

CASTLE PARK MASTER PLAN

MARCH, 2014



**City of Worcester
Department Public Works & Parks
Parks, Recreation and Cemetery Division
50 Skyline Drive
Worcester, MA 01604**

Prepared by:



33 Waldo Street
Worcester, MA 01608

Table of Contents	Page Number
1.0 ACKNOWLEDGEMENTS.....	3
2.0 INTRODUCTION	5
3.0 BACKGROUND & HISTORY	7
4.0 EXISTING CONDITIONS.....	10
4.1 Neighborhood Context	10
4.2 Topography & Views.....	13
4.3 Soils.....	16
4.4 Vegetation & Wildlife.....	16
4.5 Site Utilities.....	18
4.6 Access & Circulation	18
4.7 Site Amenities & Recreational Uses	20
5.0 SITE OPPORTUNITIES AND GOALS	28
6.0 COMMUNITY PARTICIPATION	30
7.0 MASTER PLAN SPECIFIC SITE IMPROVEMENTS.....	32
7.1 Parking	32
7.2 Walkways.....	33
7.3 Playground	34
7.4 Exercise Stations	35
7.5 Multi-Use Court	36
7.6 Basketball Court.....	37
7.7 Handball Courts.....	37
7.8 Miscellaneous Site Improvements	38
8.0 PHASING AND IMPLEMENTATION.....	38
9.0 PRELIMINARY COST ESTIMATE	38

List of Appendices:

- A. Existing Conditions Exhibit
- B. Overall Master Plan
- C. Site Plan Exhibit
- D. Grading Exhibit
- E. Meeting Attendance lists
- F. Cost Estimate Spreadsheets
- G. Addendum #1

List of Tables	Page Number
Table 6-1 Schedule of Public Meetings	31

List of Figures

Figure 1-1 Early spring view of the existing Park	4
Figure 2-1 Existing Conditions Exhibit	6
Figure 3-1 Castle Park History Timeline	7
Figure 3-2 Oread Castle, 1852	8
Figure 3-3 Historical Photos	9
Figure 3-4 Castle Park Past & Present (View from corner of Alden and Castle Street)	9
Figure 4-1 Community Context Land Use Plan (within one mile).....	11
Figure 4-2 Community Context Land Use Analysis.....	12
Figure 4-3 Community Context photos including residential, community gardens, and health care facilities.....	12
Figure 4-4 View toward the South.....	13
Figure 4-5 Existing Topographic Map.....	13
Figure 4-6 South West Slopes.....	15
Figure 4-7 Southern Alden Street Slope	15
Figure 4-8 Western Slopes.....	15
Figure 4-9 Soils & Ledge.....	16
Figure 4-10 Typical On-Site Vegetation.....	17
Figure 4-11 Perimeter Vegetation.....	17
Figure 4-12 Electrical Box & Light Fixtures	18
Figure 4-13 Parking	19
Figure 4-14 Interior Park Walkways.....	20
Figure 4-15 Walkway from Alden St.....	20
Figure 4-16 Alden Street Park Entrance	21
Figure 4-17 Ely Street Park Entrance	21
Figure 4-18 Interior pathways.....	22
Figure 4-19 Existing Picnic Areas	23
Figure 4-20 Existing Basketball Court	23
Figure 4-21 Existing Playground & Condition.....	24
Figure 4-22 Existing Handball Court.....	25
Figure 4-23 Existing Tennis Court & Soccer Play Area.....	26
Figure 4-24 Existing Site Amenities.....	27
Figure 6-1 Community Meeting	31
Figure