buncombe County GIS.

SOILS

Preliminary Buncombe County soil information (prepared by the USDA Natural Resources Conservation Service) was collected and referenced during the master planning process for soil classifications that may have an impact on proposed elements and future development. Once the Preferred Master Plan was established, a Geotechnical Engineering Exploration and Analysis was conducted by Gentry Geotechnical Engineering. Boring locations were identified, field tested and recommendations provided for new parking and driveway areas, recreational sport courts, walking trails and single-story lightly loaded rest room or storage facilities are planned for future development. Please reference the Slope & Soil Analysis Exhibit as well as the Appendices - USDA Custom Soil Resource Report as well as Geotechnical Engineering Exploration and Analysis for soil classifications and more information.

ANALYSIS FINDINGS & IMPLEMENTATION CONSIDERATIONS

INTRODUCTION

Based on its centralized location, existing infrastructure and successful community programming as well as its 45-year foundation of serving the Historic Neighborhood, the Montford Recreation Complex is positioned to be not only a community park, but a signature destination for recreation and cultural arts. Evidence of this is justified by the 30+ year history and partnership with the Montford Park Players. In order to maintain this successful partnership, build upon quality programming and expand facilities based on the needs of the community, the goals and strategies from the 2009 Asheville Parks, Recreation, Cultural Arts and Greenways Master Plan must be implemented to increase the level of service and quality of facilities.

FINDINGS & RECOMMENDATIONS

Most of the following implementation recommendations have a significant impact on the health, safety and welfare of recreational users, functionality of facilities and quality of park amenities.

- **IMPROVE PARK ACCESS & VEHICULAR CIRCULATION** - The current access and circulation to and within the park is confusing and broken. With separate access to the Recreation Center, separate ingress and egress traffic patterns (due to the one-way access only via Gay Street) to the Transition and Ballfield Areas as well as separate access to Amphitheater/Trailhead Area via Jersey Street, one can easily be discouraged upon arrival and chose not to stay and play. The recommendation to close the portion Morrow Street bisecting the park and widen Gay Street to accommodate a two-way traffic pattern would help reduce confusion, improve pedestrian safety within the park and alleviate congestion on narrow residential streets as park users come and go.
- **IMPROVE PARKING FACILITIES AND ACCESSIBILITY**- Parking is currently provided for Recreation Center users in a narrow, dead end parking lot in front of the Recreation Center, for staff via an informal gravel strip along Gay Street, along the edges of Morrow Street for the existing basketball court and in two separately accessed, terraced parking lots for the Ballfield facility and Amphitheater. The informal, back-of-house, gravel parking lot access from Jersey Street is currently only used for Montford Park Player performers and staff during theater performances and closed to the public the remainder of the time. Expanding parking facilities, providing safe drop-off areas, accessible spaces and circulation within parking lots will eliminate dead end conditions and improve access to amenities. Formalizing parking accessed from Jersey Street will improve accessibility to the lower level of the amphitheater and give other park users an option to access trails and amenities at the Montford Complex as well as additional parks and greenways within the City's park system.
- **PROVIDE SAFE PEDESTRIAN CONNECTIVITY AND ADA ACCESSIBILITY** - Safe pedestrian connectivity to the park from adjacent streets, sidewalks and residents does not currently exist. Pedestrian access to the park and circulation within the park can be improve by providing:
 - Accessibility within parking areas and to recreation facilities (picnic/play areas, sports courts, plaza space, trails, restrooms and amphitheater)
 - Attached sidewalk along Pearson Drive to the recreation center parking lot access and plaza
 - Accessible route from Recreation Center to Transition Area parking lot and sports courts
 - Attached sidewalk along Gay Street as part of roadway widening
 - A series of park trail types and routes through Stumptown, around the existing ballfield and north as well as to Amphitheater / Trailhead parking area and future greenway connection
- **SUPPORT THE EVOLUTION OF RECREATION & PROGRAMMING** - Replace the recently removed playground with better access to staff interaction, restroom facilities and program

space, update an aging basketball court and goals in disrepair and respond to a growing interest of pickleball (a combination of tennis, badminton and ping pong). The sport is growing quickly and Asheville is a hot spot with the creation of a NC Mountain District, an Asheville Pickleball Blog, and several tournaments supported by the City Parks and Recreation Department.

- **IMPROVE FACILITIES & BUILD CHARACTER** - A welcoming experience is often a good one. The Montford Complex is unique in terms of its location, variety of facilities and combination of amenities it offers. It may be that the character, architecture, furnishings, etc. of each phase of development be different from one another, yet compliments existing facilities and surroundings as it relates to history, sports, the arts and nature. As development occurs, the character and quality of materials specified will be critical to the success of implementation.

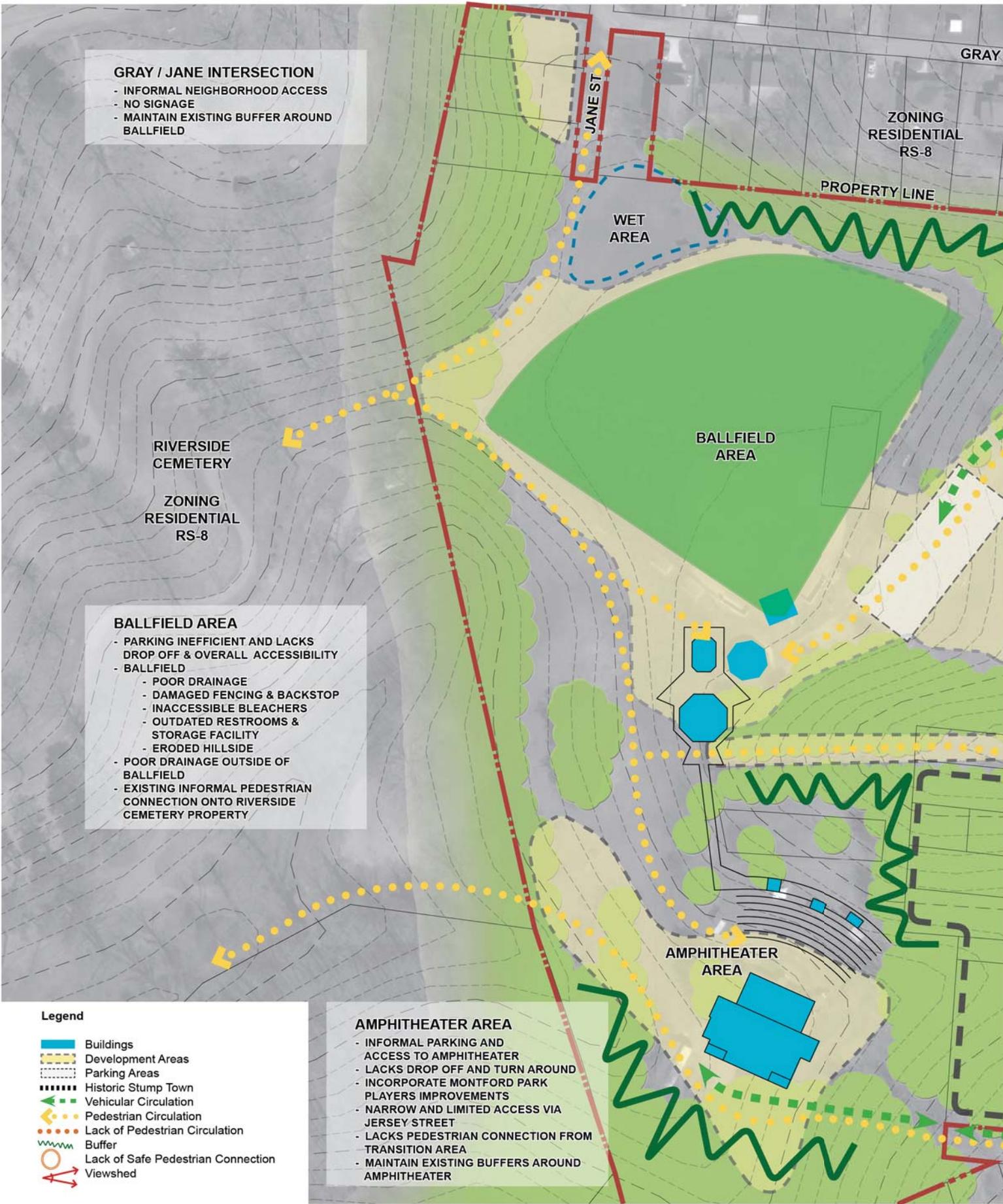
- **ACKNOWLEDGE HISTORY** - The park is rich with history reaching back nearly 125 years with the establishment of Montford and the development of Stumptown. Celebrate history and tell its story by preserving the undeveloped portions of the park and creating an interpretive “Stumptown” loop trail highlighting the History of the Montford and Stumptown with opportunities for signage and placards. This may be a great opportunity to build upon or create a new partnership to emphasize the interpretive timeline along the trail.

- **RESPECT NATURE** - It was heard several times and emphasized by the public to preserve what natural areas are still remaining in the park. In addition to the preservation of “Stumptown”, other than the development of passive trail amenities, it is the recommendation of the Preferred Master Plan to maintain existing buffers to residential areas, remediate invasive species as necessary, maintain aquatic buffer requirements and minimized development in steep slope areas that may increase development costs as well as maintenance and effect the long-term success of improvements.

- **IMPLEMENT SIGNAGE SYSTEM** - As mentioned earlier, getting around the park can be confusing. A comprehensive signage system is encouraged for the park. Whether on foot, bike or in a vehicle, the system will help guide and direct users and highlight facilities and amenities. The signage system should at a minimum include entrance / gateway, park rules (comprehensive and specific), wayfinding & directional (facilities, parking, trails), interpretive (Stumptown), etc.

- **PROMOTE THE CONNECTION / DESTINATION** - Other than the events hosted by the Montford Park Players at the Hazel B. Robinson Amphitheater and after-school programming, the Montford Recreational Complex may be considered by most a neighborhood park, rather than a community park or recreational destination. Based on the park’s location, access to additional parks and greenways within the City’s Park system along with the recommendations outlined in the Preferred Master Plan and a thoughtful strategy of implementing the improvements, the Montford Recreational Complex is positioned in the north central recreational hub offering access to newly renovated elements (playground, basketball), new active recreational opportunities (pickleball), new facilities (plazas, restrooms, amphitheater ticket office) and an array of passive recreational connections including the trailhead and future greenway connection.

- **MAINTAIN CREATIVE PARTNERSHIPS & SUPPORT THE ARTS** - Continuation of the City’s 30+ year partnership with the Montford Park Players will be required to successfully implement aspects of the Master Plan including access, parking, plaza, ballfield, restroom, amphitheater and ticket center improvements as well as the coordination of goals, objectives and plans between the City and Montford Park Players. Community gardening and edible landscape partnerships are another possible opportunity within the Montford Complex.



GRAY / JANE INTERSECTION

- INFORMAL NEIGHBORHOOD ACCESS
- NO SIGNAGE
- MAINTAIN EXISTING BUFFER AROUND BALLFIELD

BALLFIELD AREA

- PARKING INEFFICIENT AND LACKS DROP OFF & OVERALL ACCESSIBILITY
- BALLFIELD
 - POOR DRAINAGE
 - DAMAGED FENCING & BACKSTOP
 - INACCESSIBLE BLEACHERS
 - OUTDATED RESTROOMS & STORAGE FACILITY
 - ERODED HILLSIDE
- POOR DRAINAGE OUTSIDE OF BALLFIELD
- EXISTING INFORMAL PEDESTRIAN CONNECTION ONTO RIVERSIDE CEMETERY PROPERTY

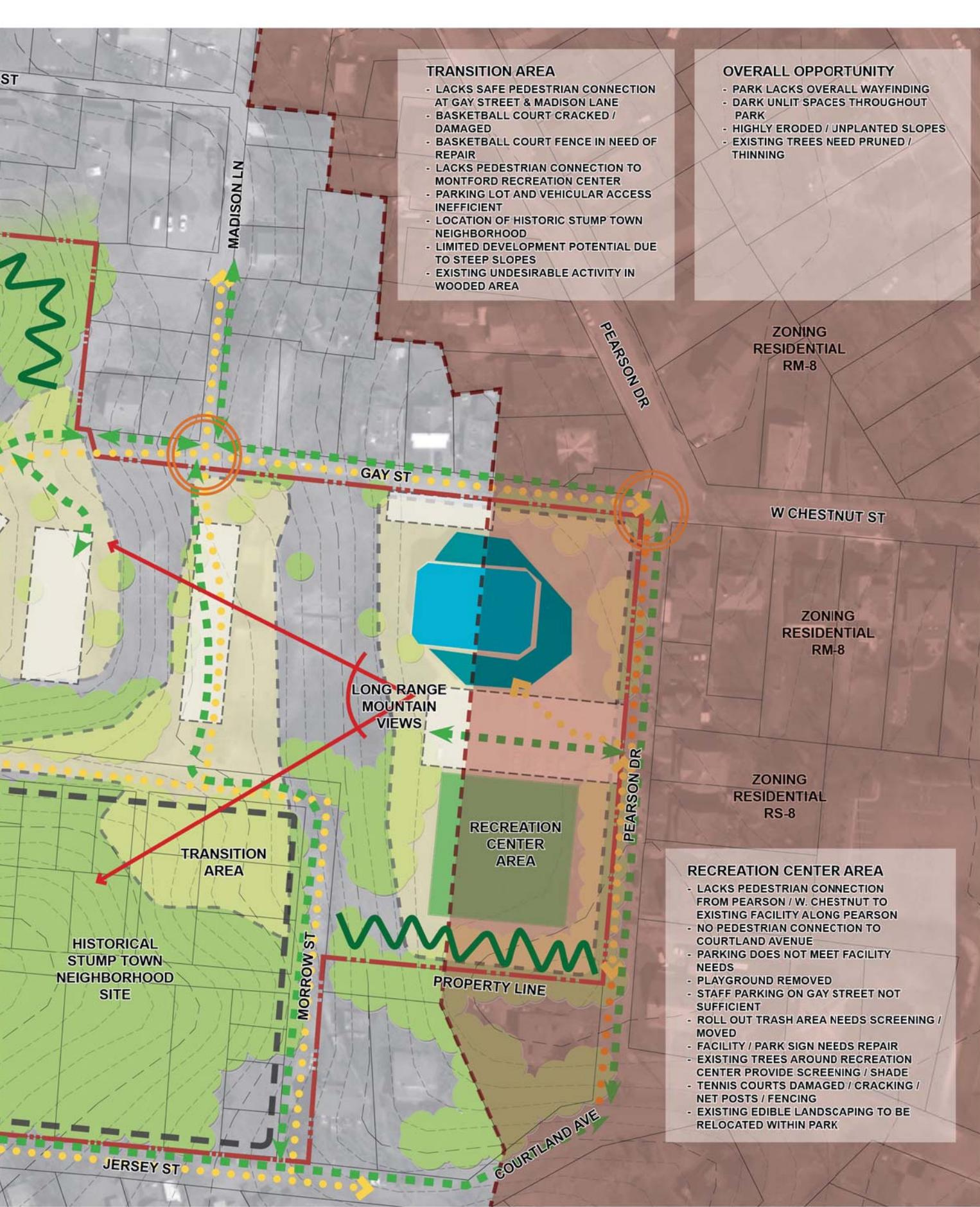
AMPHITHEATER AREA

- INFORMAL PARKING AND ACCESS TO AMPHITHEATER
- LACKS DROP OFF AND TURN AROUND
- INCORPORATE MONTFORD PARK PLAYERS IMPROVEMENTS
- NARROW AND LIMITED ACCESS VIA JERSEY STREET
- LACKS PEDESTRIAN CONNECTION FROM TRANSITION AREA
- MAINTAIN EXISTING BUFFERS AROUND AMPHITHEATER

Legend

- Buildings
- Development Areas
- Parking Areas
- Historic Stump Town
- Vehicular Circulation
- Pedestrian Circulation
- Lack of Pedestrian Circulation
- Buffer
- Lack of Safe Pedestrian Connection
- Viewshed



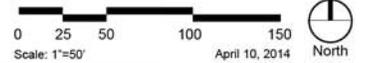


- TRANSITION AREA**
- LACKS SAFE PEDESTRIAN CONNECTION AT GAY STREET & MADISON LANE
 - BASKETBALL COURT CRACKED / DAMAGED
 - BASKETBALL COURT FENCE IN NEED OF REPAIR
 - LACKS PEDESTRIAN CONNECTION TO MONTFORD RECREATION CENTER
 - PARKING LOT AND VEHICULAR ACCESS INEFFICIENT
 - LOCATION OF HISTORIC STUMP TOWN NEIGHBORHOOD
 - LIMITED DEVELOPMENT POTENTIAL DUE TO STEEP SLOPES
 - EXISTING UNDESIRABLE ACTIVITY IN WOODED AREA

- OVERALL OPPORTUNITY**
- PARK LACKS OVERALL WAYFINDING
 - DARK UNLIT SPACES THROUGHOUT PARK
 - HIGHLY ERODED / UNPLANTED SLOPES
 - EXISTING TREES NEED PRUNED / THINNING

- RECREATION CENTER AREA**
- LACKS PEDESTRIAN CONNECTION FROM PEARSON / W. CHESTNUT TO EXISTING FACILITY ALONG PEARSON
 - NO PEDESTRIAN CONNECTION TO COURTLAND AVENUE
 - PARKING DOES NOT MEET FACILITY NEEDS
 - PLAYGROUND REMOVED
 - STAFF PARKING ON GAY STREET NOT SUFFICIENT
 - ROLL OUT TRASH AREA NEEDS SCREENING / MOVED
 - FACILITY / PARK SIGN NEEDS REPAIR
 - EXISTING TREES AROUND RECREATION CENTER PROVIDE SCREENING / SHADE
 - TENNIS COURTS DAMAGED / CRACKING / NET POSTS / FENCING
 - EXISTING EDIBLE LANDSCAPING TO BE RELOCATED WITHIN PARK

Park Master Plan





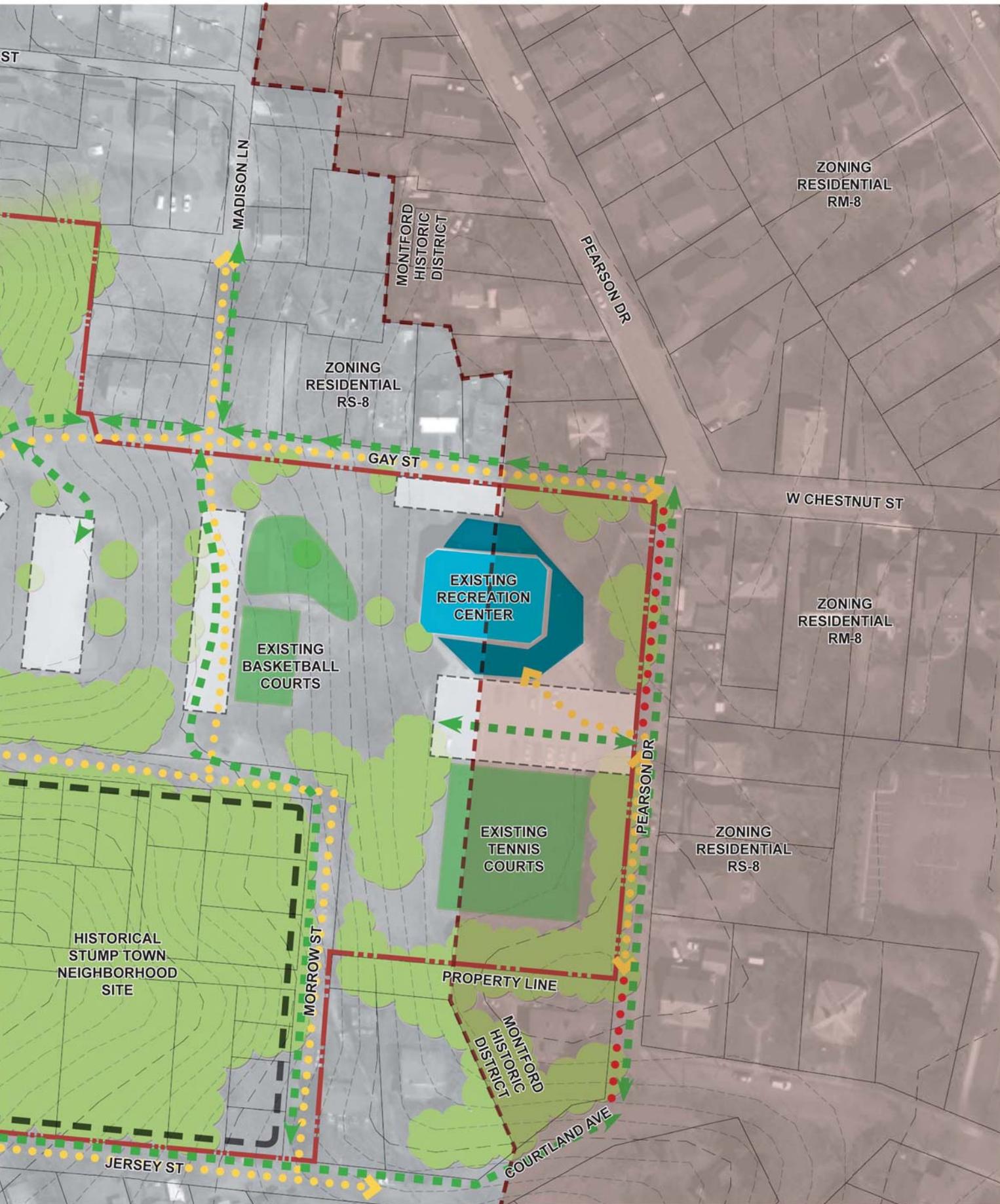
Legend

-  Existing Buildings
-  Existing Park Amenity
-  Parking Areas
-  Historic Stump Town
-  Montford Historic District
-  Vehicular Circulation
-  Pedestrian Circulation
-  No Pedestrian Connection
-  Existing Trees / Natural Area



Montford Complex

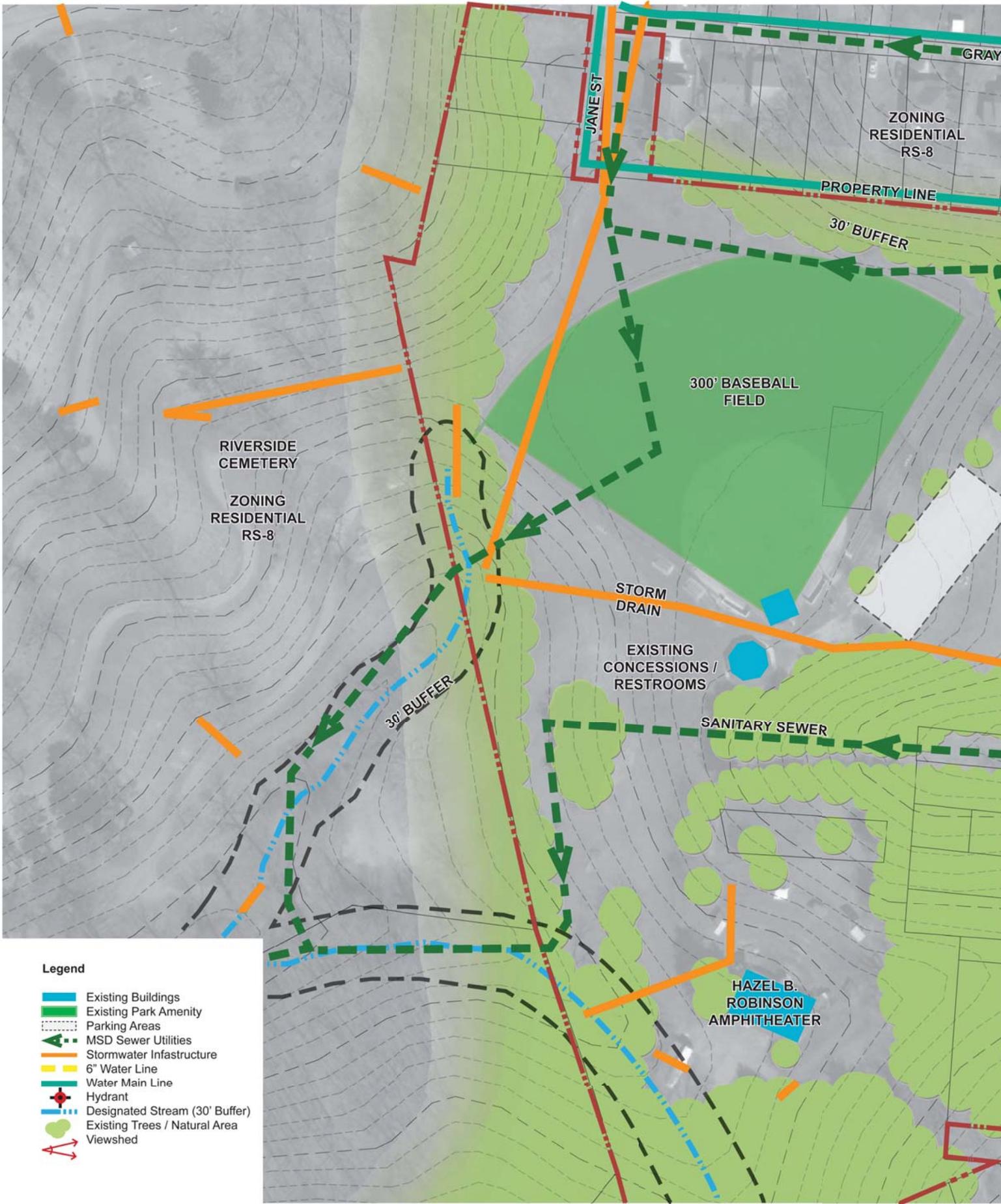
City of Asheville - Park
Cultural / Man-



Park Master Plan

Parks and Recreation
Made Inventory





Legend

-  Existing Buildings
-  Existing Park Amenity
-  Parking Areas
-  MSD Sewer Utilities
-  Stormwater Infrastructure
-  6" Water Line
-  Water Main Line
-  Hydrant
-  Designated Stream (30' Buffer)
-  Existing Trees / Natural Area
-  Viewshed

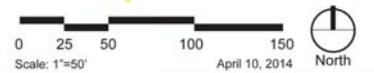


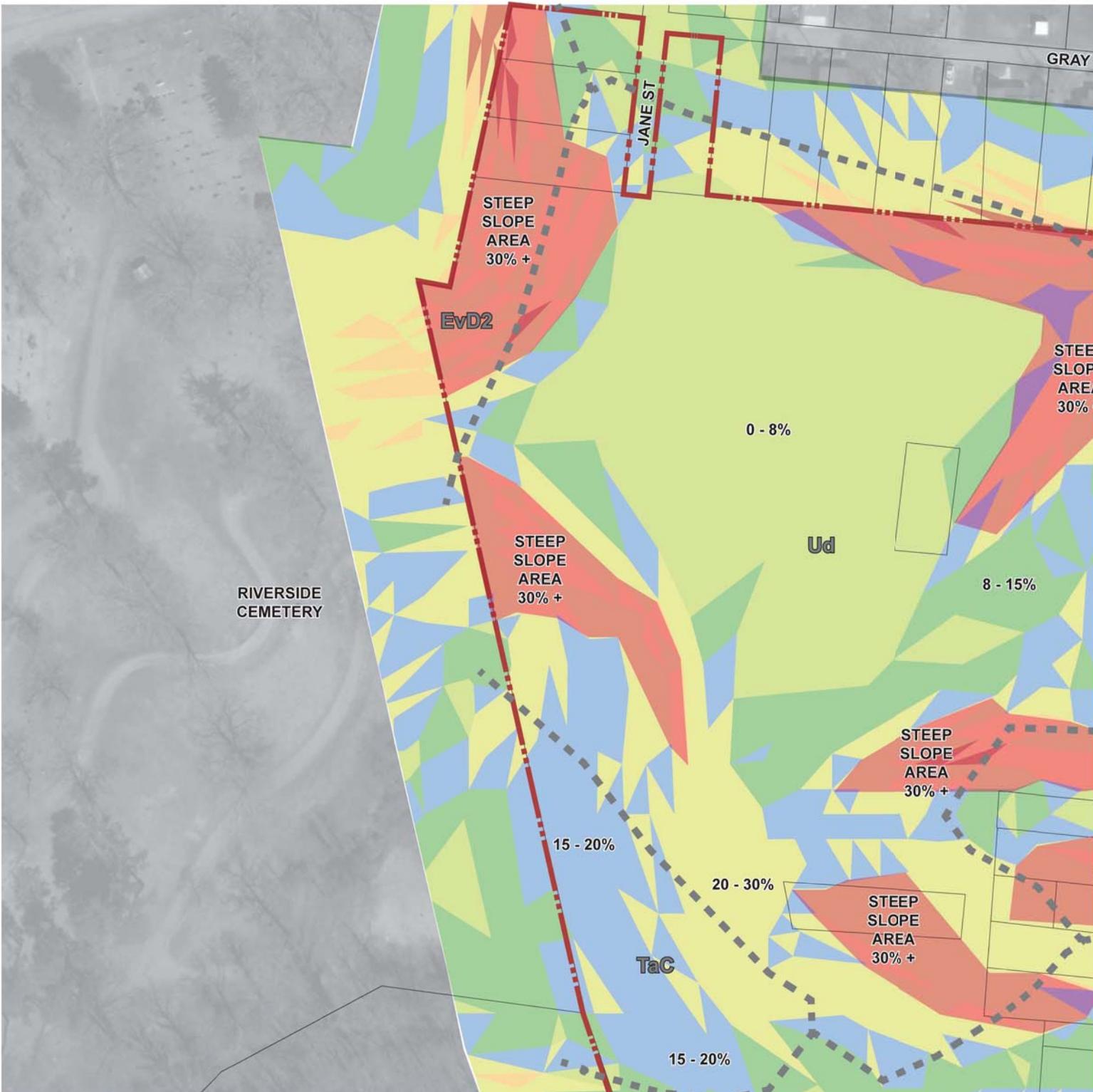
Montford Complex

City of Asheville - Planning
 Natural & Utilities



Park Master Plan





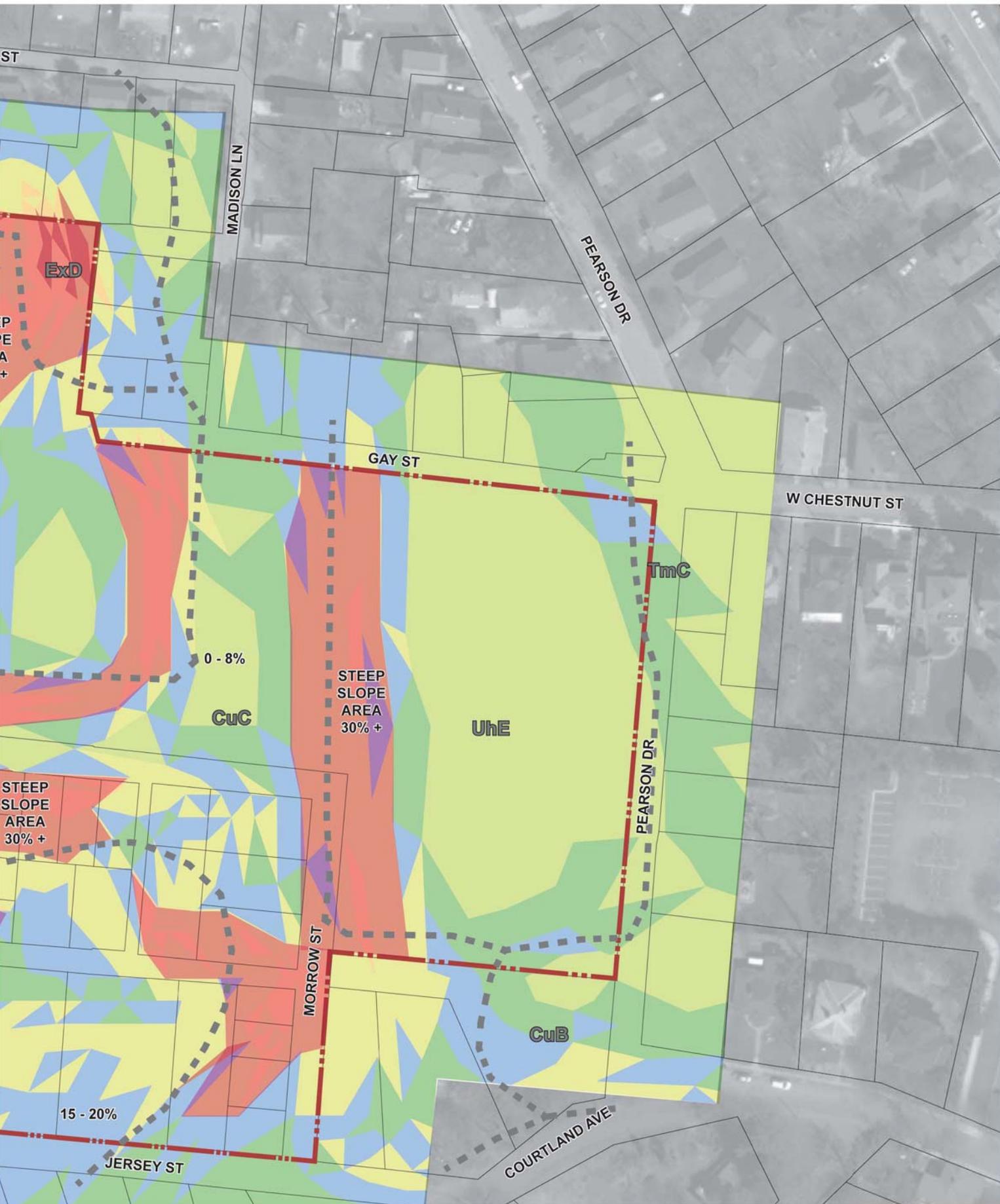
Legend

- CuB - Clifton-Urban land complex, 2 to 8 percent slopes
- CuC - Clifton-Urban land complex, 8 to 15 percent slopes
- EvD2 - Evard-Cowee complex, 15 to 30 percent slopes, moderately eroded
- EwD - Evard-Cowee complex, 15 to 30 percent slopes, stony
- ExD - Evard-Cowee-Urban land complex, 15 to 30 percent slopes
- TaC - Tate loam, 8 to 15 percent slopes
- TmC - Tate-Urban land complex, 8 to 15 percent slopes
- Ud - Udorthents, loamy
- UhE - Udorthents-Urban land complex, 2 to 50 percent slopes

Montford Complex

City of Asheville - Planning
Slope & Soil





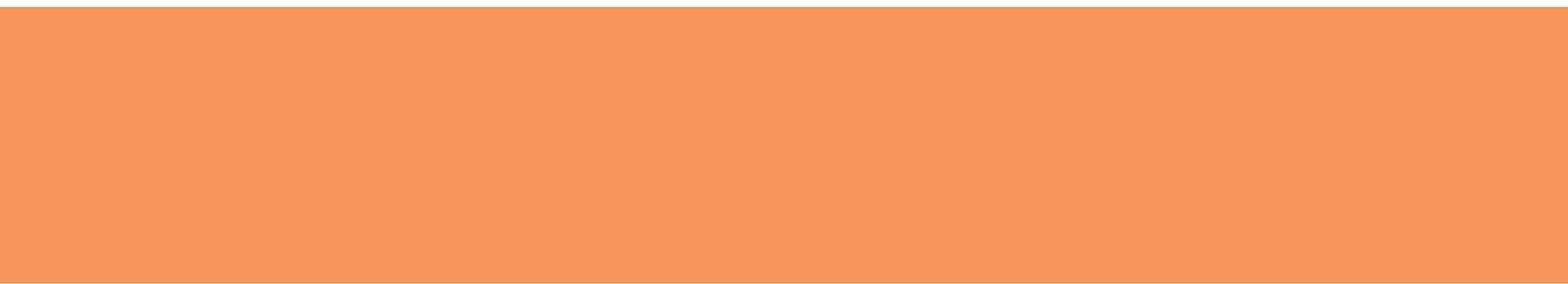
Park Master Plan

Parks and Recreation
Soils Analysis



PUBLIC INVOLVEMENT

PUBLIC MEETING #1
PUBLIC MEETING #2
PUBLIC MEETING #3



PUBLIC INVOLVEMENT

INTRODUCTION

Public, stakeholder and staff involvement was a key component to understanding how the park and recreation center is currently used, identifying what aspects of the park function well, and determining what physical and programming elements need improvement. Throughout the master planning process there were several meetings held and opportunities for citizens, partners and recreation center staff to review progress and provide input on the Project Analysis, Conceptual Alternatives as well as the Preferred Master Plan.

STAFF MEETINGS

Staff meetings were held to assist the consultant team, coordinate existing partnerships and solicit input from the public and recreation staff regarding recreation / programming needs and desires. The first of many staff meetings was held on February 19, 2014 with an on-site kick-off and improvement program review meeting with the consultant team, Montford Park Players as well as recreation staff to investigate the existing conditions of the park, discuss programming desires and develop a preliminary list of program elements / improvement.

STAKEHOLDERS

Stakeholders played an important role in prioritizing park programming needs and coordinating improvements plans that may have an impact on park elements and implementation time frames. Primary stakeholder groups, Montford Park Players and the Montford Neighborhood Association, were invited to attend all public meetings and provide suggestions during the drop-in comment period at the Montford Recreation Center.

PUBLIC MEETINGS

On April 11, 2014, the first of three (3) public meetings was held to share information regarding existing site conditions and solicit input regarding future park improvements as well as new facilities needed. A Dot Survey was conducted, the results of which are documented in Public Meeting # 1. Based on these results, three (3) Master Plan Alternatives were developed and reviewed by staff. Upon staff review, the consultant team developed the Preferred Master Plan and presented it at Public Meeting # 2 on June 3, 2014. An additional Public Meeting # 3 was held on June 17, 2014 to address specific comments and questions from the Montford Neighborhood Association and adjacent Montford Complex residents who were unable to attend the first two public meetings. Overall, approximately twenty-six (26) people attended the public input sessions.

DROP-IN COMMENTS

A drop-in comment period was arranged and available for staff, stakeholders and the general public to provide input on the Project Analysis, Preferred Master Plan and associated park cross-sections posted in the atrium of the Montford Recreation Center from June 3rd - June 17th.

FINDINGS / CONCLUSIONS

In general, the comments received during the public input sessions were positive and focused on:

- Improving facilities (restrooms, trails, basketball court & signage)
- Improving circulation, parking and address Gay Street
- Providing more trails for walking / jogging
- Replacing recently removed playground
- Maintaining open space and natural area (Stumptown)
- Providing picnic / sitting areas

PUBLIC MEETING #1: APRIL 10, 2014

PUBLIC INPUT MEETING

Montford Complex Park Master Plan
April 10, 2014 5:30-7:30 PM
Montford Recreation Center

The first public input meeting to discuss the Master Plan for renovating Montford Complex Park was held as a drop in/community dialogue. City staff facilitated the meeting. Approximately 10 citizens attended the drop in to learn about the City's plans for park renovations and express their desires for park improvements.

Following their sign in and brief orientation, attendees were invited to visit displays set up around the meeting room that provided information on existing facilities. Five display boards provided information on existing site conditions and findings from a site analysis conducted by the consultant.

Attendees were then invited to voice their opinions on park renovations by voting for improvements and additions they felt were most needed in the park. Each participant was given 3 orange colored dots numbered 1 through 3. They were asked to use their dots to identify the 3 improvements that were most needed in the park, from a list of suggested improvements. They were also encouraged to list improvements they felt were needed but not on the list.

Attendees were also given 5 green dots with numbers 1 through 5. They were instructed to use their 5 green dots to identify new facilities that should be added to the park. As with the list of improvements, attendees were encouraged to add facilities/activities to the list.

Below is a summary of the public's voting:

The improvement that received the most support included the restrooms/concession areas, trails and signage / basketball court were tied for third.

New facilities most requested include:

- Playground
- Jogging/walking trails
- Open Space/natural Areas
- Picnic Area
- Sitting Area

In addition to voting with dots, all attendees were encouraged to express any desires by writing comments on comment sheet. Many of the attendees took this opportunity to list ideas for park development. The following comments were posted:

- I think the park could use a playground again...
- Professional access to amphitheater
- Improve restrooms

- Turn ball field area into green space with picnic area, plantings, gazebo, fountain, sculptures
- Stump Town Memorial signs
- Stump Town walking trail
- Keep area as green and “natural” as possible
- Minimize any new asphalt (roads or parking areas)
- A sunset view area...small formal plaza

Overall, the meeting was very successful and positive. All attendees were neighborhood residents many of which live on the edge of the park. Several attendees were directly associated with the Montford Park Players and other neighborhood events/organizations; including the Montford Neighborhood Association. The diversity of those in attendance indicates there is community interest in the park. No one group or special interest dominated the attendance. Everyone in attendance seems to feel the park is an important community asset and felt improvements will benefit the citizens of the Montford Neighborhood and the City of Asheville as a whole.

DOT SURVEY

MONTFORD COMPLEX PARK IMPROVEMENTS & NEW FACILITIES							
Park Improvements	Dot #1 = 3 pts	Dot #2 = 2 pts	Dot #3 = 1 pts			# of Votes	Point Total
Add More Lighting to the Park	0	4	1			3	5
Improve Restrooms/Concessions	9	2	1			5	12
Increasing Beautification in the Park	3	0	2			3	5
Improve Parking Areas in the Park	3	0	0			1	3
Improve Access to Park Amenities from Parking Areas	0	2	1			2	3
Add Signage to the Park	3	2	2			4	7
Improve Basketball Court	6	0	1			3	7
Improve Tennis Courts	0	0	0			0	0
Improve Trails	3	6	1			5	10
New Facilities	Dot #1 = 5 pts	Dot #2 = 4 pts	Dot #3 = 3 pts	Dot #4 = 2 pts	Dot #5 = 1 pts	# of Votes	Point Total
Picnic Areas	0	4	6	6	1	7	17
New Playground	30	0	0	2	0	7	32
Jogging/Walking Trails	10	20	3	0	1	9	34
Fitness Facility	0	0	0	2	2	3	4
Horseshoe Pits	0	0	0	2	2	3	4
Sand Volleyball Courts	0	0	0	0	0	0	0
Bocce Courts	0	0	0	2	0	1	2
Open Space/Natural Area	5	8	9	0	0	6	22
Sitting Areas	5	0	6	2	1	4	14

PUBLIC MEETING #2: JUNE 3, 2014

PUBLIC INPUT MEETING

Montford Complex Park Master Plan
June 3, 2014 5:30-7:30 PM
Montford Recreation Center

The second public input meeting to discuss the Master Plan for renovating Montford Complex Park was also held as a drop in/community dialogue. City staff as well as the consultant team facilitated the meeting. One citizen and one stakeholder attended the drop in to review the Preferred Master Plan and Site Sections developed for the proposed park improvements.

Following their sign in and brief orientation, attendees were invited to visit the displays set up around the meeting room that provided information on existing facilities, which was also shared during public meeting # 1, as well as the Preferred Master Plan and Site Sections. Seven display boards provided information on existing site conditions, analysis and proposed improvements conducted by the consultant.

Below are the comments received from Public Meeting # 2:

- Please save the existing 2 oak trees adjacent to upper parking terrace in the transition area.

PUBLIC MEETING #3: JUNE 17, 2014

PUBLIC INPUT MEETING

Montford Complex Park Master Plan
June 17, 2014 5:30-7:30 PM
Montford Recreation Center

A third public input meeting was held to further inform and address concerns raised by the Montford Neighborhood Association and adjacent Montford Complex residents. City staff facilitated the meeting. Approximately 14 citizens attended the information session regarding the Preferred Master Plan and Site Sections developed for the proposed park improvements. All the information provided for Public Meeting #1 and #2 was on display and staff was available to answer questions and address concerns.

The following is a list of comments received from Public Meeting # 3:

- Please save the existing 2 oak trees adjacent to upper parking terrace in the transition area
- Keep asphalt trails to 6' or less
- Poison Ivy needs addressed on park property
- Add multiple benches for sitting
- Traffic along Chestnut / Pearson / Gay needs to be address before going any further with plan

- Prioritize improvements around Recreation Center in Phase 1
- Prioritize playground improvements in Phase 1
- Provide bigger / large playground for ages 5-12 in back of center
- Keep all existing tennis courts, locate 2 tennis courts instead of pickleball courts
- Keep / resurface tennis courts near Recreation Center and provide additional parking off Gay Street
- Provide at least 1 tennis court
- Pickleball seems to be gaining interest, good for older players
- Provide dog park in wooded area
- Provide speed bump on Gay Street before crest of hill
- Sidewalk along Gay Street to Pearson Drive will improve pedestrian safety greatly
- Designate area for community garden
- Provide bike paths on Pearson Drive / Gay Street
- Provide picnic tables
- Make playground accessible from Recreation Center
- Parking on both sides of Chestnut between Montford and Pearson Drive will create a major traffic issue once Gay Street becomes 2-way. Make Chestnut a 1-side parking street
- Additional parking and drop-offs are good
- Additional parking is excessive
- Additional trail and trail connection to greenway is good
- Eliminating the Morrow Street cut-through is good



MASTER PLAN ALTERNATIVES

ALTERNATIVE #1
ALTERNATIVE #2
ALTERNATIVE #3

MASTER PLAN ALTERNATIVES

INTRODUCTION

As part of the planning process for the development of the Montford Complex Park Master Plan, conceptual alternatives were developed based on public/stakeholder/staff input, the findings and recommendations established during the project inventory and analysis as well as the goals and strategies established and adopted within the 2009 Asheville Parks, Recreation, Cultural Arts and Greenways Master Plan. In addition to the primary goal to increase the level of service and improve facilities in order to meet community standards, all three conceptual alternatives specifically explored options to:

- Provide additional staff and park user parking at the Recreation Center
- Improve park vehicular access, ingress/egress and circulation within parking areas
- Eliminate the Morrow Street cut-through bisecting the park
- Formalize parking and provide trailhead access to future greenway connection at amphitheater
- Provide safe pedestrian access to park and between park facilities & amenities
- Address ADA and accessibility to facilities & amenities
- Improve/upgrade the quality of facilities (basketball, ballfield, restrooms)
- Reorient existing sports facilities and/or introduce new sports courts/elements
- Provide plaza/picnic/sitting areas
- Replace recently removed playground

MASTER PLAN ALTERNATIVE # 1:

ALTERNATIVE # 1:

Alternative #1 intended to maximize parking and reintroduce the playground component with access to Recreation Center facilities and programming, maximize parking, improve basketball and introduce pickleball in the Transition Area and maximize parking, without circulation improvements between parking terraces, at the Ballfield Area. Please reference the following program outline for a detailed list of park improvements for Master Plan Alternative #1 .

PROGRAM OUTLINE

RECREATION CENTER AREA

- Eliminate tennis courts, replace and expand the existing 27 space parking lot with a drop-off area, 56 spaces and accessible spaces at main building entrance
- Designated on-street parking along Pearson Drive - west side
- New playground (Ages 5-12) west of vehicle drop-off area
- Outdoor classroom space near southwest building access
- Picnic / seating plaza between main building entrance and playground
- Enhanced paver / paving pattern at main entrance
- Covered seating / viewing area along west building facade & west of expanded parking
- Bocce court west of expanded parking
- Informal gathering / secondary outdoor classroom space southwest of expanded parking
- Trail access to Transition Area from parking and outdoor classroom

TRANSITION AREA

- 2-way widening of Gay Street with attached sidewalk on south / park side
- Eliminate Morrow St. cut-through
- Pickleball - 2 courts
- Basketball - 1 half court
- Picnic / shade plaza
- Alternate for 3 pickleball, 1 basketball without picnic / shade plaza - Option 1A
- Alternate for 2 pickleball, 1 basketball and 2 bocce ball courts - Option 1B
- 15 space parking area north of pickleball / basketball courts accessed from Gay Street
- 23 space parking area south of pickleball / basketball courts accessed from Jersey Street
- Pervious trail access through existing wooded / “Stumptown” area from parking and courts
- Maintain Stumptown as passive trail / interpretive area

BALLFIELD AREA

- Re-orient parking to more north-south access and expand to three terraces for a total of 69 spaces (accessible spaces, no drop-off area or vehicular circulation between terraces, retaining walls required)
- Crosswalk at Madison / Gay Intersection and sidewalk along north side of parking access
- Terraced concrete bleachers on hillside along first base line
- Multi-use trail around existing ballfield with access to adjacent community
- Community trailhead parking - 4 spaces
- Gated access to Riverside Cemetery from multi-use trail
- Eliminate existing restroom / storage facility, replace with a shared Montford Park Players restroom / storage / concessions facility
- Shared MPP shade structure / tree plaza
- Independent MPP ticket office with accessible access to amphitheater improvements

AMPHITHEATER / TRAILHEAD

- Formal / expanded parking area for Montford Park Players staff - 27 spaces including accessible spaces for lower level facility users
- Parking also available as trailhead for future connection to greenway
- Extend trail from “Stumptown” along existing creek to future greenway access
- Provide trail access north of expanded trailhead parking to ballfield / MPP ticket plaza
- Independent MPP amphitheater improvements



A COMMUNITY TRAILHEAD



B CONCRETE BLEACHERS



C PICNIC PLAZA / SHADE SAIL



D TRAIL MARKERS



E PICKLEBALL / BASKETBALL



F PICKLEBALL / BASKETBALL PLAZA



Legend

- 5-6' Concrete Sidewalk
- 6-8' Multi-Use Asphalt Trail
- 5-6' Pervious Trail (Mulch or Gravel Screenings)
- Bike Rack Locations
- Walls
- Blue-line Stream

Existing Parking Counts

On-street (Gay Street)	5
Recreation Center Area	27
Transition Area	12
Ballfield Area	63
Amphitheater Area (Informal)	20
Total	127

Proposed Parking Counts

On-street (Pearson Street)	10
Recreation Center Area	56
Transition Area	38
Ballfield Area	69
Amphitheater Area (Informal)	27
Total	200 (+73)





G COVERED SWINGS / VIEWING AREA



H OUTDOOR CLASSROOM



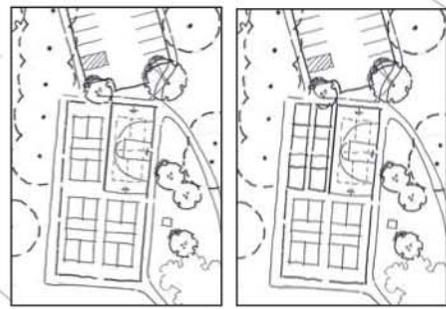
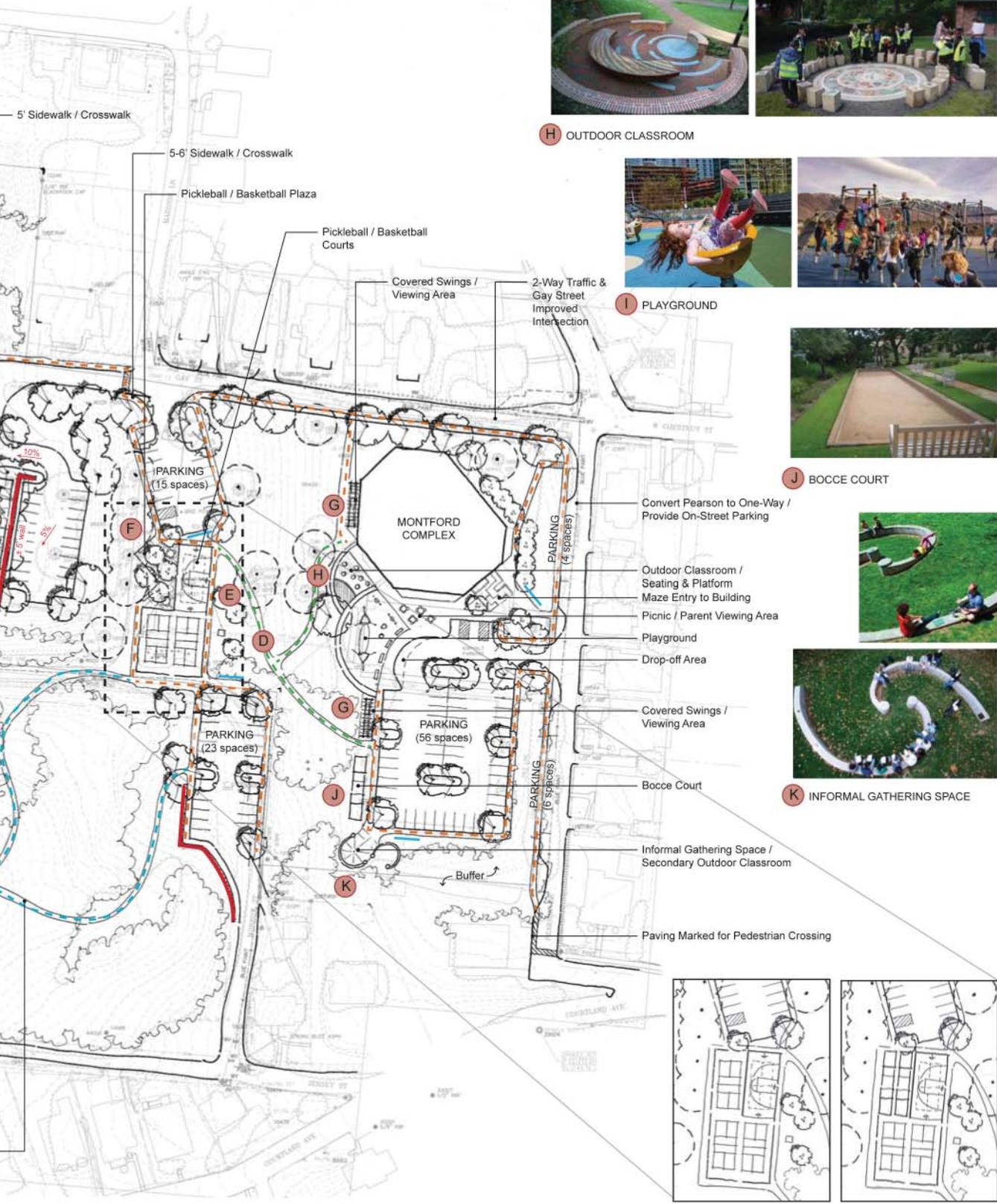
I PLAYGROUND



J BOCCIE COURT



K INFORMAL GATHERING SPACE



OPTION 1A

OPTION 1B

Park Master Plan

Parks and Recreation
Alternative 1

MASTER PLAN ALTERNATIVE # 2:

ALTERNATIVE # 2:

Alternative #2 also intended to maximize parking and reintroduce the playground component at the Recreation Center, relocate tennis, improve access and parking, upgrade basketball and introduce pickleball in the Transition Area and improve parking and circulation between parking terraces at the Ballfield Area. Please reference the following program outline for a detailed list of park improvements Master Plan Alternative #2.

PROGRAM OUTLINE

RECREATION CENTER AREA

- Eliminate tennis courts, replace and expand the existing 27 space parking lot with a drop-off area, 56 spaces and accessible spaces at main building entrance
- Designated on-street parking along Pearson Drive - west side
- New playground (Ages 5-12) west of vehicle drop-off area
- Outdoor classroom space near southwest building access
- Picnic / seating plaza between main building entrance and playground
- Enhanced paver / paving pattern at main entrance
- Covered seating / viewing area along west building facade & west of expanded parking
- Bocce court west of expanded parking
- Informal gathering / secondary outdoor classroom space southwest of expanded parking
- Trail access to Transition Area from parking and outdoor classroom

TRANSITION AREA

- 2-way widening of Gay Street with attached sidewalk on south / park side
- Eliminate Morrow Street cut-through
- Pickleball - 2 courts
- Basketball - 1 half court
- Picnic / shade plaza
- 15 space parking area north of pickleball / basketball courts accessed from Gay Street
- 6 space parking area south of pickleball / basketball courts accessed from Jersey Street
- Single tennis court associated w/ 6 space parking area
- Pervious trail access through existing wooded / "Stumptown" area from parking
- Maintain Stumptown as passive trail / interpretive area

BALLFIELD AREA

- Maintain orientation of parking and expand to three terraces with vehicular access between terraces - 58 spaces (accessible spaces, no drop-off area, retaining walls required)
- Crosswalk at Madison / Gay Intersection and sidewalk along north side of parking access
- Terraced concrete bleachers on hillside along first base line
- Multi-use trail around existing ballfield with access to adjacent community
- Community trailhead parking - 4 spaces
- Eliminate existing restroom / storage facility, replace with a shared Montford Park Players restroom / storage / concessions facility
- Shared MPP shade structure / tree plaza
- Independent MPP ticket office with accessible access to amphitheater improvements

AMPHITHEATER / TRAILHEAD

- Formal / expanded parking area for Montford Park Players staff - 27 spaces including accessible spaces for lower level facility users
- Parking also available as trailhead for future connection to greenway
- Extend trail from “Stumptown” along existing creek to future greenway access
- Provide trail access north of expanded trailhead parking to ballfield / MPP ticket plaza
- Independent MPP amphitheater improvements



A COMMUNITY BIKE TRAILHEAD



B CONCRETE BLEACHERS



C PICNIC PLAZA / SHADE SAIL



D TRAIL MARKERS



E PICKLEBALL / BASKETBALL



F PICKLEBALL / BASKETBALL PLAZA



Legend

- 5-6' Concrete Sidewalk
- 6-8' Multi-Use Asphalt Trail
- 5-6' Pervious Trail (Mulch or Gravel Screenings)
- Bike Rack Locations
- Walls
- Blue-line Stream

Existing Parking Counts

On-street (Gay Street)	5
Recreation Center Area	27
Transition Area	12
Ballfield Area	63
Amphitheater Area (Informal)	20
Total	127

Proposed Parking Counts

On-street (Pearson Street)	10
Recreation Center Area	56
Transition Area	21
Ballfield Area	58
Amphitheater Area (Informal)	27
Total	172 (+45)





G COVERED SWINGS / VIEWING AREA



H OUTDOOR CLASSROOM



I PLAYGROUND



J BOCCIE COURT



K INFORMAL GATHERING SPACE



MASTER PLAN ALTERNATIVE # 3:

ALTERNATIVE # 3:

Alternative #3 intended to improve parking and circulation, provide basketball, introduce new sports amenities (pickleball & bocce ball) and reintroduce the playground component at the Recreation Center, improve access and parking and relocate tennis in the Transition Area and reorient terraces to improve parking and circulation at the Ballfield Area. Please reference the following program outline for a detailed list of park improvements for Master Plan Alternative #3.

PROGRAM OUTLINE

RECREATION CENTER AREA

- Eliminate tennis courts, replace and expand the existing 27 space parking lot with a drop-off area, 30 spaces and accessible spaces at main building entrance
- Designated on-street parking along Pearson Drive - west side
- New playground (Ages 5-12) west of vehicle drop-off area
- New playground (Ages 2-5) near southwest building access
- Outdoor classroom viewing plaza between two playground areas
- Picnic / seating plaza between main building entrance and playgrounds
- Planter / seat wall shade plaza at main entrance
- Covered seating / viewing area along west building facade & west of expanded parking
- 2 bocce, 2 pickleball, 1 half court basketball south of improved parking area
- Informal gathering / secondary outdoor classroom space southwest of sports courts
- Trail access to Transition Area from parking and outdoor classroom

TRANSITION AREA

- 2-way widening of Gay Street with attached sidewalk on south / park side
- Eliminate Morrow Street cut-through
- Tennis - 1 court
- 15 space parking area north of pickleball / basketball courts accessed from Gay Street
- Pervious trail access through existing wooded / "Stumptown" area from Tennis and Morrow Street at park property boundary
- Maintain Stumptown as passive trail / interpretive area

BALLFIELD AREA

- Re-orient parking to more north-south access and expand to three terraces with vehicular access between terraces - 46 spaces (accessible spaces, no drop-off area, retaining walls required)
- Crosswalk at Madison / Gay Intersection and sidewalk along north side of parking access
- Terraced concrete bleachers on hillside along first base line
- Multi-use trail around existing ballfield with access to adjacent community
- Eliminate existing restroom / storage facility, replace with a shared Montford Park Players restroom / storage / concessions facility
- Shared MPP shade structure / tree Plaza
- Independent MPP ticket office with accessible access to amphitheater improvements

AMPHITHEATER / TRAILHEAD

- Formal / expanded parking area for Montford Park Players staff - 27 spaces including accessible spaces for lower level facility users
- Parking also available as trailhead for future connection to greenway
- Extend trail from “Stumptown” along existing creek to future greenway access
- Provide trail access north of expanded trailhead parking to ballfield / MPP ticket plaza
- Independent MPP amphitheater improvements



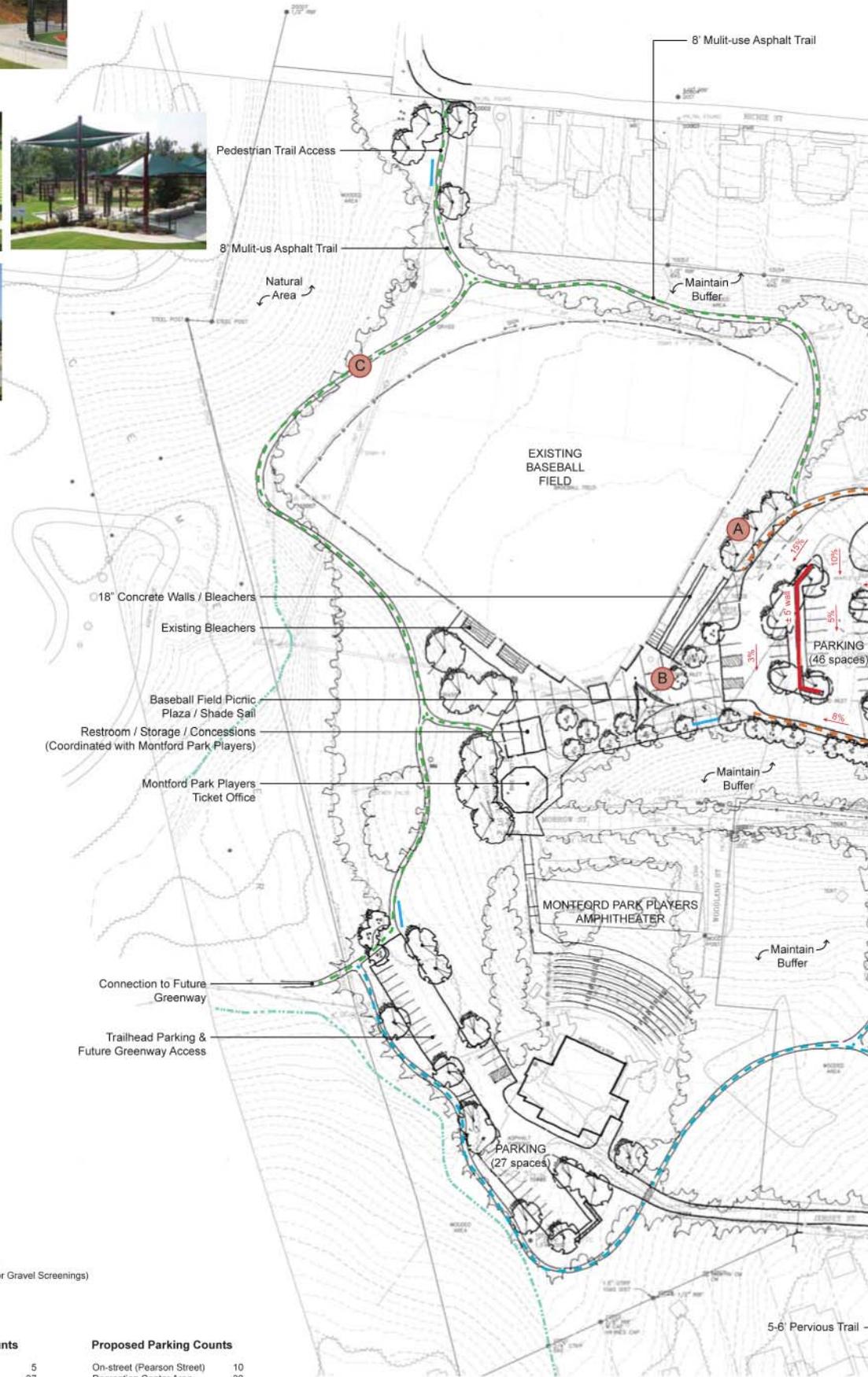
A CONCRETE BLEACHERS



B PICNIC PLAZA / SHADE SAIL



C TRAIL MARKERS



Legend

- 5-6' Concrete Sidewalk
- 6-8' Multi-Use Asphalt Trail
- 5-6' Pervious Trail (Mulch or Gravel Screenings)
- Bike Rack Locations
- Walls
- Blue-line Stream

Existing Parking Counts

On-street (Gay Street)	5
Recreation Center Area	27
Transition Area	12
Ballfield Area	63
Amphitheater Area (Informal)	20
Total	127

Proposed Parking Counts

On-street (Pearson Street)	10
Recreation Center Area	30
Transition Area	15
Ballfield Area	46
Amphitheater Area (Informal)	27
Total	128 (+1)





G COVERED SWINGS / VIEWING AREA



D TODDLER PLAYGROUND



E OLDER KIDS PLAYGROUND



F OUTDOOR CLASSROOM



Convert Pearson to One-Way / Provide On-Street Parking

Playground (Toddlers)

Picnic / Parent Viewing Area
Outdoor Classroom /
Seating & Platform

Playground (Older Kids)

Drop-off Area



G BOCCIE COURT



Bocce Courts

Pickleball / Basketball Courts

Informal Gathering Space /
Secondary Outdoor Classroom



H INFORMAL GATHERING SPACE



I PICKLEBALL / BASKETBALL COURTS



PREFERRED MASTER PLAN

MASTER PLAN ALTERNATIVE REVIEW MEETING
PREFERRED MASTER PLAN
SITE SECTIONS



MASTER PLAN ALTERNATIVE REVIEW MEETING: MAY 21, 2014

INTRODUCTION

Upon Staff review of the alternatives, a master plan alternative review meeting was held with Park and Recreation Staff and the Consultant Team. This review meeting was the basis on which the Consultant Team developed the Preferred Master Plan.

ALTERNATIVE REVIEW MEETING

Montford Complex Park Master Plan
May 21, 2014 3:30-5:30 PM
City of Asheville, 4th Floor Conference Room

The following memorandum serves to outline and verify the comments identified and conveyed by City of Asheville Park and Recreation Staff regarding the Montford Complex Master Plan Alternative Review Meeting.

Based on Park and Recreation Staff review and approval of the following outline, the consultant team proceeded with the Preferred Master Plan Alternative revisions as well as the Master Plan Illustrative in preparation of the June 3, 2014 Public Meeting.

Alternative # 2 is generally the preferred option and shall be the basis of Master Plan Adjustments per the items outlined below.

BALLFIELD AREA

- Provide / evaluate feasibility of sidewalk connectivity South of Gay Street versus North between central Transition Terrace Area and Ball Field Area.
- Adjust the handicap accessible parking at the lowest terrace to provide a better sense of arrival / relationship to Ballfield plaza.
- Evaluate extending parking at upper terrace along toe of slope and into bank / provide and extend wall to reasonable height if necessary.
- Provide standard bleachers and concrete pad, retaining walls and landscaping along first base line versus terraced concrete seating.
- Provide both ADA accessible route and stair connection from parking lot to first base line seating area.
- Provide access to Ball Field plaza from loop trail via / behind bleacher seating.
- Eliminate shade sail and extend plaza / tree planting as shade element.
- Eliminate shared restroom / concession / storage facility with Montford Park Players and provide separate restroom facility. Coordinate with Mathews Architecture on location and form.
- Provide small seat wall along toe of slope along plaza.
- Provide pedestrian access only trailhead (Alternative # 3) from adjacent neighborhood to north.

TRANSITION AREA

- Better align access to parking lot with Madison Lane intersection.
- Explore arching parking arrangement and basketball / pickle ball program to be consistent with form of Ballfield Area parking below.
- Provide two (2) pickle ball courts with necessary black vinyl fencing

- Provide one (1) half-court basketball (40'x60') court with necessary black vinyl fencing
- Provide one (1) bocce ball court if feasible, otherwise consider bocce above at Recreation Center Area west of facility
- Provide sidewalk connection from parking to program elements along eastern / uphill side only
- Eliminate tennis
- Eliminate parking in Stumptown and simply provide "T" turn-around
- Provide trail connectivity through Stumptown (Reference Alternative # 2 & 3)
- Provide reasonable trail gradients with a series of steps / 18" riser areas as opposed to one large stair transition along trail connections
- Show / highlight interpretive signage location(s) at / along trail connections in Stump Town

RECREATION CENTER AREA

- Eliminate official drop-off area / expand plaza between play area and parking
- Provide more consistent form (octagonal) to play / plaza / outdoor viewing classroom areas
- Relocate outdoor classroom / gathering space near entrance / previous drop-off area to better relate to plaza and play areas...sense of arrival and western view focus
- Provide shaded tree plaza in front of Recreation Center entrance
- Eliminate attached sidewalk south of Recreation Center parking lot
- Eliminate covered seat swings and provide backless benches
- Eliminate landscape bump outs on Pearson Drive
- Note: "Consideration of 2-way or 1-way traffic circulation with designated parking" on Pearson Drive
- Eliminate graphic connection and Note: "Consideration of sidewalk connection to Courtland Ave."
- Eliminate existing pedestrian connection and stairs to Pearson / W. Chestnut Intersection... highlight new on-street sidewalk connection
- Show Montford Historic District line on Master Plan
- Provide privacy fence location east of existing facility for trash / recycling containers

GENERAL COMMENTS

- Eliminate Character Imagery on Preferred Master Plan
- Increase text size for key program elements
- Eliminate pervious trail category and only provide sidewalk and multi-use trail types on plan and in legend
- Note: Eliminate asphalt paving in Stumptown ROW's and show improved landscape / turf / tree lined alley.

PREFERRED MASTER PLAN:

INTRODUCTION

Park improvements for the Montford Recreation Complex are planned to increase the level of service for the park and improve facilities in order to meet the current needs of the community. As previously mentioned in the Background Summary section of this report, very little has been done over the park's 45+ year history until recently with renovations to the interior of the existing recreation center. With these new interior improvements in place and the City's recognition of the Montford Recreation Complex as a recreational destination, the focus has now shifted to the redevelopment of the site aspects of the park.

The Preferred Master Plan and strategy for improvements are based on input from staff and results of the Alternative Review Meeting above, stakeholders as well as the public and directly respond to the findings of the site analysis related to the current physical, functional and aesthetic aspects of the park as well as the current and evolving programmatic needs of the community.

The overall vision for redevelopment, as depicted on the Preferred Master Plan, serves as a guide for future park improvements. Recommendations for redevelopment of the park are described below and are specific to each area or phase of development:

RECREATION CENTER AREA

The Recreation Center Area is home to the recently renovated Montford Complex featuring a multi-purpose gymnasium and locker rooms, climbing wall, two multi-purpose rooms, staff offices and restrooms. The complex is open 7 days a week and provides community programming and events including:

- Afterschool (ages K-5)
- Middle / High School Open Basketball
- Home School PE
- Funday Out (teacher work days, holidays & snow days)
- Family Open Hours (general gymnasium use)
- Summer Camp / Playground Program
- Montford Climbing Wall
- Youth Basketball Practices
- Youth Flag Football
- Youth Soccer
- Youth Volleyball Clinic
- Youth Tennis Clinic
- Team Tennis
- Adult Table Tennis
- Adult Badminton
- Adult Martial Arts
- Adult Yoga
- Award Winning Developing Future Male Leaders
- Diamonds in the Rough Female Leadership Program
- Community Pickup Basketball
- Community Volleyball
- Community Art Sales
- Birthdays
- A Host of Special and Seasonal Events

In order to accommodate the array of programming outlined above, safe vehicular and pedestrian access and sufficient parking for staff and recreation center users, the Preferred Master Plan recommends the reconfiguration and expansion of the parking lot to provide fluid circulation without a dead end condition, a designated drop-off/loading area as well as accessible parking spaces with direct access to the main facility entrance. A large plaza space has been planned as a transition from the parking area, recreation center and playground providing opportunities for seating and gathering with enhanced paving improvements, seat walls, site furnishings, planting areas and shade trees. In addition and as identified as the # 2 priority in the public input sessions, a large playground is being provided in the Recreation Center Area to replace the previously removed playground and provide direct access to facility amenities (restrooms) and staff supervision during programming time frames. South of the playground, an outdoor classroom/ steps to a small lawn space are provided for educational purposes and opportunities for contemplation / views of the mountains can be enjoyed with the addition of trellis / bench swing seating along the western facade of the Recreation Center. An accessible path has also been provided that will allow users to safely descend from the Recreation Center to the Sports Courts and network of trails provided in the Transition Area.



Recreation Center Area

The following program outline describes a detailed list of recommended park improvements for the Recreation Center Area:

- Eliminate tennis courts, replace and expand the existing 27 space parking lot with a drop-off area, 56 spaces and accessible spaces at Recreation Center entrance
- Remove existing stairs and pedestrian access from Chestnut / Pearson Intersection
- Provide attached sidewalk connection from intersection to parking lot access and plaza space to Recreation Center entrance
- Provide privacy fence / enclosure for existing trash and recycling containers
- Large playground (Ages 5-12) west of Recreation Center and plaza
- Enhanced paving / shaded plaza with landscape improvements, planters, seat walls and site furnishings
- Outdoor classroom space / steps to access Transition Area
- Trellis seating / viewing area along west Recreation Center facade
- Accessible (≤5%) trail to Transition Area from plaza
- Stair access to Transition Area outdoor classroom / steps
- Trail access to Gay Street - future attached sidewalk
- Trail / stair access to Stumptown loop trail at Morrow Street termination
- Maintain existing buffer along Pearson Drive and south property boundary
- Parking lot and pedestrian / plaza lighting as necessary
- Landscape improvements, including edible landscapes encouraged by the City of Asheville Food Action Plan, in areas where site conditions and park programming allow

BALLFIELD AREA

The Ballfield Area offers the most unique combination of park elements, programming and activities within the Montford Complex. Beyond the Ballfield this area provides a community garden for the adjacent neighborhood, multi-use trail connections and shares facilities with the Hazel B. Robinson Amphitheatre including parking, plaza space and restrooms. For the most part, the existing ballfield will remain in tact, however recommendations and related costs have been accounted for to improve field drainage, fencing,



Ballfield Area

dugouts, backstop, bleachers and also provide a batting cage, which is not currently available. In addition, access and circulation has been planned to improve storm drainage, the parking area with connectivity between terraces, provide a designated drop-off / loading area as well as accessible parking spaces with direct access to the improved plaza space. The plaza space has been designed to accommodate the needs for both ballfield and amphitheater events, account for accessibility to dugouts, bleachers, seating areas, shared restrooms as well as the Montford Park Players ticket office.

The following program outline describes a detailed list of recommended park improvements for the Ballfield Area:

- Maintain orientation of parking lot and expand to three terraces with vehicular access between terraces, 56 spaces, drop-off area and accessible spaces
- Attached sidewalk along south side of Gay Street with designated crosswalks within parking area for access to Ballfield plaza
- Provide batting cage along first base line
- Stair access as well as accessible route through plaza to first base dugout and multi-use trail
- Multi-use trail around existing ballfield with access to adjacent community
- Community trailhead identification / monumentation
- Community Garden Area at Richie Street
- Enhanced paving / shaded plaza with landscape improvements, planters, seat walls and site furnishings
- Remove existing ballfield restroom facility, press box, dugouts, backstop, bleachers and field fencing
- Reorganize dugout / bleacher configuration and replace with new dugouts, backstop, bleachers and field fencing
- Replace existing restroom with shared Montford Park Players restroom / storage facility
- Implement independent MPP ticket office with accessible access to future amphitheater improvements
- Step transition to lower lawn area
- Parking lot and pedestrian / plaza lighting as necessary
- Landscape improvements, including edible landscapes encouraged by the City of Asheville Food Action Plan, in areas where site conditions and park programming allow

AMPHITHEATER / TRAILHEAD AREA

Key to the success of both the Ballfield and Amphitheater/Trailhead Areas will be the collaboration and implementation of the Montford Park Players Amphitheater improvement plans, ticket center, shared restrooms and plaza space. In addition, the Preferred Master Plan recommends an opportunity to improve access from Jersey Street and formalize a parking area not only for Amphitheater programming purposes, but also as an additional option to access park facilities and amenities as well as a trailhead for the future greenway connection planned through Riverside Cemetery to Riverside Drive, the French Broad River Multi-use path and Greenway in the River Arts District.



Amphitheater / Trailhead Area

The following program outline describes a detailed list of recommended park improvements for the Amphitheater / Trailhead Area:

- Formal / expanded parking area for Montford Park Players staff - 28 spaces
- Provide accessible parking spaces and access to facility
- Parking also available as trailhead for future connection to greenway
- Extend trail from “Stumptown” along existing creek to future greenway access
- Provide trail access north of expanded trailhead parking to ballfield / ticket plaza
- Implement Independent amphitheater improvements proposed by Montford Park Players
- Landscape improvements, including edible landscapes encouraged by the City of Asheville Food Action Plan, in areas where site conditions and park programming allow



- Park & Trail Identification / Monumentation (Typ.)
- Neighborhood Trail Access & Community Garden Area
- 6'-8" Multi-Use Asphalt Trail (TYP.)

- Trail Access to Ballfield Plaza
- 14' x 70' Batting Cage & Retaining Walls
- Standard Dugout and Bleachers
- 4 - 7' Retaining Wall / Landscaping
- Restrooms / Storage Facility (In Conjunction with Montford Park Players)
- Ballfield Field / Amphitheater Drop-Off & Plaza with Roll Curb Steps to Lawn
- 18" Seatwall / Benches and Plaza Landscape
- Montford Park Players Ticket Office

- Connection to Future Greenway
- Trailhead Parking & Future Greenway Access

- Legend**
- 5'-6' Concrete Sidewalk
 - 6'-8' Multi-Use Asphalt Trail
 - 5'-6' Pervious Trail
 - "Stump Town" Loop Trail
 - Bike Rack Locations
 - Walls
 - Blue-line Stream
 - Lighting Location





Crosswalk (Typ.)

Pickleball Courts (2)
1/2 Court Basketball (1)

Stair Access to Transition Area

Consideration of Traffic Calming Device at Crest of Hill on Gay Street

Proposed 2-Way Traffic and Sidewalk Improvements

TRANSITION PARKING
(12 spaces)

MONTFORD COMPLEX

Remove Existing Sidewalk & Stairs

Transformer Location

Provide Privacy Enclosure / Fencing for Existing Trash / Recycling Containers

Proposed On-Street Sidewalk Connection

Playground

Entrance / Tree Plaza

Outdoor Classroom / 18' Seatwalls

Park Entrance Monumentation / Signage

Drop-Off Area

REC. CENTER PARKING
(56 spaces)

"Stump Town" History Placard

≤ 5% Accessible Route to Transition Area

PEARSON DRIVE

Consideration of Sidewalk Connection to Courtland Ave.

COURTLAND AVE

Stair Access to "Stump Town" Lopp Trail

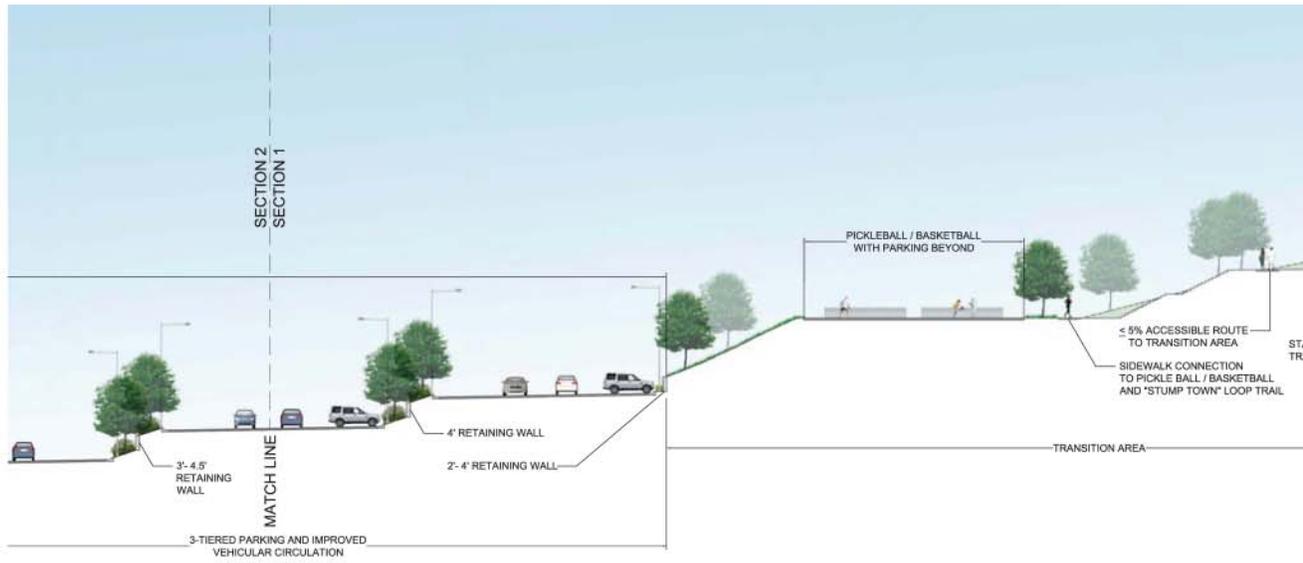
T Turn-around with 8' Retaining Wall

Stair Transition

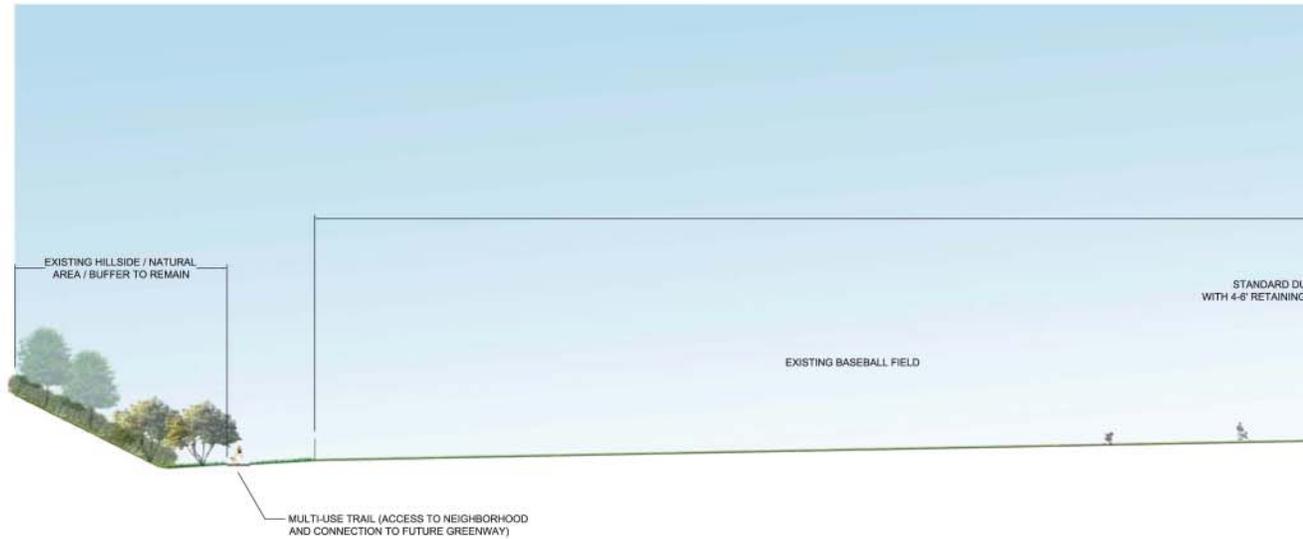
Jersey Street
Improvements / Widening

Park Master Plan

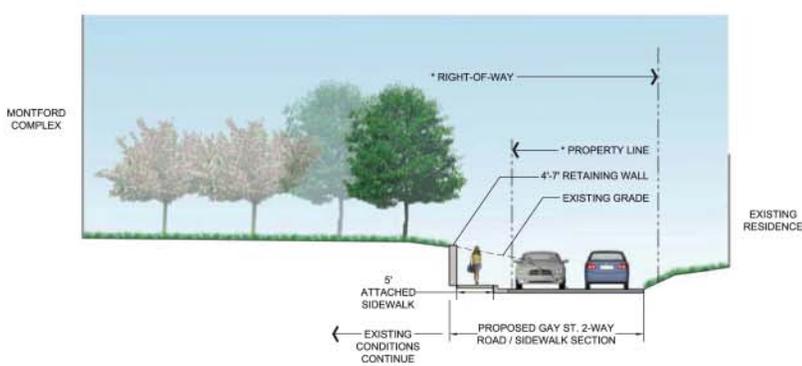
Recreation
Master Plan



Section 1 - Montford Complex Park East

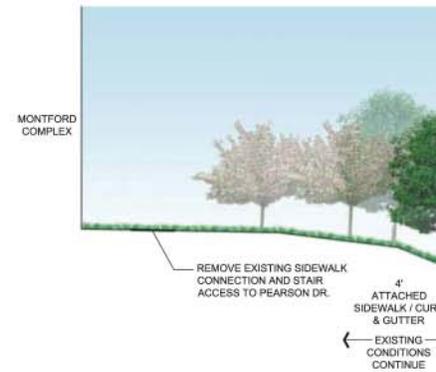


Section 2 - Montford Complex Park West



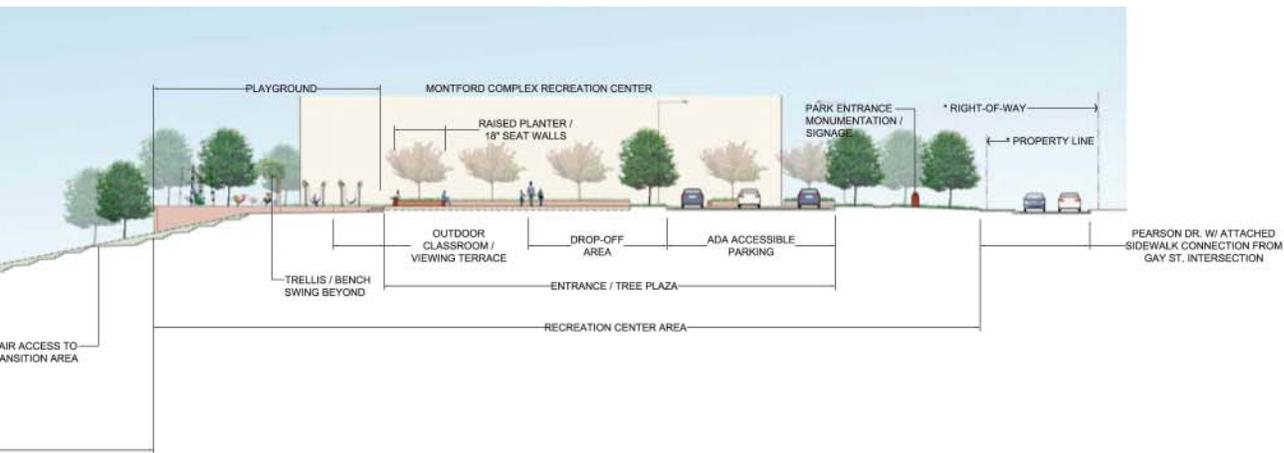
Section 3 - Gay Street Improvements

Scale: 1/8" = 1'-0"

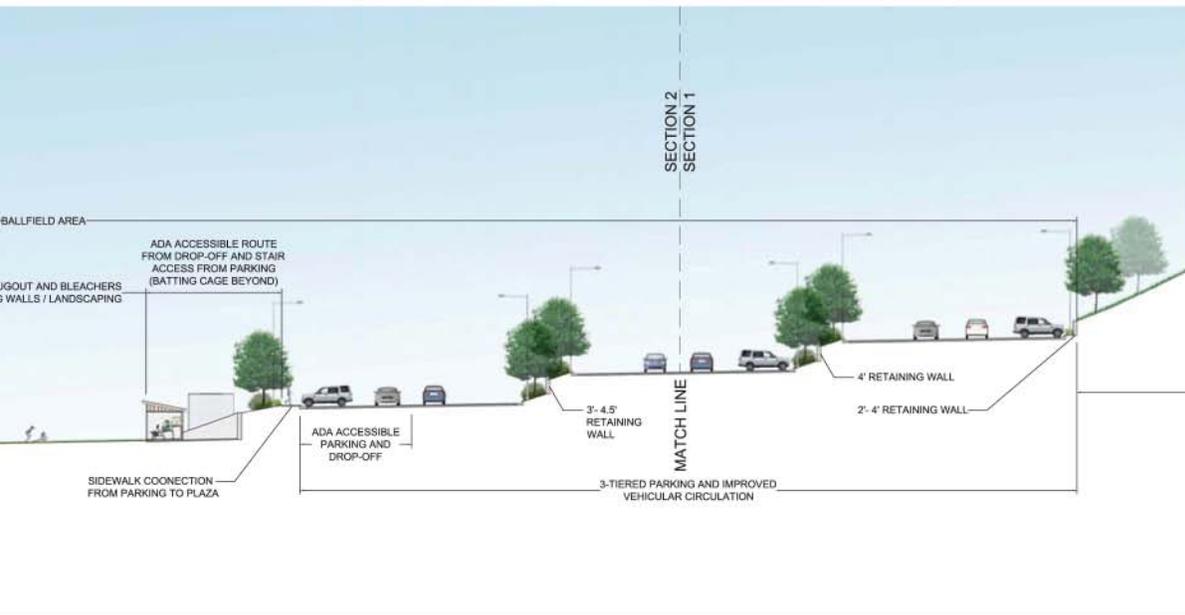


Section 4 - Pearson Drive Improvements





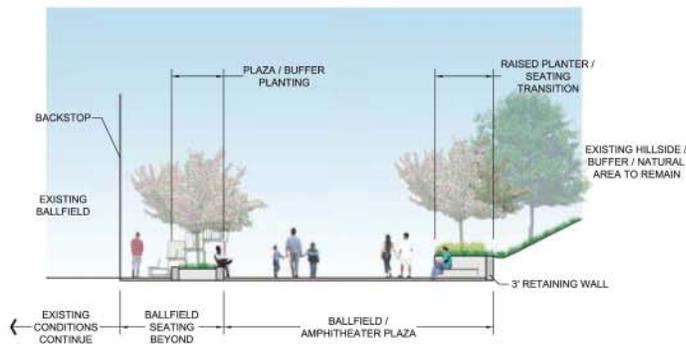
Scale: 1/16" = 1'-0"



Scale: 1/16" = 1'-0"



Scale: 1/8" = 1'-0"



Section 5 - Ballfield / Amphitheater Plaza

Scale: 1/8" = 1'-0"

PHASING/PERMITTING/ MAINTENANCE & OPERATIONS

PHASING PLAN
PHASING
PERMITTING
MAINTENANCE & OPERATIONS



Legend

- Recreation Center
- Transition Area
- Ballfield Area
- Amphitheater / Trailhead





PHASING:

As part of the Master Planning process, the Consultant Team along with Park and Recreation Staff as well as input from the public, identified and delineated areas of improvements to be developed in multiple phases. The identification of these phases was driven primarily by programmatic elements and physical site characteristics such as the existing topography. The Recreation Center Area has been identified and recommended as the first phase of park implementation. Future phase implementation will be determined by the prioritization of programmatic needs, partnerships and available funding. The following outlines describe the phases, areas and general park improvements:

PHASE 1 - RECREATION CENTER

- On-Street pedestrian sidewalk connection to facility
- Expanded off-street parking lot
- Improved facility entrance/ plaza and landscape improvements
- New / large playground facility
- ADA trail connectivity to Gay Street and down existing slope to Transition Area

FUTURE PHASES

TRANSITION AREA

- Remove Morrow Street cut-through
- Gay Street 2-way widening and on-street pedestrian sidewalk connection
- Improved parking lot and access from Gay Street
- New sports courts (pickleball and basketball)
- Historic / Interpretive “Stumptown” loop trail
- Trail connectivity to Amphitheater / Trailhead

BALLFIELD AREA

- Improved terraced parking lot, vehicular circulation and access from Gay Street
- Improved shared Amphitheater/ Ballfield plaza, restrooms and landscape improvements
- Ballfield upgrades - Fencing, Dugouts, Bleachers, Batting Cage
- Community garden
- Trail connectivity to Amphitheater / Trailhead and adjacent neighborhood

AMPHITHEATER / TRAILHEAD

- Montford Park Players Amphitheater, ticket office and ADA accessibility improvements
- Improved parking lot, circulation and Jersey Street widening
- Trail connectivity to Ballfield Area, Transition Area / “Stumptown” and future greenway

Please reference the Preferred Master Plan Phasing Exhibit on the previous page for phasing delineations as well as the associated Cost and Implementation Analysis Section for budget estimates and further detail.

PERMITTING:

The following is a list of potential permits that may be required for Montford Complex Park Improvements:

City Planning & Development:

- Site Plan / Zoning Review
- Sign Permit

Historic Resources Commission:

- Montford Historic District Site Plan Review

City Stormwater & Utility:

- Grading & Erosion Control Permit
- Stormwater Quality & Quantity Permit

City Public Works:

- Utilities, Water Permit

City Building Safety:

- Building Permit

Metropolitan Sewerage District:

- Sanitary Sewer Permit

NC DENR - DEMLR:

- Erosion Control Permit

USACE / NCDWQ:

- Wetlands and Waters Permit - Only if cumulative or permanent impacts for improvements occur

MAINTENANCE & OPERATIONS:

The operations and maintenance of Montford Complex has been assumed by City of Asheville as the primary owner of the property. The City's Parks and Recreation Department currently undertakes the day to day operations and maintenance tasks as a public service for the benefit of residents and visitors who use Montford Complex. The City of Asheville has demonstrated that it recognizes the tremendous value parks and recreation facilities provide to the community by completing this master plan for Montford Complex. Planning for the maintenance and management of Montford Complex is an essential element of the overall planning process for the park and will better insure that City of Asheville's capital investment in park facilities and amenities is protected for use by its current and future residents. To successfully manage the new park, the City must not only budget to expend funds for park design and construction, but also for operations and maintenance. Operations and maintenance funds are continuing expenses and must be budgeted and allocated from the City's General Fund.

ADMINISTRATION

As a phased project, administration and management oversight of the park will initially require only minor changes from the current staff responsibilities and practices from various City departments such as Parks,

General Services, Police, and Public Works. However, because of the added facilities and corresponding increase in use, these duties will evolve over time. The Parks and Recreation Department's Recreation Division staff will continue to handle all park programming and act as a clearing house for all activity in the park to avoid the variety of conflicts that may occur because of expanded park use. Parks and Recreation Department's Planning and Development Division will continue to oversee the majority of the maintenance program and the General Service Department will facilitate with electrical, plumbing, and building maintenance. The Police Department will continue to provide the security on City property. The City should begin marketing the new park starting as early as the beginning of construction to help build excitement in the community for its Grand Opening. This can be done by adding information to the City website, press releases, and other publications that the City distributes.

ROUTINE MAINTENANCE

Maintenance is the single largest recurring expenditure in parks and recreation operations. The amount of maintenance required at a park is very much related to design, construction, intensity of use, type of activities, the age of facilities and community expectations. The redevelopment of Montford Complex will require the park maintenance division to adjust its current maintenance practices to provide the appropriate level of care for this new capital investment.

The Park Operations Manager should evaluate the current level of service provided based on current practice and determine the additional needs to insure that the newly constructed facilities will be properly maintained. Adjustments can then be made to the maintenance calendar for the administration of the overall park maintenance program. The calendar can be used to quickly identify the major tasks that are needed to successfully maintain the park, the frequency that the task is completed, and when the work is scheduled. Based upon those findings, the City will have to insure that the park maintenance staff receives the additional resources needed or funding for contracted services are provided to adequately care for this renovated public park.

Parks are can only remain safe and useable when a quality maintenance and inspection program is in place. An informal inspection of the park should be completed by the Park and Recreation staff on a regular basis to identify any hazards or other issues that need to be addressed. Minor issues should be resolved immediately provided the staff has the needed tools, equipment and materials to complete the repair. Some issues will require later scheduling of work, perhaps closing access to facilities or equipment that pose a serious hazard, and notification of the public. Listed below are general strategies that will better insure that the newly constructed facilities will be properly maintained for the enjoyment of City citizens and visitors.

1. The City should annually provide an appropriate number of knowledgeable staff, contractors and approved volunteers who are equipped with the necessary tools, equipment, materials and supplies needed to maintain the park in a safe, useable and attractive condition.
2. The City should continually evaluate and update its maintenance standards and processes to adjust the maintenance program to meet the need of the community. Standards for each park facility from the ball fields to the playground areas should be established. The maintenance levels recommended in this operations and management plan are the minimum that should be considered by the City as needed to manage and maintain the park.
3. The City should collect data and track maintenance and inspections to understand the resources that are being applied and assess how efficiently and effectively the maintenance program is working, manage risk, and identify opportunities for improvements.

4. The City’s maintenance plan should emphasize preventative, routine and scheduled maintenance rather than reacting to crisis management. A proactive approach to maintenance not only saves time and money, but it results in a consistently higher quality experience for park visitors.
5. The City should closely coordinate the maintenance and use of the park to manage it in keeping with the site’s purpose.
6. The staff should notify the Police Department immediately when acts of vandalism are discovered graffiti on city-owned property and then contact the Public Works Department to correct the effects of vandalism within 24 hours or as soon as possible after learning about an incident.

PERIODIC MAINTENANCE AND CAPITAL EQUIPMENT REPLACEMENT

In addition to the regular maintenance duties outlined above, there are other tasks that must be completed during the lifetime of any facility. These tasks deal with periodic maintenance such as painting and sealing and the normal replacement of minor and major equipment such as play equipment, park benches, picnic tables and lighting fixtures. The timing for these repairs and replacements is determined largely by the materials used, weather, use of the facility, and the routine maintenance performed during its life. Listed below are examples of such items without estimated costs*.

Periodic Maintenance and Capital Equipment Replacement Chart

<u>Item</u>	<u>Approximate Time Frame</u>
Restriping Parking Lots	5 years
Resealing Asphalt Areas	5 years
Paint structures, play areas, and furniture	As Needed
Repaving	+15 years
Replace playground equipment	15 years
Replace park furnishings	15 years

* Costs are not estimated because the time frame is years away and an exercise in projecting these expenses would not be accurate.

OPERATIONAL COSTS

It is well known that bringing a new facilities on-line requires additional costs such as maintenance, utilities, and personnel to operate the new facility. As each of the project phases are considered for implementation the Park Operations Manager should develop a potential operations budget needs. These needs should be based on the additional physical improvements, routine maintenance increases, and additional capital equipment schedule suggested within the master plan. This impact to future operating budgets should be considered before funding for a capital project is recommended. Operating costs associated with a new or renovated facility should be added to the departments’ operations budget in the year of the facility’s projected opening date through a complete integration between the capital and operating budgets.

COST & IMPLEMENTATION ANALYSIS

MASTER PLAN SUMMARY & DETAIL
PHASE SUMMARIES
PHASE DETAILS



COST & IMPLEMENTATION ANALYSIS:

BALANCING NEEDS WITH CAPABILITIES

Balancing the goals for future implementation with the current operational capabilities will be a key element to the master plan, phasing and future implementation success. As previously mentioned, when assessing the overall cost of the Preferred Master Plan, the City Parks and Recreation Department must also adjust its operation and maintenance budgets to ensure adequate operation and maintenance capabilities for the new facilities as well as the existing ones. The following budgetary estimates outline the overall probable construction costs for master plan implementation, summarize and detail associated cost for each area or phase.

Please note, the identified quantities outlined in the phase details may vary due to existing field conditions, as development details are refined, and as field changes occur during construction. Unit prices were compiled from projects of similar scope and scale when such information was available. In the absence of this source of information, other published references were used to determine approximate unit prices during the time frame this report was prepared. Variations in items such as time of construction (season and year), raw material costs, labor efficiency, wage rates, and union practices will also affect final project costs.



JOB NAME: Montford Complex Park Master Plan Summary & Detail
 JOB NO: 13-051 DATE: 1/5/2015

Master Plan Phase Summary				Subtotal Cost
Recreation Center				\$938,408.63
Transition Area				\$512,658.01
Ballfield Area				\$1,234,018.57
Amphitheater / Trailhead				\$292,751.04

Total Master Plan Budget **\$2,977,836.25**

Master Plan Detail				Subtotal Cost
Demolition / Clearing / Grubbing / Erosion Control				\$425,930.75
Storm Drainage				\$120,850.00
Utilities				\$39,700.00
Parking Improvements				\$375,685.00
Street / ROW Improvements				\$131,062.50
Plaza Improvements				\$406,225.00
Sports Courts				\$55,000.00
Sidewalks / Trails / Stairs & Handrails				\$195,236.25
Landscape				\$178,041.25
Playground				\$250,150.00
Site Furnishings & Structures				\$75,200.00
Ballfield Improvements				\$100,940.00

Master Plan Subtotal **\$2,354,020.75**

Gen. Conditions / Const. Contingency (15%) **\$353,103.11**

Overall Master Plan Budget w/ GC **\$2,707,123.86**

Design / Permitting (10%) **\$270,712.39**

Total Master Plan Const. Budget **\$2,977,836.25**



JOB NAME: Montford Complex Park Master Plan - Phase Summary
 JOB NO: 13-051 DATE: 1/5/2015

Recreation Center				Subtotal Cost
Demolition / Clearing / Grubbing / Erosion Control				\$101,012.50
Storm Drainage				\$32,100.00
Utilities				\$13,000.00
Parking Improvements				\$85,000.00
Plaza Improvements				\$74,212.50
Sidewalks / Trails / Stairs & Handrails				\$98,912.50
Landscape				\$50,987.50
Playground				\$250,150.00
Site Furnishings & Structures				\$36,450.00

Recreation Center Subtotal	\$741,825.00
-----------------------------------	---------------------

Gen. Conditions / Const. Contingency (15%) \$111,273.75

Overall Master Plan Budget w/ GC \$853,098.75

Design / Permitting (10%) \$85,309.88

Total Rec. Center Const. Budget	\$938,408.63
--	---------------------



JOB NAME: Montford Complex Park Master Plan - Phase Summary
 JOB NO: 13-051 DATE: 1/5/2015

Transition Area				Subtotal Cost
Demolition / Clearing / Grubbing / Erosion Control				\$100,128.25
Storm Drainage				\$23,750.00
Utilities				\$3,500.00
Parking & Morrow "T" Turn Around Improvements				\$45,960.00
Gay Street 2-Way Improvements				\$100,212.50
Sports Courts				\$55,000.00
Sidewalks / Trails & Stairs				\$26,443.75
Landscape				\$36,618.75
Site Furnishings & Structures				\$13,650.00

Transition Area Subtotal	\$405,263.25
---------------------------------	---------------------

Gen. Conditions / Const. Contingency (15%) \$60,789.49

Overall Master Plan Budget w/ GC \$466,052.74

Design / Permitting (10%) \$46,605.27

Total Trans. Area Const. Budget	\$512,658.01
--	---------------------



JOB NAME: Montford Complex Park Master Plan - Phase Summary
 JOB NO: 13-051 DATE: 1/5/2015

Ballfield Area				Subtotal Cost
Demolition / Clearing / Grubbing / Erosion Control				\$161,346.25
Storm Drainage				\$40,000.00
Utilities				\$20,400.00
Parking Improvements				\$172,900.00
Plaza Improvements				\$332,012.50
Sidewalks / Trails / Stairs & Handrails				\$57,880.00
Landscape				\$72,580.00
Site Furnishings				\$17,450.00
Ballfield Improvements				\$100,940.00

Ballfield Area Subtotal	\$975,508.75
--------------------------------	---------------------

Gen. Conditions / Const. Contingency (15%) \$146,326.31

Overall Master Plan Budget w/ GC \$1,121,835.06

Design / Permitting (10%) \$112,183.51

Total Ballfield Area Const. Budget	\$1,234,018.57
---	-----------------------



JOB NAME: Montford Complex Park Master Plan - Phase Summary
 JOB NO: 13-051 DATE: 1/5/2015

Amphitheater / Trailhead				Subtotal Cost
Demolition / Clearing / Grubbing / Erosion Control				\$63,443.75
Storm Drainage				\$25,000.00
Utilities				\$2,800.00
Parking Improvements				\$71,825.00
Jersey Street Improvements				\$30,850.00
Trails				\$12,000.00
Landscape				\$17,855.00
Site Furnishings				\$7,650.00

Amphitheater/Trailhead Subtotal	\$231,423.75
--	---------------------

Gen. Conditions / Const. Contingency (15%) \$34,713.56

Overall Master Plan Budget w/ GC \$266,137.31

Design / Permitting (10%) \$26,613.73

Total Amph./Trail Const. Budget	\$292,751.04
--	---------------------



JOB NAME: Montford Complex Park Master Plan - Phase Detail
 JOB NO: 13-051 DATE: 1/5/2015

Recreation Center	Unit	Quantity	cost/unit	Subtotal Cost
Demolition / Clearing / Grubbing / Erosion Control				
Mobilization and Construction Layout	AC	1.25	\$4,000.00	\$5,000.00
Limit of Disturbance Construction Fencing	LF	1,475	\$5.00	\$7,375.00
Erosion Control / Silt Fence	LF	1,200	\$6.50	\$7,800.00
General Clearing and Grubbing of Project Area	AC	0.5	\$3,500.00	\$1,750.00
Tree Removal along Pearson Drive	EA	7	\$1,200.00	\$8,400.00
Utility Pole Relocation (Pearson / Gay Intersection)	EA	1	\$10,000.00	\$10,000.00
Skimmer Sediment Basin	EA	1	\$3,500.00	\$3,500.00
Temp. Construction Entrance	EA	1	\$2,000.00	\$2,000.00
Catch Basin Removal	EA	1	\$500.00	\$500.00
Asphalt Parking Lot Sawcut & Removal	SY	1,075	\$6.00	\$6,450.00
Concrete Curb & Gutter Sawcut and Removal	LF	625	\$5.00	\$3,125.00
Concrete Pavement Sawcut and Removal	SY	525	\$9.00	\$4,725.00
Concrete Stair Removal at Pearson / W. Chestnut Intersection	LS	1	\$1,500.00	\$1,500.00
Asphalt Tennis Court Sawcut & Removal	SY	1,425	\$3.00	\$4,275.00
Transport Asphalt, Concrete & Gravel Subbase Off-site	CY	1,050	\$7.00	\$7,350.00
Tennis Court Fencing Removal	LF	450	\$3.00	\$1,350.00
12" CMP & 6 Yard Inlet Removal (±250 LF)	LF	250	\$5.00	\$1,250.00
Pearson St. ROW Timber Wall Removal	LF	220	\$5.00	\$1,100.00
Inlet Protection	EA	4	\$250.00	\$1,000.00
Rough Grading (Assumes ± 12" depth)	CY	2,500	\$6.00	\$15,000.00
Fine Grading	SY	6,050	\$1.25	\$7,562.50
				\$101,012.50
Storm Drainage				
Catch Basin	EA	2	\$2,500.00	\$5,000.00
Area Drain	EA	2	\$1,500.00	\$3,000.00
Junction Box	EA	1	\$2,200.00	\$2,200.00
8" Roof Drain Connections / Extensions	LF	400	\$16.00	\$6,400.00
18" HDPE	LF	280	\$50.00	\$14,000.00
Fittings	LS	1	\$1,500.00	\$1,500.00
				\$32,100.00
Utilities				
Drinking Fountain and Assemblies, Supply Line, Gravel Sump	EA	1	\$6,000.00	\$6,000.00
Parking Lot Lighting (8 Fixtures)	LS	0	\$0.00	\$0.00
Pedestrian Plaza Lighting (6 Fixtures)	LS	0	\$0.00	\$0.00
Electrical Line Conduit	LF	1,000	\$7.00	\$7,000.00
				\$13,000.00
Parking Improvements				
8" CABC Stone for Parking Lot	TON	820	\$30.00	\$24,600.00
2" Asphalt Overlay Parking Lot, SF 9.5A	TON	260	\$110.00	\$28,600.00
Concrete Curb & Gutter (1'-6")	LF	1,150	\$22.00	\$25,300.00
Parking Lot & Crosswalk Striping	LF	1,300	\$5.00	\$6,500.00
				\$85,000.00
Plaza Improvements				
Concrete Paving (4" Depth)	SF	5,815	\$7.50	\$43,612.50
18" Seat Walls (Modular Units)	FF	585	\$40.00	\$23,400.00
Soil Import for Planters	CY	100	\$10.00	\$1,000.00
Concrete Seating / Viewing Steps	CY	10	\$500.00	\$5,000.00
Trash / Recycling Enclosure	LF	40	\$30.00	\$1,200.00
				\$74,212.50
Sidewalks / Trails / Stairs & Handrails				
Pearson St. Ped. Access & ROW Concrete Sidewalks (4" thick ABC & 4" thick)	SF	1,275	\$7.50	\$9,562.50
Pearson St. Curb & Gutter (2'-6")	LF	210	\$25.00	\$5,250.00
On-Site Concrete Sidewalks	SF	2,760	\$7.50	\$20,700.00
Concrete Stairs	CY	50	\$500.00	\$25,000.00
Stair Handrails	LF	280	\$80.00	\$22,400.00
6" CABC Stone for Asphalt Trails	TON	150	\$30.00	\$4,500.00
Ashphalt Trails, SF 9.5A	TON	50	\$110.00	\$5,500.00
Retaining Walls (Modular Units)	FF	150	\$40.00	\$6,000.00
				\$98,912.50

Landscape				
Turf grass seeding and soil prep	SF	28,050	\$0.25	\$7,012.50
2.5" Shade trees	EA	25	\$425.00	\$10,625.00
2" Ornamental trees	EA	16	\$350.00	\$5,600.00
5 Gal. Shrubs	EA	200	\$60.00	\$12,000.00
3 Gal. Ornamental Grass	EA	100	\$36.00	\$3,600.00
1 gallon perennials	EA	900	\$12.00	\$10,800.00
Shrub beds w/ wood chip mulch (3" min. depth)	CY	45	\$30.00	\$1,350.00
				\$50,987.50
Playground				
Play Equipment & Installation (Allowance)	LS	1	\$100,000.00	\$100,000.00
Poured-in-Place Resilient Surfacing with 4" min. conc. base option	SF	3,150	\$25.00	\$78,750.00
Backfill Import for Playground Area	CY	300	\$10.00	\$3,000.00
Retaining Walls (Modular Units)	FF	1,170	\$40.00	\$46,800.00
Guardrail above Retaining Wall	LF	180	\$120.00	\$21,600.00
				\$250,150.00
Site Furnishings & Structures				
Swinging Bench Trellis	EA	2	\$7,500.00	\$15,000.00
6' Backless Park Benches	EA	7	\$500.00	\$3,500.00
Bike Rack - 7 Bikes	EA	1	\$350.00	\$350.00
Trash / Recycling Receptacles	EA	4	\$650.00	\$2,600.00
Entry / Wayfinding Signage (Allowance)	LS	1	\$15,000.00	\$15,000.00
				\$36,450.00

Recreation Center Subtotal	\$741,825.00
-----------------------------------	---------------------



JOB NAME: Montford Complex Park Master Plan - Phase Detail
 JOB NO: 13-051 DATE: 1/5/2015

Transition Area	Unit	Quantity	cost/unit	Subtotal Cost
Demolition / Clearing / Grubbing / Erosion Control				
Mobilization and Construction Layout	AC	1.5	\$4,000.00	\$6,000.00
Limit of Disturbance Construction Fencing	LF	1,200	\$5.00	\$6,000.00
Erosion Control / Silt Fence	LF	1,500	\$6.50	\$9,750.00
Gay St. Tree Removal	EA	6	\$1,200.00	\$7,200.00
Gay St. Relocate Utility Pole	EA	2	\$3,000.00	\$6,000.00
Clearing and Grubbing of Recreation Area	AC	0.35	\$3,500.00	\$1,225.00
Clearing and Grubbing of Wooded Area	AC	1.15	\$7,000.00	\$8,050.00
Temp. Sediment Trap	EA	0	\$3,500.00	\$0.00
Temp. Construction Entrance	EA	2	\$2,000.00	\$4,000.00
Catch Basin Removal	EA	2	\$6.00	\$12.00
Asphalt Gay St. Sawcut & Removal	SY	695	\$6.00	\$4,170.00
Asphalt Parking Lot & Morrow St. Sawcut & Removal	SY	2,165	\$6.00	\$12,990.00
Asphalt Curb Sawcut and Removal	LF	550	\$5.00	\$2,750.00
Asphalt Basketball Court Sawcut & Removal	SY	305	\$3.00	\$915.00
Transport Asphalt & Gravel Subbase Off-site	CY	1,240	\$7.00	\$8,680.00
Basketball Court Fencing Removal	LF	220	\$3.00	\$660.00
Inlet Protection	EA	2	\$250.00	\$500.00
Rough Grading (Assumes ± 12" depth)	CY	2,420	\$6.00	\$14,520.00
Fine Grading	SY	5,365	\$1.25	\$6,706.25
				\$100,128.25
Storm Drainage				
Catch Basin	EA	4	\$2,500.00	\$10,000.00
18" HDPE	LF	275	\$50.00	\$13,750.00
				\$23,750.00
Utilities				
Drinking Fountain and Assemblies, Supply Line, Gravel Sump	EA	0	\$6,000.00	\$0.00
Parking Lot Lighting (3 Fixtures)	LS	0	\$0.00	\$0.00
Pedestrian Plaza Lighting (3 Fixtures)	LS	0	\$0.00	\$0.00
Electrical Line Conduit	LF	500	\$7.00	\$3,500.00
				\$3,500.00
Parking & Morrow "T" Turn Around Improvements				
8" CABC Stone	TON	250	\$30.00	\$7,500.00
5" Binder Course, I 19.0 B	TON	20	\$90.00	\$1,800.00
2" Asphalt Overlay, SF 9.5A	TON	80	\$110.00	\$8,800.00
Concrete Curb & Gutter (2'-6")	LF	70	\$25.00	\$1,750.00
Concrete Curb & Gutter (1'-6")	LF	380	\$22.00	\$8,360.00
Retaining Walls (Modular Units)	FF	400	\$40.00	\$16,000.00
Parking Lot & Crosswalk Striping	LF	350	\$5.00	\$1,750.00
				\$45,960.00
Gay Street / ROW 2-Way Improvements				
Grading	CY	550	\$6.00	\$3,300.00
Catch Basin	EA	3	\$2,500.00	\$7,500.00
18" HDPE	LF	120	\$50.00	\$6,000.00
Fittings	LS	1	\$1,250.00	\$1,250.00
8" CABC Stone	TON	220	\$30.00	\$6,600.00
5" Binder Course, I 19.0 B	TON	180	\$90.00	\$16,200.00
2" Asphalt Overlay, SF 9.5A	TON	80	\$110.00	\$8,800.00
Concrete Curb & Gutter (2'-6")	LF	380	\$25.00	\$9,500.00
Retaining Walls (Modular Units)	FF	650	\$40.00	\$26,000.00
Concrete Sidewalks	SF	1,975	\$7.50	\$14,812.50
Crosswalk Striping	LF	50	\$5.00	\$250.00
				\$100,212.50
Sports Courts				
Pickleball (60'x64'), Fencing, Nets, Striping - Allowance	LS	1	\$25,000.00	\$25,000.00
Basketball Court (50'x80'), Fencing, 6 Goals, Striping - Allowance	LS	1	\$30,000.00	\$30,000.00
				\$55,000.00
Sidewalks / Trails & Stairs				
On-Site Concrete Sidewalks	SF	1,575	\$7.50	\$11,812.50
Timber Stairs on "Stump Town" Loop Trail	LS	1	\$5,000.00	\$5,000.00

6" CABC Stone for Asphalt Trails	TON	70	\$30.00	\$2,100.00
Asphalt Trails, SF 9.5A	TON	40	\$110.00	\$4,400.00
Turf Trail	SF	4,125	\$0.25	\$1,031.25
6' Mulch "Stump Town" Loop Trail	CY	70	\$30.00	\$2,100.00
				\$26,443.75
Landscape				
Turf grass seeding and soil prep	SF	48,275	\$0.25	\$12,068.75
2.5" Shade trees	EA	20	\$425.00	\$8,500.00
2" Ornamental trees	EA	3	\$350.00	\$1,050.00
5 Gal. Shrubs	EA	115	\$60.00	\$6,900.00
3 Gal. Ornamental Grass	EA	60	\$36.00	\$2,160.00
1 gallon perennials	EA	450	\$12.00	\$5,400.00
Shrub beds w/ wood chip mulch (3" min. depth)	CY	18	\$30.00	\$540.00
				\$36,618.75
Site Furnishings & Structures				
6' Backless Park Benches	EA	4	\$500.00	\$2,000.00
Bike Rack - 7 Bikes	EA	1	\$350.00	\$350.00
Trash / Recycling Receptacles	EA	2	\$650.00	\$1,300.00
Entry / Wayfinding Signage (Allowance)	LS	1	\$10,000.00	\$10,000.00
				\$13,650.00
Transition Area Subtotal				\$405,263.25



JOB NAME: Montford Complex Park Master Plan - Phase Detail
 JOB NO: 13-051 DATE: 1/5/2015

Ballfield Area	Unit	Quantity	cost/unit	Subtotal Cost
Demolition / Clearing / Grubbing / Erosion Control				
Mobilization and Construction Layout	AC	2.5	\$4,000.00	\$10,000.00
Limit of Disturbance Construction Fencing	LF	1,500	\$5.00	\$7,500.00
Erosion Control / Silt Fence	LF	2,100	\$6.50	\$13,650.00
General Clearing and Grubbing of Project Area	AC	2.5	\$3,500.00	\$8,750.00
Temp. Sediment Trap	EA	1	\$3,500.00	\$3,500.00
Temp. Construction Entrance	EA	1	\$2,000.00	\$2,000.00
Catch Basin Removal	EA	4	\$500.00	\$2,000.00
Asphalt Parking Lot Sawcut & Removal	SY	1,650	\$6.00	\$9,900.00
Concrete Curb & Gutter Sawcut and Removal	LF	720	\$5.00	\$3,600.00
Gravel Parking Removal	SY	935	\$3.00	\$2,805.00
Misc. Concrete Pad Removal	SY	80	\$6.00	\$480.00
Transport Asphalt, Concrete & Gravel Subbase Off-site	CY	915	\$7.00	\$6,405.00
Ballfield Fencing Removal	LF	1,200	\$3.00	\$3,600.00
Existing Structure Demolition/Removal (Restroom, Press Box, Dugouts)	SF	2,220	\$15.00	\$33,300.00
Inlet Protection	EA	1	\$250.00	\$250.00
Rough Grading	CY	8,200	\$6.00	\$49,200.00
Fine Grading	SY	3,525	\$1.25	\$4,406.25
				\$161,346.25
Storm Drainage				
Catch Basin	EA	5	\$2,500.00	\$12,500.00
18" HDPE	LF	550	\$50.00	\$27,500.00
				\$40,000.00
Utilities				
Drinking Fountain and Assemblies, Supply Line, Gravel Sump	EA	2	\$6,000.00	\$12,000.00
Parking Lot Lighting (10 Fixtures)	LS	0	\$0.00	\$0.00
Pedestrian Plaza Lighting (8 Fixtures)	LS	0	\$0.00	\$0.00
Electrical Line Conduit	LF	1,200	\$7.00	\$8,400.00
				\$20,400.00
Parking Improvements				
8" CABC Stone for Parking Lot	TON	1,200	\$30.00	\$36,000.00
2" Asphalt Overlay Parking Lot	TON	360	\$110.00	\$39,600.00
Concrete Curb & Gutter (1'-6")	LF	1,700	\$22.00	\$37,400.00
Retaining Walls (Modular Units)	FF	1,360	\$40.00	\$54,400.00
Parking Lot & Crosswalk Striping	LF	1,100	\$5.00	\$5,500.00
				\$172,900.00
Plaza Improvements				
Combined Amphitheater-Ballfield Restroom / Concession Building	SF	750	\$200.00	\$150,000.00
3/4" Water Service	LF	100	\$25.00	\$2,500.00
6" Sewer Service	LF	200	\$50.00	\$10,000.00
Concrete Paving (4" Depth)	SF	13,255	\$7.50	\$99,412.50
18" Seat Walls (Modular Units)	FF	295	\$40.00	\$11,800.00
3' Retaining /Seat Walls (Modular Units)	FF	885	\$40.00	\$35,400.00
6' Ave. Retaining Wall (First Base Dugout)	FF	360	\$40.00	\$14,400.00
Soil Import for Planters	CY	250	\$10.00	\$2,500.00
Concrete Seating / Viewing Steps	CY	12	\$500.00	\$6,000.00
				\$332,012.50
Sidewalks / Trails / Stairs & Handrails				
Concrete Sidewalks	SF	1,800	\$7.50	\$13,500.00
Concrete Stairs	CY	27	\$500.00	\$13,500.00
Stair Handrails	LF	36	\$80.00	\$2,880.00
6" CABC Stone for Asphalt Trails	TON	420	\$30.00	\$12,600.00
Asphalt Trails	TON	140	\$110.00	\$15,400.00
				\$57,880.00
Landscape				
Turf grass seeding and soil prep	SF	31,720	\$0.25	\$7,930.00
2.5" Shade trees	EA	42	\$425.00	\$17,850.00
2" Ornamental trees	EA	18	\$350.00	\$6,300.00
5 Gal. Shrubs	EA	300	\$60.00	\$18,000.00
3 Gal. Ornamental Grass	EA	150	\$36.00	\$5,400.00

1 gallon perennials	EA	1,200	\$12.00	\$14,400.00
Shrub beds w/ wood chip mulch (3" min. depth)	CY	90	\$30.00	\$2,700.00
				\$72,580.00
Site Furnishings				
6' Backless Park Benches	EA	9	\$500.00	\$4,500.00
Bike Rack - 7 Bikes	EA	1	\$350.00	\$350.00
Trash / Recycling Receptacles	EA	4	\$650.00	\$2,600.00
Entry / Wayfinding Signage (Allowance)	LS	1	\$10,000.00	\$10,000.00
				\$17,450.00
Ballfield Improvements				
Backstop	EA	1	\$10,000.00	\$10,000.00
10' Field Fencing	LF	80	\$18.00	\$1,440.00
6' Field Fencing	LF	1,000	\$15.00	\$15,000.00
16' Maintenance Gates	EA	2	\$2,000.00	\$4,000.00
Dugouts	EA	2	\$5,000.00	\$10,000.00
Batting Cage (14'x70')	LS	1	\$1,500.00	\$1,500.00
9' Ave. Retaining Wall (Batting Cage)	FF	1,300	\$40.00	\$52,000.00
Bleachers	EA	2	\$1,500.00	\$3,000.00
Bases, Home & Pitcher's Plate, Misc. Equip.	LS	1	\$4,000.00	\$4,000.00
				\$100,940.00

Ballfield Area Subtotal	\$975,508.75
--------------------------------	---------------------



JOB NAME: Montford Complex Park Master Plan - Phase Detail
 JOB NO: 13-051 DATE: 1/5/2015

Amphitheater / Trailhead	Unit	Quantity	cost/unit	Subtotal Cost
Demolition / Clearing / Grubbing / Erosion Control				
Mobilization and Construction Layout	AC	1.25	\$4,000.00	\$5,000.00
Limit of Disturbance Construction Fencing	LF	1,950	\$5.00	\$9,750.00
Erosion Control / Silt Fence	LF	850	\$6.50	\$5,525.00
General Clearing and Grubbing of Project Area	AC	1.25	\$3,500.00	\$4,375.00
Temp. Sediment Trap	EA	2	\$3,500.00	\$7,000.00
Temp. Construction Entrance	EA	1	\$2,000.00	\$2,000.00
Asphalt Jersey St. Sawcut & Removal	SY	985	\$4.00	\$3,940.00
Transport Asphalt and Gravel Off-site	CY	325	\$7.00	\$2,275.00
Rough Grading (Assumes ± 5' depth for Parking Area)	CY	3,560	\$6.00	\$21,360.00
Fine Grading	SY	1,775	\$1.25	\$2,218.75
				\$63,443.75
Storm Drainage				
Catch Basin	EA	4	\$2,500.00	\$10,000.00
18" HDPE	LF	300	\$50.00	\$15,000.00
				\$25,000.00
Utilities				
Parking Lot Lighting (4 Fixtures)	LS	0	\$0.00	\$0.00
Electrical Line Conduit	LF	400	\$7.00	\$2,800.00
				\$2,800.00
Parking Improvements				
8" CABC Stone	TON	550	\$30.00	\$16,500.00
2" Asphalt Overlay	TON	170	\$110.00	\$18,700.00
Concrete Curb & Gutter (1'-6")	LF	900	\$22.00	\$19,800.00
Retaining Walls (Modular Units)	FF	350	\$40.00	\$14,000.00
Parking Lot & Crosswalk Striping	LF	565	\$5.00	\$2,825.00
				\$71,825.00
Jersey Street / ROW Improvements				
Grading (Assumes ±12" depth)	CY	325	\$6.00	\$1,950.00
8" CABC Stone	TON	340	\$30.00	\$10,200.00
5" Binder Course, I 19.0 B	TON	280	\$90.00	
2" Asphalt Overlay, SF 9.5A	TON	110	\$110.00	\$12,100.00
Retaining Walls (Modular Units)	FF	160	\$40.00	\$6,400.00
Crosswalk Striping	LF	40	\$5.00	\$200.00
				\$30,850.00
Trails				
6" CABC Stone for Asphalt Trails	TON	180	\$30.00	\$5,400.00
Ashphalt Trails, SF 9.5A	TON	60	\$110.00	\$6,600.00
				\$12,000.00
Landscape				
Turf grass seeding and soil prep	SF	16,000	\$0.25	\$4,000.00
2.5" Shade trees	EA	11	\$425.00	\$4,675.00
5 Gal. Shrubs	EA	55	\$60.00	\$3,300.00
3 Gal. Ornamental Grass	EA	30	\$36.00	\$1,080.00
1 gallon perennials	EA	350	\$12.00	\$4,200.00
Shrub beds w/ wood chip mulch (3" min. depth)	CY	20	\$30.00	\$600.00
				\$17,855.00
Site Furnishings				
6' Backless Park Benches	EA	2	\$500.00	\$1,000.00
Bike Rack - 7 Bikes	EA	1	\$350.00	\$350.00
Trash / Recycling Receptacles	EA	2	\$650.00	\$1,300.00
Entry / Wayfinding Signage (Allowance)	LS	1	\$5,000.00	\$5,000.00
				\$7,650.00

Amphitheater / Trailhead Subtotal **\$231,423.75**

APPENDIX
EXISTING CONDITIONS SURVEY



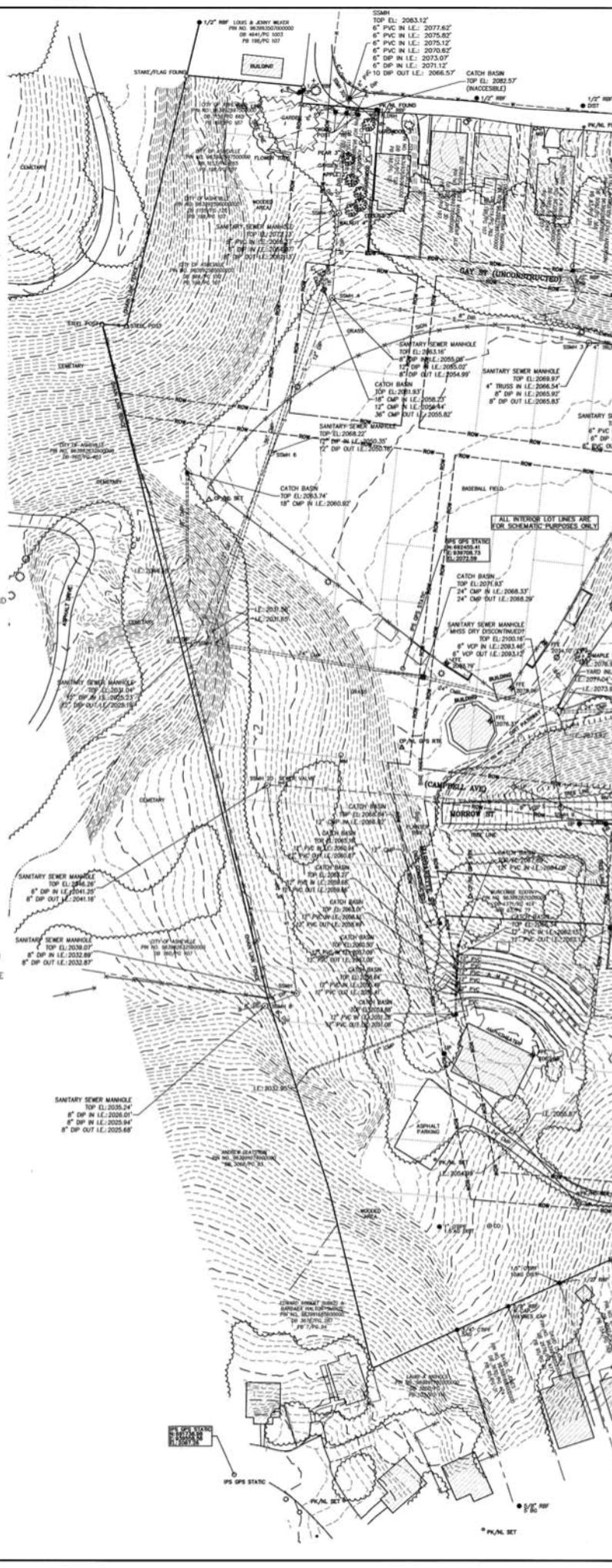
EXISTING CONDITIONS LEGEND

TEL	TELEPHONE PEDESTAL	△	CALCULATED POINT
PEL	ELECTRIC PEDESTAL	○	1/2" REBAR SET WITH CAP
REL	CABLE TV PEDESTAL	■	CONCRETE MONUMENT
CATV	SIGN	■	RIGHT-OF-WAY MONUMENT
PSN	UNDERGROUND CABLE TV SIGN	■	D.O.T. CONTROL POINT
UG FOC	UNDERGROUND FIBER OPTIC CABLE SIGN	○	REBAR FOUND
UG TCS	UNDERGROUND TELEPHONE CABLE SIGN	○	RAILROAD SPIKE
UG GAS	UNDERGROUND GAS LINE SIGN	○	PK NAIL / SET
UG ELEC	UNDERGROUND ELECTRIC LINE SIGN	○	SPINDLE FOUND / SET
LP	LIGHT POLE	○	HUB & TACK SET
UP	UTILITY POLE	○	CONTROL POINT NAIL SET / FOUND
TSP	GUY WIRE ANCHOR	○	CONTROL POINT NAIL SET GPS
TR	TRAFFIC SIGNAL POLE	○	CONTROL POINT TEMPORARY MARK
RCR	RAILROAD CROSSING SIGNAL	○	NATIONAL GEODETIC SURVEY METAL ROD
MH	MANHOLE	○	NATIONAL GEODETIC SURVEY CONCRETE MONUMENT
SMH	SANITARY SEWER MANHOLE	○	TEMPORARY CONTROL POINT SET
SDMH	STORM DRAIN MANHOLE	○	NETWORK TRIANGULATION POINT
COMMH	COMMUNICATION MANHOLE	○	
ELMH	ELECTRICAL MANHOLE	○	
J.B.	JUNCTION BOX	○	
SPIGOT	SPIGOT/YARD HYDRANT	○	
C.O.	SEWER CLEAN-OUT	○	
E.SS	ELECTRIC SERVICE STUB-OUT	○	
G.SS	GAS SERVICE STUB-OUT	○	
CB	CATCH BASIN	○	
CI	CURB INLET	○	
WM	WATER METER	○	
FH	FIRE HYDRANT	○	
WV	WATER VALVE	○	
BLOW OFF VALV	BLOW OFF VALVE	○	
G/M	GAS METER	○	
G/V	GAS VALVE	○	
ICV	IRRIGATION CONTROL VALVE	○	
PV	POST INDICATOR VALVE	○	
E.JUNC	ELECTRIC JUNCTION BOX OR OUTLET	○	
SB	TRAFFIC SIGNAL BOX	○	
BOK	TRAFFIC SIGNAL BOX	○	
		○	STAKE FOUND
		○	INTERSTATE HIGHWAY
		○	U.S. HIGHWAY
		○	FINISHED FLOOR ELEVATION
		○	MONITORING WELL
		○	PIEZOMETER
		○	LANDFILL GAS MONITORING PROBE
		○	SURFACE WATER SAMPLING LOCATION
		○	LANDFILL GAS VENT
		○	LANDFILL GAS COLLECTION WELLHEAD
		○	POTABLE WATER WELL
		○	MAILBOX OR PAPER BOX
		○	POSTAL DROP BOX
		○	SATELLITE DISH
		○	STATUE, BIRD BATHS, ETC.
		○	SHRUBS / BUSHES
		(H)	HORIZONTAL GROUND DISTANCE
		(C)	NC STATE PLANE GRID DISTANCE

---	CULVERT	---	IRON PIN SET
---	FENCE	---	REBAR FOUND
---	SILT FENCE	---	OTIPF
---	GUARD RAIL	---	OPEN TOP IRON PIN FOUND
---	APPROXIMATE LOCATION OF EXISTING SEWER LINES	---	CTIPF
---	APPROXIMATE LOCATION OF EXISTING WATER LINES	---	CMU
---	APPROXIMATE LOCATION OF EXISTING GAS LINES	---	CONCRETE MASONRY UNIT
---	TOP & TOE LINES	---	R/W
---	DITCH LINES	---	RIGHT OF WAY
---	APPROXIMATE LOCATION OF UNDERGROUND CABLE TV LINE	---	C
---	APPROXIMATE LOCATION OF OVERHEAD CABLE TV LINE	---	CURVE (SEE CURVE TABLE)
---	APPROXIMATE LOCATION OF UNDERGROUND FIBER OPTIC CABLE LINE	---	POB
---	APPROXIMATE LOCATION OF UNDERGROUND ELECTRIC LINE	---	POINT OF BEGINNING
---	APPROXIMATE LOCATION OF OVERHEAD ELECTRIC LINE	---	CP
---	APPROXIMATE LOCATION OF UNDERGROUND TELEPHONE LINES	---	CALCULATED POINT
---	APPROXIMATE LOCATION OF OVERHEAD TELEPHONE LINES	---	PB
---	RIGHT-OF-WAY	---	PLAT BOOK
---	TRELLINE	---	DEED BOOK
---	SHRUBLINE	---	L
---	PROPERTY LINE NOT SURVEYED	---	LINE (SEE LINE TABLE)
---	ROCKLINE	---	BLDG
---	STREAM LINE	---	BUILDING
---	CENTERLINE ROADS	---	CMIP
---	CENTERLINE OTHER THAN ROADS	---	CAST IRON PIPE
---	SWAMPLINE/WETLANDS	---	CMC
---	APPROXIMATE LOCATION OF OVERHEAD UTILITY LINE	---	CORRUGATED METAL PIPE
---	MCGILL SURVEY AREA	---	CONC
---	OBSURED AREA	---	CONCRETE
---	AERIAL PHOTOGRAPHY AND PHOTOGRAMMETRY MAPPING LIMITS	---	CMU
---	BUILDING	---	CONCRETE MASONRY UNIT
---	GARDEN	---	CPP
---		---	CORRUGATED PLASTIC PIPE
---		---	DIP
---		---	DUCTILE IRON PIPE
---		---	E&T
---		---	ELECTRIC & TELEPHONE
---		---	FOC
---		---	FIBER OPTIC CABLE
---		---	GP
---		---	GALVANIZED IRON PIPE
---		---	O/H
---		---	OVERHEAD
---		---	RCP
---		---	REINFORCED CONCRETE PIPE
---		---	U/G
---		---	UNDERGROUND
---		---	VCP
---		---	VITRIFIED CLAY PIPE
---		---	PVC
---		---	POLYVINYL CHLORIDE PIPE
---		---	FFE
---		---	FINISHED FLOOR ELEVATION
---		---	PG
---		---	PAGE
---		---	REF
---		---	REFERENCE
---		---	DOT
---		---	DEPARTMENT OF TRANSPORTATION
---		---	NGS
---		---	NATIONAL GEODETIC SURVEY
---		---	NCSF
---		---	NORTH CAROLINA STATE PLANE
---		---	MTR
---		---	BOX METER BOX

SURVEY NOTES:

- All coordinates shown are reported on the North Carolina state plane grid. Horizontal Datum: NAD83(2011). Vertical Datum: NAVD83 (2001.2).
- Any distances labeled on the delivered digital data are horizontal ground lengths unless otherwise noted. To convert to grid distances, multiply by the average combined scale factor of 0.999794316.
- See the survey report and certification originally issued and sealed by Christopher F. Jordan, PLS, NC, no. L-4956, dated April 22, 2014 for the details of the mapping shown. The delivered digital data and mapping is not complete without the inclusion of all the digital files listed in the survey report.
- This topographic survey was produced using both aerial photography and photogrammetry performed by Carolina Resource Mapping, Inc., and field run topographic surveying and mapping performed by MCGI Associates, P.A. The site was flown on February 27, 2014. The field run mapping was completed on April 17, 2014.
- The areas designated by a distinct linetype and defined in the legend, delineate the topographic information surveyed by MCGI Associates that are certified by the survey report issued by Christopher F. Jordan, PLS. The remaining areas of the included mapping are certified by Scott Williams, PLS, NC, no. L-4071 of Carolina Resource Mapping Inc. See the survey report and certification originally issued and sealed by Scott Williams, PLS dated April 22, 2014.
- Geodetic survey control for this project was completed on February 24, 2014 using static GPS methods. See the GPS survey report and certification originally issued and sealed by J. Dallas Gordon, PLS, NC, no. L-4626, dated March 5, 2014.
- Interior lot lines are shown for schematic purposes only.
- Interior lines shown around southern half of Madison Lane are taken from City of Asheville Tax Map of Word 3 Sheet 9 from 1960 and the Fire Insurance Map for November 1917. The 1960 Tax Map does not show this southern section of Madison Lane. The Fire Insurance Map from November 1917, shows Madison Lane in this location as being 21 feet in width. The deeds referenced on the Tax Map and Plat book 40 Page 77 (DB 379/PG 144, DB 993/PG 585, DB 087/PG 309, DB 153/PG 587, DB 1166/PG 196, DB 1034/PG 114) describe an alley way in this general location that is 10 feet in width. These alley way lines are shown for reference only. Interior lines between Gay Street and Richie Street are calculated from Plat Book 196, Page 107. Interior lines between Morrow Street and Jersey Street/Margarette Street are calculated from Plat Book 6, Page 79.



W:\Jobs\2014\11-102 Asheville Mountain Park Mapping\Deliverables\19-2014\Mountain Park.dwg 8/19/2014 9:10 AM GORDON WILSON

PLAN

CD00090
SURVEY PROJECT NO. 14-102



GRID NORTH
NAD83(2011)

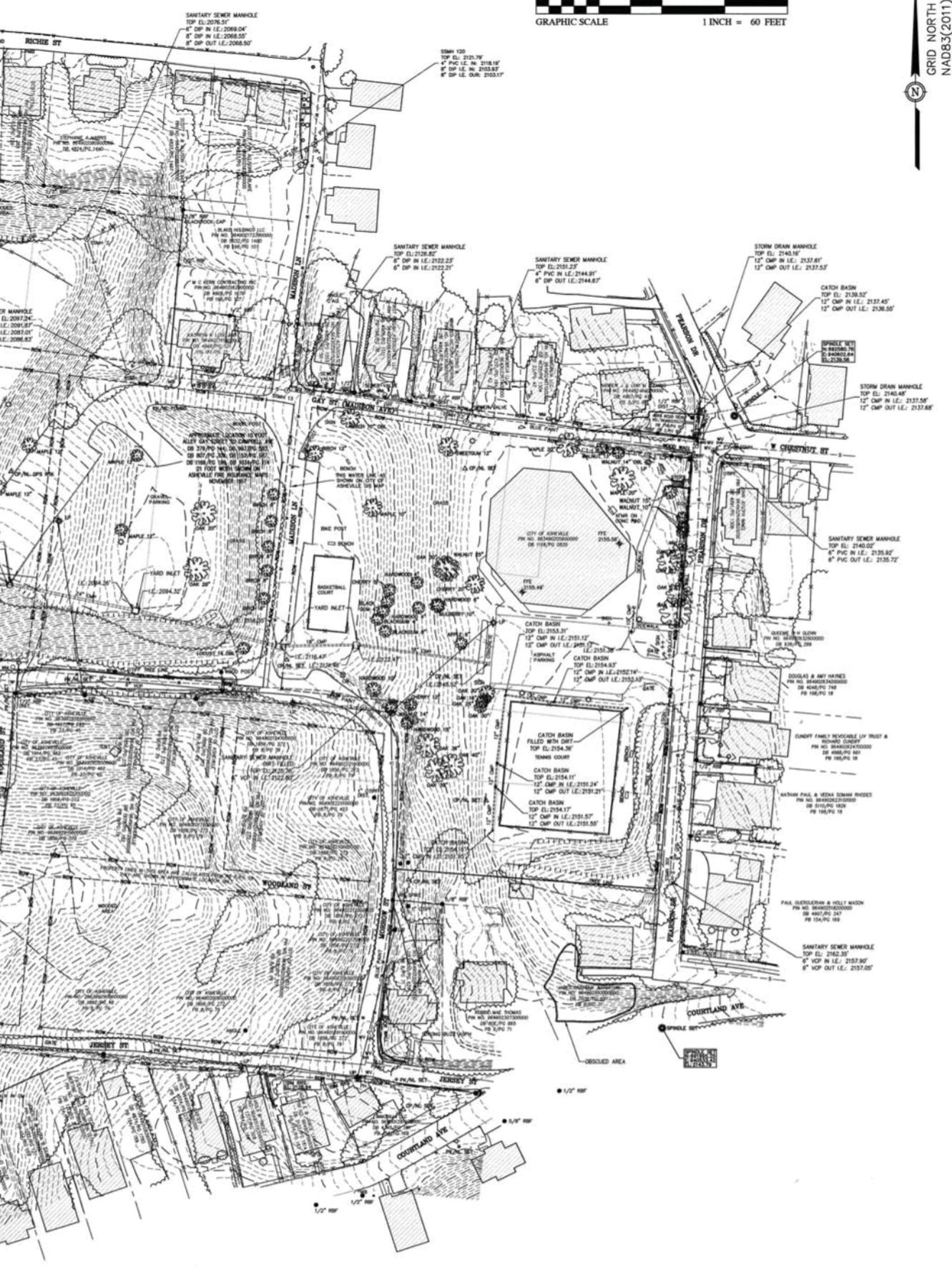
McGill
A S O C I A T E S
ENGINEERING · PLANNING · FINANCE
55 BROAD STREET ASHEVILLE, NC 28801 PH: (828) 252-0575 FIRM LICENSE # C-6859



MONTFORD PARK
MASTERPLAN
CITY OF ASHEVILLE
BUNCOMBE COUNTY, NORTH CAROLINA

JOB NO.: 14-102
DATE: MAY, 2014
DESIGNED BY: CFJ
CADD BY: GHW
DESIGN REVIEW:
CONST. REVIEW:
FILE NAME:
Montford Park.dwg

TOPOGRAPHIC
SURVEY
OVERALL SITE



NO.	DATE	BY	REVISION DESCRIPTION
61			

APPENDIX
EXISTING CONDITIONS SURVEY
REPORT & CERTIFICATION



Survey Report and Certification

Topographic Survey and Mapping by Ground Measurement Methods

Produced By:

McGill Associates, P.A.
Surveying and Mapping Division
55 Broad Street
Asheville, NC 28801
Office: (828) 252-0575 Fax: (828) 252-2518
Firm License No.: C-0459
www.mcgillengineers.com

Client of Record for Project:

Site Design Studio
28 Hi Landa Acres
Weaverville, NC 28787
Office: 828-484-8225

Project Name: City of Asheville Montford Park

Field Survey Completed: 04/17/2014
Office Work Completed: 04/21/2014

Survey Project No.: 14-102
McGill Project No.: 13.00173(003)

Delivered Data Files: Montford Park.dwg, 14-102 CRM-McGill Meshed DTM FINAL 4-22-14.xml

Survey Notes:

1. The delivered digital data and mapping is not complete without the inclusion of all of the digital data files listed above. No paper plot or otherwise formatted hardcopy map was produced for this survey.
2. This map is intended to be displayed at a scale of 1" = 50'.
3. All coordinates shown are Horizontal Datum: NAD83(2011)
Vertical Datum: NAVD88 (GEOID12A)
4. Any distances labeled on the delivered digital data are horizontal ground lengths unless otherwise noted. To convert to grid distances, multiply by the average combined scale factor of 0.999794316.
5. Not all above ground improvements are shown on the delivered digital data.
6. Underground installations or improvements including building foundations have not been located except as shown on the delivered digital data. Call NC811 at *811 before digging.

Survey Report and Certification

7. The surveyed area shown on the delivered digital data is subject to all right-of-ways, easements, reservations and restrictions which exist as a matter of record or exist de facto.
8. The surveyed area shown on the delivered digital data is subject to the rules, regulations, ordinances and/or jurisdictions of local, state, and/or federal agencies if any. The requirements of said rules, regulations, ordinances, and/or the limits of said jurisdictions are not shown unless stated otherwise.
9. See the attached Geodetic Control Survey Report for certification and details of the horizontal and vertical control used to complete this survey.

Approximate Location of Survey Mapping Areas: Latitude: 35°36'01" Longitude: 82°34'03"



Survey Report and Certification

SUMMARY

To begin the project, McGill Associates performed a GPS control survey to establish horizontal and vertical control for the project site (see attached GPS survey certification). Five of these control points were targeted for aerial photography and photogrammetry that was performed by Scott Williams, PLS L-4071 of Carolina Resource Mapping, Inc.

The attached site map shows the overall project location, and the respective areas mapped by McGill Associates and by Carolina Resource Mapping. The area designated by a distinct linetype and defined in the legend in the drawing file, delineates the area surveyed by McGill Associates that is certified by this document.

The remaining topographic mapping, inside the limits shown on the site map, is certified by Carolina Resource Mapping. Areas obscured by vegetation that may not meet their certified mapping accuracy, are also delineated on the attached site map. Refer to the attached survey report and certification supplied by Carolina Resource Mapping for details of this mapping.

The boundary lines shown bounded by Jersey Street and Morrow Street are calculated from Plat Book 8/Page 79 and are approximate only. More field work would be required to accurately position the parcels in this area. McGill Associates main focus was to establish the exterior boundary. The Right-of-way for Pearson Drive was offset thirty feet from the property boundaries found along the east side of Pearson Drive. This width was taken from the fire insurance maps dated November 1917 for Asheville, NC. This distance also matches found monumentation when compared to the calculated property lines.

Survey Accuracies:

The horizontal and vertical locations of planimetric features in the digital mapping provided by McGill Associates meets the FGDC standards of accuracy to the 95 percent confidence level (2 sigma). This survey has been performed to these standards in order to produce a 1 foot contour interval. Areas with limited accessibility or that contain interpolated spatial information, if any, are depicted with specific lintetype(s), as shown in the digital data legend, and are labeled accordingly. These areas may not meet the specified standards.

For details of the mapping accuracies for the data provide by Carolina Resource Mapping, please see the included survey report by Scott Williams, PLS L-4071 dated April 22, 2014.

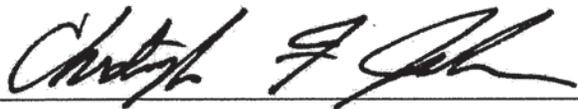
The details of the geodetic control survey performed to provide fixed survey control for the completion of the digital mapping provided are shown on the attached Geodetic Control Survey Report and Certification. Secondary survey control networks were established between the fixed geodetic survey control points using both RTK GPS and conventional traversing utilizing total stations and trigonometric leveling. These secondary survey control networks were translated to NC state plane coordinates by holding the geodetic survey control points fixed and performing least squares analysis at the 95 percent

Survey Report and Certification

confidence level (2 sigma) for the redundant survey network measurements between the fixed control. Scale and elevation factors, arc to chord corrections, and adjustments for curvature and refraction were applied to raw measurement data to generate the final coordinates of the digital data.

Survey Certification:

I, Christopher F Jordan, certify that this project was completed under my direct and responsible charge from an actual survey made under my supervision; that this ground survey was performed at the 95 percent confidence level (2 sigma) to meet Federal Geographic Data Committee Standards; that the local horizontal accuracy for survey control and distinct surveyed features is 0.07 feet; that the local vertical accuracy for survey control and distinct surveyed features is 0.07 feet; that the original data was obtained between February 24, 2014 and April 17, 2014; that the survey was completed on April 22, 2014; that contours in the areas labeled as obscured, if any, may not meet the stated standard; and all coordinates are based on NAD83(2011); and all elevations are based on NAVD88 (GEOID12A).



Christopher F Jordan, PLS North Carolina L-4956

April 22, 2014

Date



Montford Park GPS Survey

Survey Project No.: 14-102
Report ID: CD00028A

Point No.	Latitude (N)	Longitude (W)	Northing	Easting	Ortho Ht.	Combined Factor	Convergence	Description
29000	35°35'55.51610"N	82°32'46.66397"W	691674.40	946014.13	2210.43	0.999789830	-2°02'48.5"	NGSCM CRAWFORD
29001	35°36'06.39808"N	82°34'08.60564"W	693016.34	939291.67	2143.88	0.999793331	-2°03'35.8"	RBSGSPS
29002	35°36'01.00179"N	82°34'03.31395"W	692455.41	939708.73	2072.59	0.999796581	-2°03'32.8"	RBSGSPS
29003	35°35'53.86691"N	82°34'04.81968"W	691738.98	939558.56	2097.26	0.999795192	-2°03'33.6"	RBSGSPS
29004	35°35'56.74634"N	82°33'53.13305"W	691995.25	940533.42	2143.79	0.999793052	-2°03'26.9"	SPINDLE GPS
29005	35°36'02.55836"N	82°33'52.54980"W	692580.76	940602.64	2139.56	0.999793425	-2°03'26.6"	SPINDLE GPS
99900	35°35'46.03872"N	82°25'24.23070"W	689434.52	982492.61	2263.29	0.999787046	-1°58'33.2"	CORS NCSW

I, J. Dallas Gordon, certify that the coordinates for the control points as shown are from an actual GPS survey conducted under my supervision; that the Global Positioning System (GPS) observations for this survey were performed to the Geospatial Positioning Accuracy Standards, Part 2: Standards for Geodetic Networks (FGDC Document, FGDC-STD-007.2-1998) using the following information:

- (1) Class of Survey (FGDC) Horizontal: 5 cm Vertical: 5 cm
- (2) NSRS Network Tolerance Horizontal (2σ): 0.12 usft Vertical (2σ): 0.12 usft
- (3) GPS Procedure..... STATIC, L1 and L2 Receivers: Topcon Hiper GD & Hiper V
- (4) Dates of Survey..... February 24, 2014
- (5) Horizontal Datum..... NAD83(2011) epoch 2010.00
- (6) Vertical Datum..... NAVD88
- (7) Geoid Model..... GEOID12A
- (8) Combined Factor..... Average CF for points on site: 0.999794316
- (9) Survey Units..... U.S. survey feet NGS PID No. AF8669
- (10) NGS Geodetic Control NGS Monument CRAWFORD DG5311
NCGS CORS NCSW

SURVEY NOTES:

This survey was performed with Topcon Hiper GD & Hiper V GPS units using STATIC, L1 and L2 data. Field observations were made on February 24, 2014. NGS Monument CRAWFORD was held fixed at its NGS published horizontal and vertical position and a minimally constrained least squares adjustment was performed at the 2σ confidence level. Ties were made to the following NGS stations: NCGS CORS NCSW. Deviation from the published coordinate and orthometric heights for station ties was less than 0.12 usft horizontally and 0.12 usft vertically.



McGill
ASSOCIATES
SURVEYING AND MAPPING DIVISION
NCBELS Corporate Lic. No. C-0459

Surveying Department
55 Broad Street
Asheville, North Carolina 28801
828-252-0575 / Fax 828-252-2518
www.mcgillengineers.com



J. Dallas Gordon

J. Dallas Gordon, PLS NC No. L-4626

3/5/14

Date

Survey and Map Report

For a

TOPOGRAPHIC SURVEY

Of

Montford Park

By



Carolina Resource Mapping, Inc.
3517 Wrightsville Avenue, Suite B
Wilmington, NC. 28403
Voice 910-799-8100 Fax 910-799-6800
<http://www.mapres.com>

Survey and Map Report
of a
TOPOGRAPHIC SURVEY
by Photogrammetric Methods

Produced By:

Carolina Resource Mapping, Inc.
3517 Wrightsville Avenue, Suite B
Wilmington, NC. 28403
Voice 910-799-8100 Fax 910-799-6800
<http://www.mapres.com>

Photogrammetrist in Responsible Charge:
Scott C. Williams, L-4071
Carolina Resource Mapping, Inc: NCBELS License #C-2264

Project Name: McGill Montford Park, N14-0016

Client of Record for Project:
Dallas Gordon, PLS
Surveying Services Manager
McGill Associates, P.A.
55 Broad Street
Asheville, North Carolina 28801
828-252-0575 / Fax 828-252-2518

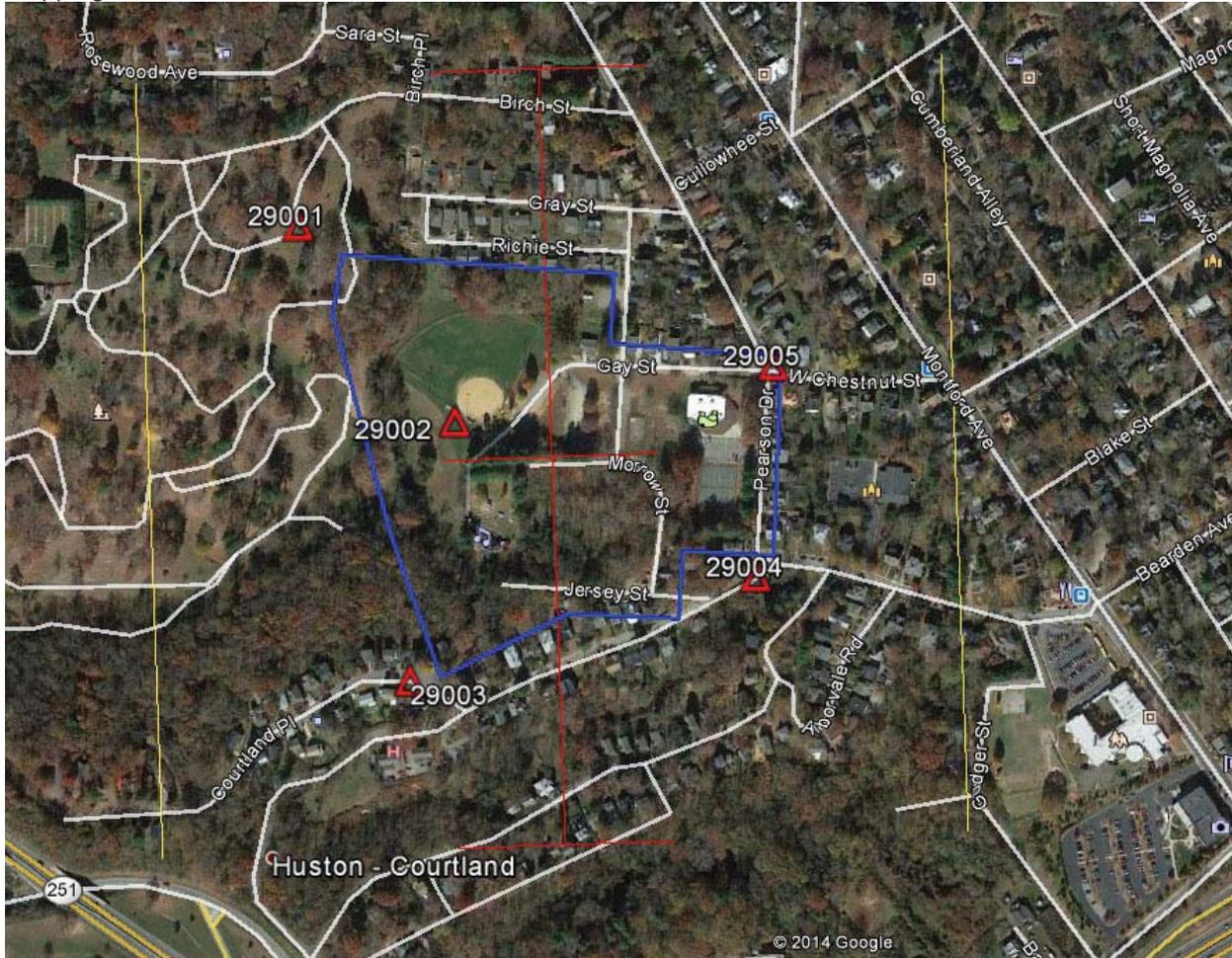
Delivered Files: N14-0016.dwg, N14-0016_DTM.dwg, N14-0016_TIN.dwg

Notes:

- All notes and remarks in this report are project specific.
- This map is intended to be displayed at a scale of 1"=50' or smaller.
- This map is neither full nor complete without the digital data files listed above. No paper plot or other format hardcopy map was produced for this project.
- If this report states "Preliminary" and/or does not bear the signature and original seal of a Licensed Surveyor, this report is for informational purposes only and is not valid.
- Additions or deletions to this report and/or accompanying data files are prohibited without written consent of the Photogrammetrist in Responsible Charge. The signing party is not responsible for additions, deletions or changes to the information contained in this digital file or Survey and Map Report. Digital copies of this report in any digital format are for information purposes only.
- This mapping conforms to Minimum Technical Standards for a Topographic Survey in accordance with the National Map Accuracy Standards and was produced by Photogrammetric methods.

Approximate Location of mapping areas:

Mapping area is located in Asheville, NC near the intersection of W Chestnut St and Pearson Dr.



Control for Aerial Targets- This digital vector mapping is based on acceptable residuals from aerial triangulation using coordinates supplied on aerial targets for this projects. The ground control survey was by the client, McGill Associates, PA, Mr. J Dallas Gordon, PLS. CRM has signed and sealed copy of the ground survey report on record.

- The signing party of this report is not responsible for the Ground Control Survey.

Aerial Photography Acquisition

The aerial photography acquisition for this tract was completed on February 27, 2014 by:

Richard Crouse & Associates
500 Ammons Road
Spartanburg, SC 29306

The aerial camera for this project was a Wild RC-30 with a Wild Universal Aviogon /4-S lens, serial number 5307 with lens serial number 13362. A camera calibration report dated August 23, 2012 for this camera accompanies this report.

The photography for this project was color aerial negative film taken at an altitude of 1800' AMT for a nominal photo scale of 1" = 300' (1:3600).

Accuracies

The horizontal and vertical locations of well-identified planimetric features in this digital map were designed to meet FGDC standards of accuracy to the 95% confidence level.

Some planimetric features shown in areas obscured by shadows, dirt, or dense vegetative canopy have been interpolated.

The horizontal and vertical accuracies of these features cannot be guaranteed because they are not clearly visible on the photography. Buildings, contours and other features depicted with short dashed lines in these areas are estimated.

Intended Completeness of Mapping

This mapping project was completed to normal Carolina Resource Mapping, Inc. standard specifications for 1" = 50' mapping. The features collected were:

- | | |
|--|--|
| 1' Interval Contours | Tree and Brush Lines |
| Spot Elevations (only in non-obscured areas) | Buildings and other structures |
| Obscured area polygons (ground not visible) | Fences |
| Masspoints | Rivers and streams |
| Breaklines | Poles, posts, lightpoles and utilities |
| Paved and Un-paved roads and drives | Walls and headwalls |
| Paved and Un-paved parking areas | Pipes and Pipe ends |

1" = 50' Color Digital Orthophoto with 0.25' pixel

I, **Scott C. Williams**, certify that this project was completed under my direct and responsible charge from an actual photogrammetric survey made under my supervision: that this survey was performed to meet Federal Geographic Data Committee Standards as applicable; that the photography was obtained on February 27, 2014; that the survey was completed on March 17, 2014; and coordinates for the site are based on **North Carolina State Plane, NAD83 (2011) epoch 2010.00, NAVD88 (geoid12A)**



Scott C. Williams, PLS L-4071
North Carolina Professional Land Surveyor



Date: April 22, 2014

Carolina Resource Mapping, Inc.
 3517 Wrightsville Avenue, Suite B
 Wilmington, NC 28403
 (910) 799-8100
 Fax (910) 799-6800

Project: McGill Alexander Montford Park
Project #: N14-0016

Fully Analytical Aerial Triangulation Results

VRAT - FULL ADJUSTMENT REPORT

FileName : c:\Jobs\AeroSys\VrAeroSys.rep
 Date Time : 07-Mar-2014 09:16:59
 Adjustment Mode : Full
 Number of strips : 1
 Number of Photos : 3

 CONTROL POINT RESIDUALS (RMS)

X	Y	Z
0.124	0.048	0.030

 RESIDUALS AND PREDICTED POSITIONS AND POINT WEIGHTS

Point	Type	ResX	ResY	ResZ	WgtXY	WgtZ
29001	HV	0.087	0.072	-0.032	0.200	0.200
29002	HV	-0.107	0.043	0.051	0.200	0.200
29003	HV	0.056	-0.045	-0.007	0.200	0.200
29004	HV	0.146	-0.046	-0.024	0.200	0.200
29005	HV	-0.183	-0.024	0.012	0.200	0.200
01011	P	0.016	0.018	0.019		
01015	P	0.004	0.011	0.007		
01019	P	0.020	0.022	0.023		
01021	P	0.027	0.048	0.030		
01025	P	0.009	0.054	0.014		
01029	P	0.026	0.055	0.030		
01031	P	0.030	0.022	0.031		
01035	P	0.041	0.014	0.013		
01039	P	0.022	0.023	0.025		

Point types -
 V-Vertical H-Horizontal HV-Horizontal+Vertical
 T-Tie P-Pass VI-Visual

L-Lake C-Check

 GROUND CONTROL - ADJUSTED COORDINATES COMPARISON

Point Type XYZ Dist	Gcp X Adj X	Gcp Y Adj Y	Gcp Z Adj Z	Delta X	Delta Y	Delta Z	XY Dist
29001 XYZ 0.113	939291.670 939291.757 0.117	693016.340 693016.412	2143.880 2143.848		0.087	0.072	-0.032
29002 XYZ 0.115	939708.730 939708.623 0.126	692455.410 692455.453	2072.590 2072.641		-0.107	0.043	0.051
29003 XYZ 0.072	939558.560 939558.616 0.072	691738.980 691738.935	2097.260 2097.253		0.056	-0.045	-0.007
29004 XYZ 0.153	940533.420 940533.566 0.155	691995.250 691995.204	2143.790 2143.766		0.146	-0.046	-0.024
29005 XYZ 0.185	940602.640 940602.457 0.185	692580.760 692580.736	2139.560 2139.572		-0.183	-0.024	0.012

	Mean	Minimum	Maximum
Delta X	0.116	0.056	0.183
Delta Y	0.046	0.024	0.072
Delta Z	0.025	0.007	0.051
XY Dist	0.128	0.072	0.185
XYZ Dist	0.131	0.072	0.185

III. Lens Resolving Power in cycles/mm

Area-weighted average resolution: 113

<u>Field angle:</u>	<u>0°</u>	<u>7.5°</u>	<u>15°</u>	<u>22.7°</u>	<u>30°</u>	<u>35°</u>	<u>40°</u>
Radial Lines	159	159	134	134	134	95	95
Tangential Lines	159	134	134	113	113	95	80

The resolving power is obtained by photographing a series of test bars and examining the resultant image with appropriate magnification to find the spatial frequency of the finest pattern in which the bars can be counted with reasonable confidence. The series of patterns has spatial frequencies from 5 to 268 cycles/mm in a geometric series having a ratio of the 4th root of 2. Radial lines are parallel to a radius from the center of the field, and tangential lines are perpendicular to a radius.

IV. Filter Parallelism

The two surfaces of the Wild 525 filter No. 7930 accompanying this camera are within 10 seconds of being parallel. This filter was used for the calibration.

V. Shutter Calibration

<u>Indicated Time</u> <u>(sec)</u>	<u>Rise Time</u> <u>(μ sec)</u>	<u>Fall Time</u> <u>(μ sec)</u>	<u>½ Width Time</u> <u>(ms)</u>	<u>Nom. Speed</u> <u>(sec)</u>	<u>Efficiency</u> <u>(%)</u>
1/125	1568	1626	6.72	1/170	85
1/250	856	879	3.88	1/300	86
1/500	425	452	2.07	1/560	87
1/1000	241	238	1.07	1/1080	86

The effective exposure times were determined with the lens at aperture f/4. The method is considered accurate within 3 percent. The technique used is described in International Standard ISO 516:1999(E).

VI. Film Platen

The platen mounted in Wild drive unit No. 5307 does not depart from a true plane by more than 13 μm (0.0005 in).

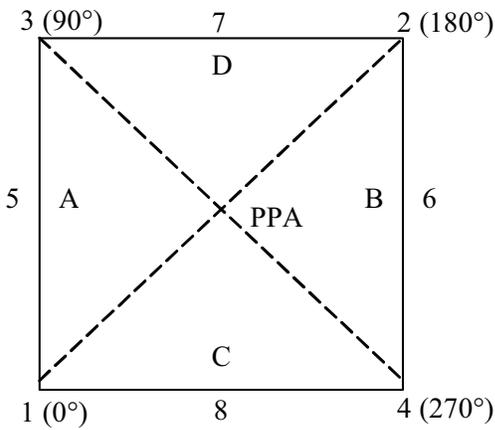
This camera is equipped with a platen identification marker that will register "674" in the data strip area for each exposure.

VII. Principal Point and Fiducial Mark Coordinates

d
a
t
a

s
t
r
i
p

s
i
d
e



Positions of all points are referenced to the principal point of autocollimation (PPA) as origin. The diagram indicates the orientation of the reference points when the camera is viewed from the back, or a contact positive with the emulsion up. The data strip is to the left.

	<u>X coordinate (mm)</u>	<u>Y coordinate (mm)</u>
Indicated principal point, corner fiducials	-0.002	0.015
Indicated principal point, midside fiducials	-0.007	0.013
Principal point of autocollimation (PPA)	0.000	0.000
Calibrated principal point (point of symmetry)	-0.015	0.001
<u>Fiducial Marks</u>		
1	-106.003	-105.984
2	105.994	106.011
3	-106.002	106.014
4	105.998	-105.984
5	-112.002	0.015
6	111.992	0.011
7	-0.008	112.009
8	-0.007	-111.989

VIII. Distances Between Fiducial marks

Corner fiducials (diagonals)	1-2: 299.807 mm	3-4: 299.811 mm
Lines joining these markers intersect at an angle o 90° 00' 02"		
Midside fiducials	5-6: 223.995 mm	7-8: 223.998 mm
Lines joining these markers intersect at an angle o 90° 00' 05"		
Corner fiducials (perimeter)	1-3: 211.998 mm	2-3: 211.996 mm
	1-4: 212.001 mm	2-4: 211.995 mm

The Method of measuring these distances is considered accurate within 0.003 mm

Note: For GPS applications, the nominal entrance pupil distance from the focal plane is 277mm.

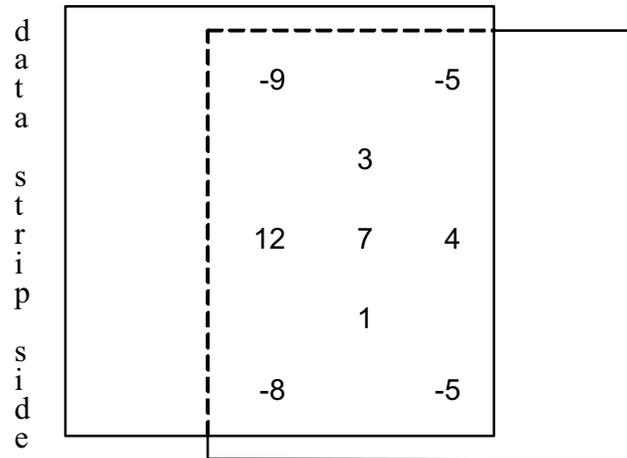
IX. Stereomodel Flatness

FMC Drive Unit No: 5307

Base/Height ratio: 0.6

Platen ID: 674

Maximum angle of field tested: 40°



Stereomodel Test Point Array
(values in micrometers)

The values shown on the diagram are the average departures from flatness (at negative scale) for two computer-simulated stereo models. The values are based on comparator measurements on Agfa Avitone P3p copy film made from Agfa Aviphot Pan 200 film exposures. These measurements are considered accurate to within 5 μm.

X. System Resolving Power on film in cycles/mm

Area-weighted average resolution: 52

Film: Type 2405

Field angle:	0°	7.5°	15°	22.7°	30°	35°	40°
Radial Lines	57	57	57	57	57	48	48
Tangential Lines	57	57	57	57	48	48	40

This aerial mapping camera calibration report supersedes the previously issued USGS Report No. OSL/3469, dated June 23, 2009.

Wayne A. Miller
Long Term Archive Project Manager
Climate and Land Use Change

APPENDIX
USDA CUSTOM SOIL RESOURCE REPORT



Custom Soil Resource Report for Buncombe County, North Carolina



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<http://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means

for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

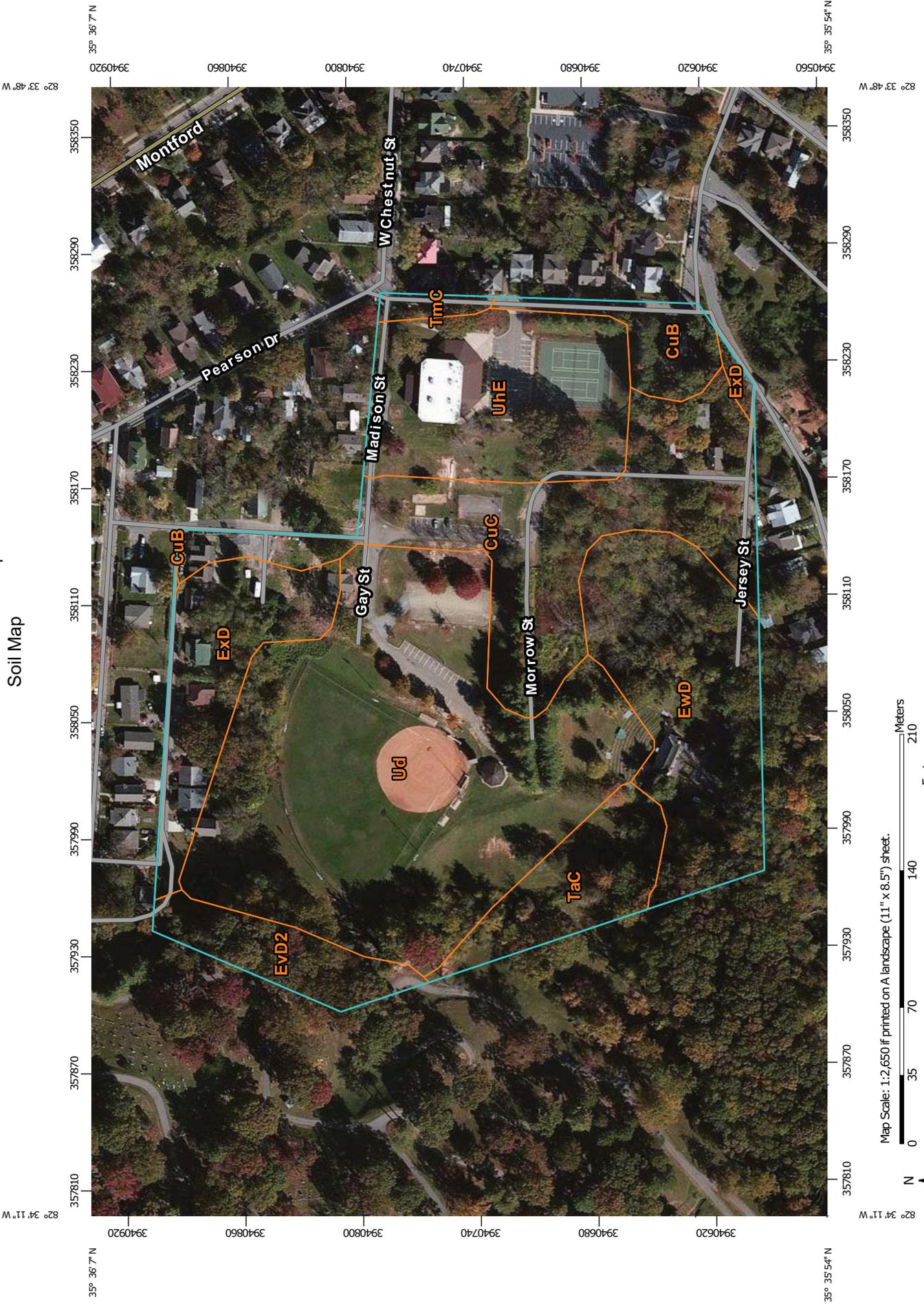
Contents

Preface	2
Soil Map	5
Soil Map.....	6
Legend.....	7
Map Unit Legend.....	8
Map Unit Descriptions.....	8
Buncombe County, North Carolina.....	10
CuB—Clifton-Urban land complex, 2 to 8 percent slopes.....	10
CuC—Clifton-Urban land complex, 8 to 15 percent slopes.....	11
EvD2—Evard-Cowee complex, 15 to 30 percent slopes, moderately eroded.....	12
EwD—Evard-Cowee complex, 15 to 30 percent slopes, stony.....	13
ExD—Evard-Cowee-Urban land complex, 15 to 30 percent slopes.....	14
TaC—Tate loam, 8 to 15 percent slopes.....	16
TmC—Tate-Urban land complex, 8 to 15 percent slopes.....	17
Ud—Udorthents, loamy.....	18
UhE—Udorthents-Urban land complex, 2 to 50 percent slopes.....	19

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Map Scale: 1:2,650 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Buncombe County, North Carolina
 Survey Area Data: Version 9, Dec 14, 2013

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 15, 2011—Dec 9, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map-unit boundaries may be evident.

MAP LEGEND

 Area of Interest (AOI)	 Spoil Area
 Soil Map Unit Polygons	 Stony Spot
 Soil Map Unit Lines	 Very Stony Spot
 Soil Map Unit Points	 Wet Spot
 Special Point Features	 Other
 Blowout	 Special Line Features
 Borrow Pit	Water Features
 Clay Spot	 Streams and Canals
 Closed Depression	Transportation
 Gravel Pit	 Rails
 Gravelly Spot	 Interstate Highways
 Landfill	 US Routes
 Lava Flow	 Major Roads
 Marsh or swamp	 Local Roads
 Mine or Quarry	Background
 Miscellaneous Water	 Aerial Photography
 Perennial Water	
 Rock Outcrop	
 Saline Spot	
 Sandy Spot	
 Severely Eroded Spot	
 Sinkhole	
 Slide or Slip	
 Sodic Spot	

Map Unit Legend

Buncombe County, North Carolina (NC021)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CuB	Clifton-Urban land complex, 2 to 8 percent slopes	0.7	3.0%
CuC	Clifton-Urban land complex, 8 to 15 percent slopes	3.8	17.2%
EvD2	Evard-Cowee complex, 15 to 30 percent slopes, moderately eroded	0.9	4.1%
EwD	Evard-Cowee complex, 15 to 30 percent slopes, stony	3.0	13.6%
ExD	Evard-Cowee-Urban land complex, 15 to 30 percent slopes	1.8	8.0%
TaC	Tate loam, 8 to 15 percent slopes	1.2	5.5%
TmC	Tate-Urban land complex, 8 to 15 percent slopes	0.2	0.8%
Ud	Udorthents, loamy	7.7	35.2%
UhE	Udorthents-Urban land complex, 2 to 50 percent slopes	2.7	12.6%
Totals for Area of Interest		21.9	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally

Custom Soil Resource Report

are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Buncombe County, North Carolina

CuB—Clifton-Urban land complex, 2 to 8 percent slopes

Map Unit Setting

Elevation: 2,000 to 2,300 feet

Mean annual precipitation: 45 to 60 inches

Mean annual air temperature: 46 to 57 degrees F

Frost-free period: 130 to 180 days

Map Unit Composition

Clifton and similar soils: 50 percent

Urban land: 40 percent

Description of Clifton

Setting

Landform: Mountain slopes, ridges

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Mountaintop, crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Residuum weathered from amphibolite or hornblende gneiss

Properties and qualities

Slope: 2 to 8 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: High (about 10.5 inches)

Interpretive groups

Farmland classification: Not prime farmland

Land capability (nonirrigated): 2e

Hydrologic Soil Group: B

Typical profile

0 to 8 inches: Clay loam

8 to 55 inches: Clay

55 to 80 inches: Loam

Description of Urban Land

Setting

Parent material: Streets, parking lots, buildings, and other structures

Interpretive groups

Farmland classification: Not prime farmland

Land capability (nonirrigated): 8

CuC—Clifton-Urban land complex, 8 to 15 percent slopes

Map Unit Setting

Elevation: 2,000 to 2,300 feet

Mean annual precipitation: 45 to 60 inches

Mean annual air temperature: 46 to 57 degrees F

Frost-free period: 130 to 180 days

Map Unit Composition

Clifton and similar soils: 50 percent

Urban land: 40 percent

Description of Clifton

Setting

Landform: Mountain slopes, ridges

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Mountaintop, crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Residuum weathered from amphibolite or hornblende gneiss

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: High (about 10.5 inches)

Interpretive groups

Farmland classification: Not prime farmland

Land capability (nonirrigated): 3e

Hydrologic Soil Group: B

Typical profile

0 to 8 inches: Clay loam

8 to 55 inches: Clay

55 to 80 inches: Loam

Description of Urban Land

Setting

Parent material: Streets, parking lots, buildings, and other structures

Interpretive groups

Farmland classification: Not prime farmland

Land capability (nonirrigated): 8

EvD2—Evard-Cowee complex, 15 to 30 percent slopes, moderately eroded

Map Unit Setting

Elevation: 2,200 to 3,200 feet

Mean annual precipitation: 40 to 54 inches

Mean annual air temperature: 46 to 57 degrees F

Frost-free period: 124 to 176 days

Map Unit Composition

Evard, moderately eroded, and similar soils: 55 percent

Cowee, moderately eroded, and similar soils: 35 percent

Description of Evard, Moderately Eroded

Setting

Landform: Ridges

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Residuum weathered from amphibolite or hornblende gneiss

Properties and qualities

Slope: 15 to 30 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Moderate (about 8.3 inches)

Interpretive groups

Farmland classification: Farmland of local importance

Land capability (nonirrigated): 4e

Hydrologic Soil Group: B

Typical profile

0 to 5 inches: Clay loam

5 to 29 inches: Sandy clay loam

29 to 37 inches: Sandy loam

37 to 80 inches: Sandy loam

Description of Cowee, Moderately Eroded

Setting

Landform: Ridges

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Residuum weathered from amphibolite or hornblende gneiss

Custom Soil Resource Report

Properties and qualities

Slope: 15 to 30 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Low (about 4.0 inches)

Interpretive groups

Farmland classification: Farmland of local importance

Land capability (nonirrigated): 4s

Hydrologic Soil Group: C

Typical profile

0 to 5 inches: Clay loam

5 to 27 inches: Gravelly sandy clay loam

27 to 80 inches: Weathered bedrock

EwD—Evard-Cowee complex, 15 to 30 percent slopes, stony

Map Unit Setting

Elevation: 2,600 to 4,800 feet

Mean annual precipitation: 40 to 80 inches

Mean annual air temperature: 46 to 57 degrees F

Frost-free period: 124 to 176 days

Map Unit Composition

Evard, stony, and similar soils: 55 percent

Cowee, stony, and similar soils: 25 percent

Description of Evard, Stony

Setting

Landform: Mountain slopes, ridges

Landform position (two-dimensional): Summit, backslope

Landform position (three-dimensional): Upper third of mountainflank, side slope

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Residuum weathered from igneous and metamorphic rock

Properties and qualities

Slope: 15 to 30 percent

Surface area covered with cobbles, stones or boulders: 0.1 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)

Custom Soil Resource Report

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 8.2 inches)

Interpretive groups

Farmland classification: Farmland of local importance
Land capability (nonirrigated): 4e
Hydrologic Soil Group: B

Typical profile

0 to 5 inches: Loam
5 to 32 inches: Clay loam
32 to 45 inches: Loam
45 to 80 inches: Sandy loam

Description of Cowee, Stony

Setting

Landform: Mountain slopes, ridges
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Upper third of mountainflank, side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from igneous and metamorphic rock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.8 inches)

Interpretive groups

Farmland classification: Farmland of local importance
Land capability (nonirrigated): 4e
Hydrologic Soil Group: C

Typical profile

0 to 5 inches: Sandy loam
5 to 38 inches: Clay loam
38 to 80 inches: Weathered bedrock

ExD—Evard-Cowee-Urban land complex, 15 to 30 percent slopes

Map Unit Setting

Elevation: 1,720 to 3,570 feet
Mean annual precipitation: 50 to 60 inches

Custom Soil Resource Report

Mean annual air temperature: 46 to 57 degrees F
Frost-free period: 124 to 176 days

Map Unit Composition

Evard and similar soils: 40 percent
Cowee, stony, and similar soils: 25 percent
Urban land: 20 percent
Minor components: 15 percent

Description of Evard

Setting

Landform: Ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountaintop, interfluve
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Residuum weathered from hornblende gneiss and/or amphibolite

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 8.3 inches)

Interpretive groups

Farmland classification: Not prime farmland
Land capability (nonirrigated): 4e
Hydrologic Soil Group: B

Typical profile

0 to 5 inches: Clay loam
5 to 29 inches: Sandy clay loam
29 to 37 inches: Sandy loam
37 to 80 inches: Sandy loam

Description of Cowee, Stony

Setting

Landform: Ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountaintop, interfluve
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Residuum weathered from hornblende gneiss and/or amphibolite

Properties and qualities

Slope: 15 to 30 percent
Surface area covered with cobbles, stones or boulders: 0.1 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained

Custom Soil Resource Report

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Low (about 4.0 inches)

Interpretive groups

Farmland classification: Not prime farmland

Land capability (nonirrigated): 4s

Hydrologic Soil Group: C

Typical profile

0 to 5 inches: Clay loam

5 to 27 inches: Gravelly sandy clay loam

27 to 80 inches: Bedrock

Description of Urban Land

Setting

Parent material: Streets, parking lots, buildings, and other structures

Interpretive groups

Farmland classification: Not prime farmland

Land capability (nonirrigated): 8s

Minor Components

Udorthents

Percent of map unit: 9 percent

Landform: Ridges

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Mountaintop, interfluve

Down-slope shape: Linear, convex

Across-slope shape: Linear, convex

Thurmont

Percent of map unit: 6 percent

Landform: Drainageways

Landform position (three-dimensional): Mountainbase, base slope

Down-slope shape: Concave

Across-slope shape: Linear

TaC—Tate loam, 8 to 15 percent slopes

Map Unit Setting

Elevation: 2,050 to 3,200 feet

Mean annual precipitation: 42 to 50 inches

Mean annual air temperature: 46 to 57 degrees F

Custom Soil Resource Report

Frost-free period: 124 to 170 days

Map Unit Composition

Tate and similar soils: 95 percent

Description of Tate

Setting

Landform: Fans, drainageways, coves

Down-slope shape: Concave

Across-slope shape: Concave

Parent material: Colluvium derived from igneous and metamorphic rock

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: High (about 10.2 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance

Land capability (nonirrigated): 3e

Hydrologic Soil Group: B

Typical profile

0 to 7 inches: Loam

7 to 46 inches: Clay loam

46 to 80 inches: Cobbly loam

TmC—Tate-Urban land complex, 8 to 15 percent slopes

Map Unit Setting

Elevation: 2,050 to 2,800 feet

Mean annual precipitation: 45 to 70 inches

Mean annual air temperature: 46 to 57 degrees F

Frost-free period: 124 to 170 days

Map Unit Composition

Tate and similar soils: 50 percent

Urban land: 40 percent

Description of Tate

Setting

Landform: Stream terraces, benches, fans

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Base slope, tread

Down-slope shape: Convex

Custom Soil Resource Report

Across-slope shape: Convex, linear

Parent material: Colluvium derived from igneous and metamorphic rock

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: High (about 9.9 inches)

Interpretive groups

Farmland classification: Not prime farmland

Land capability (nonirrigated): 3e

Hydrologic Soil Group: B

Typical profile

0 to 7 inches: Loam

7 to 46 inches: Clay loam

46 to 80 inches: Fine sandy loam

Description of Urban Land

Setting

Parent material: Streets, parking lots, buildings, and other structures

Interpretive groups

Farmland classification: Not prime farmland

Land capability (nonirrigated): 8

Ud—Udorthents, loamy

Map Unit Setting

Mean annual precipitation: 48 to 60 inches

Mean annual air temperature: 46 to 57 degrees F

Frost-free period: 116 to 170 days

Map Unit Composition

Udorthents, loamy, and similar soils: 90 percent

Minor components: 10 percent

Description of Udorthents, Loamy

Setting

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear, convex

Across-slope shape: Convex

Custom Soil Resource Report

Parent material: Loamy and stony mine spoil or earthy fill derived from metamorphic rock

Properties and qualities

Slope: 2 to 50 percent

Surface area covered with cobbles, stones or boulders: 0.1 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 19.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Moderate (about 7.2 inches)

Interpretive groups

Farmland classification: Not prime farmland

Land capability (nonirrigated): 7e

Hydrologic Soil Group: C

Typical profile

0 to 80 inches: Sandy clay loam

Minor Components

Urban land

Percent of map unit: 9 percent

Rubble land

Percent of map unit: 1 percent

UhE—Udorthents-Urban land complex, 2 to 50 percent slopes

Map Unit Setting

Elevation: 1,090 to 3,830 feet

Mean annual precipitation: 50 to 64 inches

Mean annual air temperature: 46 to 57 degrees F

Frost-free period: 124 to 176 days

Map Unit Composition

Udorthents and similar soils: 55 percent

Urban land: 35 percent

Minor components: 10 percent

Description of Udorthents

Setting

Landform position (two-dimensional): Backslope, footslope, toeslope

Down-slope shape: Linear, convex

Across-slope shape: Linear

Parent material: Loamy to skeletal cut and fill

Custom Soil Resource Report

Properties and qualities

Slope: 2 to 50 percent

Surface area covered with cobbles, stones or boulders: 0.1 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to very high
(0.00 to 19.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Moderate (about 8.4 inches)

Interpretive groups

Farmland classification: Not prime farmland

Land capability (nonirrigated): 7e

Hydrologic Soil Group: A

Typical profile

0 to 80 inches: Cobbly sandy loam

Description of Urban Land

Setting

Parent material: Streets, parking lots, buildings, and other structures

Interpretive groups

Farmland classification: Not prime farmland

Land capability (nonirrigated): 8s

Minor Components

Rubble land

Percent of map unit: 10 percent

Rock outcrop

Percent of map unit: 0 percent

APPENDIX
GEOTECHNICAL ENGINEERING
EXPLORATION AND ANALYSIS





**Geotechnical Engineering
Exploration and Analysis**

**Proposed Montford Complex Park
34 Pearson Drive
Asheville, North Carolina**

Prepared for:

**Site Design Studio
Asheville, North Carolina**

Prepared by:

**Gentry Geotechnical Engineering, PLLC.
Asheville, North Carolina**

**September 11, 2014
Gentry Project Number 14G-0075-01**



(828) 545-3416
WILL@GENTRYGEOTECH.COM
WWW.GENTRYGEOTECH.COM
ASHEVILLE, NC

September 11, 2014

Site Design Studio
13 ½ Eagle Street
Studio E
Asheville, North Carolina 28801

Attention: Mr. Jason Gilliland, RLA

**Subject: Geotechnical Exploration and Engineering Analysis
Montford Complex Park
34 Pearson Drive
Asheville, North Carolina
Gentry Project No. 14G-0075-01
Gentry NC Engineering License No. P-1170**

Dear Mr. Gilliland:

As requested, Gentry Geotechnical Engineering, PLLC (Gentry) conducted a *Geotechnical Engineering Exploration and Analyses* for the proposed project. The accompanying report describes the services that were conducted for the project and it provides geotechnical-related findings, conclusions and recommendations that were derived from those services.

We sincerely appreciate the opportunity to provide geotechnical consulting services for the proposed project. Please contact the undersigned if there are questions concerning the report or if we may be of further service.

Very truly yours,

GENTRY GEOTECHNICAL ENGINEERING, PLLC.


William T. Gentry, III
Sep 11 2014 12:09 PM
William T. Gentry III, P.E.
President
Registered, North Carolina 33927





TABLE OF CONTENTS

GEOTECHNICAL ENGINEERING EXPLORATION AND ANALYSES

PROPOSED MONTFORD COMPLEX PARK
 34 PEARSON DRIVE
 ASHEVILLE, NORTH CAROLINA
 GENTRY PROJECT NUMBER 14G-0075-01

Section No.	Description	Page No.
1.0	SCOPE OF SERVICES	1
2.0	SITE DESCRIPTION	1
3.0	PROJECT DESCRIPTION	1
4.0	GEOTECHNICAL SUBSURFACE EXPLORATION PROGRAM	1
5.0	SITE GEOLOGY	2
6.0	MATERIAL CONDITIONS	2
	6.1. <u>Surface Material</u>	3
	6.2. <u>Residual Soil</u>	3
7.0	GROUNDWATER CONDITIONS	3
8.0	CONCLUSIONS AND RECOMMENDATIONS	3
	8.1. <u>Generalized Pavement Recommendations</u>	3
	8.2. <u>Generalized Site Preparation Recommendations</u>	3
	8.3. <u>Generalized Construction Considerations</u>	5
	8.4. <u>Recommended Construction Materials Testing Services</u>	6
	8.5. <u>Basis of Report</u>	6

ATTACHMENTS:

Boring Location Plan and Records of Subsurface Exploration (7)

GEOTECHNICAL ENGINEERING EXPLORATION AND ANALYSES

PROPOSED MONTFORD COMPLEX PARK
34 PEARSON DRIVE
ASHEVILLE, NORTH CAROLINA
GENTRY PROJECT NUMBER 14G-0075-01

1.0 SCOPE OF SERVICES

This report provides the results of the *Geotechnical Engineering Exploration and Analyses* that Gentry Geotechnical Engineering, PLLC (“Gentry”) conducted regarding the proposed development. The *Geotechnical Engineering Exploration and Analyses* included several separate, but related, service areas referenced hereafter as the Geotechnical Subsurface Exploration Program and Geotechnical Engineering Services. The scope of each service area was narrow and limited, as directed by our client and in consideration of the proposed project. The scope of each service area is briefly explained later.

Geotechnical-related recommendations for pavement design considerations are provided in this report. Site preparation recommendations are also given; however, those recommendations are only preliminary since the means and methods of site preparation will largely depend on factors that were unknown when this report was prepared. Those factors include the weather before and during construction, subsurface conditions that are exposed during construction, and finalized details of the proposed development.

2.0 SITE DESCRIPTION

The site is located at 34 Pearson Drive in Asheville, North Carolina. The site consists of the existing Montford Complex building, parking and tennis courts at the upper level, playground, and basketball courts at mid-level and a lighted ball field, bathroom facilities and amphitheater at the lower level. An existing asphalt driveway and parking areas provide access to the three different levels.

3.0 PROJECT DESCRIPTION

Based on a review of the Montford Complex Master Plan and site visit with Mr. Jason Gilliland, RLA with Site Design Studio and Mr. Pete Wall, RLA with City of Asheville Parks, Recreation, and Cultural Arts Department, we understand new parking and driveway areas, recreational sport courts, walking trails and possible single-story lightly loaded rest room or storage facility buildings are planned. We understand that grading operations involving cut and fill will be required across the site for the new parking and driveway areas.

4.0 GEOTECHNICAL SUBSURFACE EXPLORATION PROGRAM

The scope of the Geotechnical Subsurface Exploration Program was to evaluate subsurface conditions by drilling seven geotechnical test borings at the site on July 30, 2014. The test borings were 5 to 10 feet deep, and they were located across the site at different elevations within the proposed new driveway and parking areas. The test boring locations were positioned from apparent property lines and other site features. The approximate test boring locations are shown on the attached *Test Boring Location Plan*.



The ground elevations at the test borings were determined as part of the Geotechnical Subsurface Exploration Program using survey methods related to the topographic information shown on the *Test Boring Location Plan*. The test boring elevations are noted on the *Records of Subsurface Exploration*, which are logs of the test borings. The test boring elevations are considered accurate within about one foot.

Samples were collected from the test borings, at certain depths, using a split-barrel sampler during Standard Penetration Testing (SPT), along with descriptions of other field procedures. Immediately after sampling, select portions of the SPT samples were transferred from the sampler to ziplock bags that were labeled at the site for identification.

Samples that were retained at the site were classified by a geotechnical engineer using the descriptive terms and particle-size criteria, and by using the Unified Soil Classification System (ASTM D 2488-75) as a general guide. The classifications are shown on the *Records of Subsurface Exploration*, along with horizontal lines that show supposed depths of material change. Field-related information pertaining to the test borings is also shown on the *Records of Subsurface Exploration*.

5.0 SITE GEOLOGY

The project site is located in the Blue Ridge Physiographic Province. The bedrock in this region is a complex crystalline formation that has been faulted and contorted by past tectonic movements. The rock has weathered to residual soils which form the mantle for the hillsides and hilltops. The typical residual soil profile in areas not disturbed by erosion or the activities of man consists of clayey soils near the surface where weathering is more advanced, underlain by sandy silts and silty sands. There may be colluvial (old landslide) material on the slopes.

The boundary between soil and rock is not sharply defined, and there often is a transitional zone, termed "partially weathered rock," overlying the parent bedrock. Partially weathered rock is defined, for engineering purposes, as residual material with standard penetration resistances in excess of 100 blows per foot (bpf). Weathering is facilitated by fractures, joints, and the presence of less resistant rock types. Consequently, the profile of the partially weathered rock and hard rock is quite irregular and erratic, even over short horizontal distances. Also, it is not unusual to find lenses and boulders of hard rock and/or zones of partially weathered rock within the soil mantle well above the general bedrock level.

6.0 MATERIAL CONDITIONS

Since material sampling at the geotechnical test borings was discontinuous, it was necessary for *Gentry* to suppose conditions between sample intervals. The supposed conditions at the test borings are briefly discussed in this section and are described in detail on the *Records of Subsurface Exploration*. Also, the conclusions and recommendations in this report are based on the supposed conditions.

6.1. Surface Material

Soil test boring Nos. 1 and 3 through 7 encountered 2 to 3 inches of silty sand topsoil. Soil test boring No. 2 encountered 2 inches of asphalt over 6 inches of ABC stone.

6.2. Residual Soil

Firm to very dense, damp, reddish brown or tan, silty fine to medium sand was encountered below the surface materials in all of the soil test borings to at least 10 feet, the maximum depth explored.

7.0 GROUNDWATER CONDITIONS

Groundwater was not encountered during or at completion of the soil test borings at the time of the drilling operations. Groundwater conditions will fluctuate and groundwater may become perched above the water table.

8.0 CONCLUSIONS AND RECOMMENDATIONS

8.1. Generalized Pavement Recommendations

Based on the subsurface soil conditions and anticipated lightly loaded traffic conditions consisting of primarily automobile traffic with occasional heavy truck traffic, *Gentry* recommends typical asphaltic concrete pavement sections consisting of 2 to 3 inches of asphalt surface course over 6 to 8 inches of ABC stone. A minimum 5-inch-thick Portland cement concrete pavement with a minimum 4-inch-thick compacted aggregate base course is recommended to be in high-stress areas such as at entrance/exit aprons, at the trash enclosure, and in areas where trucks will turn or will be parked. Materials and construction procedures for asphaltic concrete pavement or Portland cement concrete pavement are recommended to be per the latest edition of North Carolina DOT Standard Specifications for Roads and Structures.

It is recommended that the project owner, developer, civil engineer and other design professionals involved with the project confirm that the arbitrarily-selected traffic are appropriate. If requested, *Gentry* will provide supplemental pavement recommendations based upon other traffic conditions if the arbitrarily-selected traffic are not appropriate.

The pavement recommendations assume that the pavement sub-grade will be prepared per this report, the base course will be properly drained, and *Gentry* will monitor pavement construction. Pavement maintenance along with a major rehabilitation after about 8 to 10 years should be expected. Local codes may require specific testing to determine soil support characteristics and/or minimum pavement section thickness might be required.

8.2. Generalized Site Preparation Recommendations

This section deals with site preparation including preparation of pavement and engineered fill areas. The means and methods of site preparation will greatly depend on the weather

conditions before and during construction, the subsurface conditions that are exposed during earthwork operations, and the finalized details of the proposed development. Therefore, only generalized site preparation recommendations are given.

Clearing, Grubbing and Stripping

Existing asphaltic concrete pavement, surface vegetation, trees and bushes (including root-balls), topsoil with adverse organic content, and otherwise unsuitable bearing materials are recommended to be removed from the proposed pavement area, and other structural areas. Clearing, grubbing and stripping should extend at least several feet beyond proposed development areas, where feasible.

When the test borings were drilled, the topsoil at the test boring locations was between about 2 to 3 inches thick. Those topsoil thicknesses could be used on a preliminary basis to estimate topsoil stripping quantities. However, since topsoil may be thinner or thicker away from the test borings, the actual stripping quantity may be more or less than estimated. It might be beneficial to stockpile stripped topsoil on the site for later use in landscape areas.

Subgrade Evaluation and Fill Placement

The sub-grade is recommended to be proof-rolled with a fully-loaded, tandem-axle dump truck or other suitable construction equipment to help locate unstable soil based on sub-grade deflection caused by the wheel loads of the proof-roll equipment. The entire site is recommended to be proof-rolled and, where feasible, proof-rolling should extend at least several feet beyond development areas. It is recommended that *Gentry* observe proof-roll operations and evaluate the sub-grade stability based on those observations.

Soil that shows signs of instability is recommended to be replaced with engineered fill. Unsuitable soil could also be mechanically stabilized with coarse aggregate and/or geosynthetics (geogrids, geotextiles, etc.). It is recommended that *Gentry* provide specific soil improvement recommendations based on the conditions during construction.

The site is recommended to be raised, where necessary, to the planned finished grade with engineered fill immediately after the sub-grade is confirmed to be stable and suitable to support the proposed site improvements. Engineered fill should have a maximum liquid limit of 50, maximum plasticity index of 25, a maximum fines content of 50 percent, a maximum organic content of 5 percent and be free of deleterious or otherwise unsuitable material. Engineered fill is recommended to be placed in uniform, relatively thin layers (lifts). Each layer of engineered fill is recommended to be compacted to at least 95 percent of the fill material's maximum dry density within 3 percent of the optimum moisture content as determined by *The Standard Proctor Compaction test (ASTM D698)*.

Engineered fill that does not meet the density and water content requirements is recommended to be replaced or scarified to a sufficient depth (likely 6 to 12 inches, or more), moisture-conditioned, and compacted to the required density. A subsequent lift of fill should only be placed after *Gentry* confirms that the previous lift was properly placed and compacted. Sub-grade soil may need to be recompacted immediately before construction since equipment traffic and adverse weather may reduce soil stability.

Use of Site Soil as Engineered Fill

Site soil that does not contain adverse organic content, or other deleterious materials or fines content greater than 50 percent, could be used as engineered fill. If construction is during adverse weather (discussed in the following section), drying site soil will likely not be feasible. In that case, aggregate fill (or other fill material with a low water-sensitivity) will likely need to be imported to the site.

8.3. Generalized Construction Considerations

Adverse Weather

Site soil is moisture sensitive and may become unstable when exposed to adverse weather such as rain, snow, and freezing temperatures. Therefore, it might be necessary to remove or stabilize the upper 6 to 12 inches (or more) of soil due to adverse weather, which commonly occurs during late fall, winter, and early spring. At least some over-excavation and/or stabilization of unstable soil should be expected if construction is during or after adverse weather. Based on the test borings, extensive over-excavation is not expected to be needed if construction is during and after favorable, dry weather. Because site preparation is weather dependant, bids for site preparation, and other earthwork activities, are recommended to be based on the time of year that construction will be conducted.

In an effort to protect soil from adverse weather, the site surface is recommended to be smoothly graded and contoured during construction to divert surface water away from construction areas. Pavement construction should begin immediately after suitable support is confirmed.

Dewatering

Ground water was not encountered at the time of the drilling operations. Some dewatering might be needed during construction due to precipitation or if perched water is encountered. Water that accumulates in construction areas is recommended to be removed from excavations and other construction areas, along with unstable soil as soon as possible. Filtered sump pumps, drawing water from sump pits excavated in the bottom of construction trenches, will likely be adequate to remove water that collects in shallow excavations. Excavated sump pits should be fully-lined with a geotextile and filled with open-graded, free-draining aggregate.

Excavation Stability

Excavations may cave during construction, especially if granular soil is encountered. Excavations are recommended to be made in accordance with current OSHA excavation and trench safety standards, and other applicable requirements. Sides of excavations might need to be sloped or braced to maintain or develop a safe work environment. Temporary shoring must be designed according to applicable regulatory requirements. Contractors are responsible for excavation safety.

8.4. Recommended Construction Materials Testing Services

This report was prepared assuming that *Gentry* will perform Construction Materials Testing (“CMT”) services during construction of the proposed development. In general, CMT services are recommended (and expected) to at least include observation and testing of: subgrade, ABC stone, asphaltic concrete pavement and Portland cement concrete pavement. It might be necessary for *Gentry* to provide supplemental geotechnical recommendations based on the results of CMT services and provided specific details of the project.

8.5. Basis of Report

This report is based on *Gentry* proposal No. 14P-041, which is dated July 25, 2014 and authorized by Mr. Jason Gilliland by signing our proposal on July 28, 2014. The actual services for the project varied somewhat from those described in the proposal because of the conditions that were encountered while performing the services and in consideration of the proposed project.

This report is strictly based on the project description given earlier in this report. *Gentry* must be notified if any part of the project description is not accurate so that this report can be amended, if needed. This report is based on the assumption that the pavements will be designed and constructed according to the codes that govern construction at the site.

The conclusions and recommendations in this report are based on supposed subsurface conditions as shown on the *Records of Subsurface Exploration*. *Gentry* must be notified if the subsurface conditions that are encountered during construction of the proposed development differ from those shown on the *Records of Subsurface Exploration* because this report will likely need to be revised.



GENTRY GEOTECHNICAL ENGINEERING, PLLC

Record of Subsurface Exploration

Boring: B-5

Project Name: Montford Complex Park, 34 Pearson Drive, Asheville, NC

Elevation: 2,098.0

July 31, 2014

Location: Center of Ballfield Parking, See Attached Boring Location Plan

Project No. 14G-0075-01

Driller: Baker Jordan, Jordan Environmental, LLC, Trailer Mounted CME 45, 2 1/4" ID Hollow Stem Auger

Description	Depth feet	Sample type	SPT N-Value	Remarks
3 inches of silty sand topsoil				
Firm to very dense, tan, damp, micaceous, silty fine to medium SAND (Residual)		SS	20	SS = Split Spoon
	5	SS	50/6"	
		SS	80	
	10	SS	80	
Boring terminated at 10 feet No groundwater encountered during drilling operations Cave in at 5 1/2 feet at completion of drilling operations				
	15			
	20			
	25			

GENTRY GEOTECHNICAL ENGINEERING, PLLC

Record of Subsurface Exploration

Boring: B-7

Project Name: Montford Complex Park, 34 Pearson Drive, Asheville, NC

Elevation: 2,073.0

July 31, 2014

Location: Restrooms/Storage Facility Building, See Attached Boring Location Plan

Project No. 14G-0075-01

Driller: Baker Jordan, Jordan Environmental, LLC, Trailer Mounted CME 45, 2 1/4" ID Hollow Stem Auger

Description	Depth feet	Sample type	SPT N-Value	Remarks
3 inches of silty sand topsoil				
Firm to very firm, tan, damp, micaceous, silty fine to medium SAND (Residual)		SS	11	SS = Split Spoon
	5	SS	17	
		SS	21	
	10	SS	23	
Boring terminated at 10 feet No groundwater encountered during drilling operations Cave in at 6 feet at completion of drilling operations				
	15			
	20			
	25			

APPENDIX
PUBLIC ANNOUNCEMENTS



CALENDAR

Montford Neighborhood Association Meetings

- Third Tuesday of every month, Montford Community Center, Pearson Drive.
- Next meeting: April 15, 2014, 7pm. Watch the list serve for agenda items. All residents are welcome. Everybody in Montford is a member of the neighborhood association.

Montford Park Players

- George Bernard Shaw's *Man and Superman*, March 27-April 13, Asheville Masonic Temple, 80 Broadway, downtown. montfordparkplayers.org.

English Country Dance

- April 6, April 20 next dances. 19 Zillicoa Street, 4-6:30; \$6/\$5 (for Old Farmers Ball members). Beginner's session, 3:30pm. Mostly first and third Sunday afternoons. Check schedule for updates/changes. oldfarmersball.com, 230-8449. Caller with live music. Newcomers welcome; dress comfortably with comfortable shoes; fragrance-free, please.

The Montford Spring Community Yard Sale

- Saturday, April 5, 8am-1pm at Montford Recreation Center, 34 Pearson Drive. 51 tables of vendors will be selling their wares so be sure to put this great event on your calendar. Contact William Hoke

at 253-3714 or whoke@ashevillenc.gov for more information.

Montford Community Center Activities:

- Afterschool Adventures, weekdays until 5:30pm, \$40/week
- Read & Cook for Toddlers, April 7, May 5, 10-11am, \$2

Montford Complex Master Plan

- Montford Center, April 10, 5:30-7:30pm, drop in, public input to Montford Complex Master Plan design & introduce program survey
- Montford Center, June 3, 5:30-7:30pm, public comment on Montford Complex Master Plan final concept design & program survey
- Yoga Tuesdays and Thursdays 8-9am, \$3 per person
- Youth Tennis (grades 4-5), Mondays, Wednesdays, March 31-May 29, 5-6pm, \$15
- Developing Future Male Leaders, Tuesdays, Wednesdays, through May, \$5
- Martial Arts, Tuesdays 6:30-8pm, \$10
- Birthday Parties, 2-hour party, \$60, additional fees for use of the climbing wall
- Community Volleyball, Tuesdays 6:30-9pm, \$5 (will be 5:30-8pm beginning May 13)

- Middle School/High School Community Basketball, Mondays, Wednesdays 4-5:15pm, free
- Community Basketball, Wednesdays, 5:30-8pm, \$1 per person
- Family Hours, Tuesdays, Thursdays, 3-5pm, free
- Climbing Wall, Mondays, Thursdays 5:30-8pm and Wednesdays 9:30am-1:30pm, \$5 per person
- Badminton, Thursdays 5:30-8pm, Fridays 5:30-7:30pm, free
- Table Tennis, Mondays 5:30-8pm, Saturdays, 11am-2pm, free
- Spiral Scouts, 2nd and 4th Fridays of the month, 1-3pm, free
- Homeschool Fun, Tuesdays and Thursdays Feb-April, call for fees
- Community Yard Sale, Saturday April 5, 8am-1pm, rent tables for \$5/each
- Montford Neighborhood Easter Egg Hunt, Saturday April 19 at 11am, free
- Spring Fling Youth Dance, Friday May 9, 5:30-8pm, \$5

With so many recreational opportunities for adults, why have you not come by yet??? Contact Kim Kennedy, Montford Center Director at 253-3714 or kkennedy@ashevillenc.gov for more information.



Carolina TREE CARE
Your trees. Your property. Our passion.

25 YEARS
Since 1987

TCIA ACCREDITED
CONFIDENCE

CERTIFIED ARBORIST
ISA

www.carolinatree.com

- Asheville's Only TCIA Accredited Tree Care Company
- ISA Certified Arborist
- Fully Insured
- Tree & Stump Removal
- Pruning
- Plant Health Care
- 24 Hr Emergency Service

BBB ACCREDITED MONITORING

828-251-1370

YouTube Angie's list

How to Contact the Asheville Police Department

- For emergencies, call 911.
- For nonemergencies and to report suspicious activity, call 252-1110.
- For the Crime Prevention Division, call 259-5834.
- For Police Dispatch, call 259-5888.
- For Montford's Community Resource Officer, Todd Brigman, call 777-0455 or email tbrigman@ashevillenc.gov

APPENDIX
ACKNOWLEDGEMENTS



ACKNOWLEDGEMENTS

City of Asheville

Parks and Recreation

Roderick Simmons
Debbie Ivester
Al Kopf
Pete Wall

Director
Assistant Director
Superintendent Park Planning & Development
Landscape Architect

Historic Resources Commission

Planning & Development Department
Stacy Merten, Director

Montford Park Players

John Russell, Managing Director

Montford Neighborhood Association

Brian Elston, President
David Patterson, Secretary

Consulting Team

Team Leader:

Julie N. Gilliland, RLA President
Jason T. Gilliland, RLA Vice President
Site Design Studio, PLLC
13 1/2 Eagle Street, Studio E
Asheville, NC 28801
828.484.8225
julie@sds-la.com
jason@sds-la.com
www.sds-la.com

Team Member:

Mark Cathey, PE Senior Project Manager
Greg Hoffman, PE, CPESC Project Engineer
McGill Associates, PA
55 Broad Street
Asheville, NC 28801
828.252.0575
mark.cathey@mcgillengineers.com
greg.hoffman@mcgillengineers.com
www.mcgillengineers.com

Team Member:

William T. Gentry III, PE President
Gentry Geotechnical Engineering, PLLC
17 Sand Hill Road
Asheville, North Carolina 28806
828.545.3416
will@gentrygeotech.com
www.gentrygeotech.com

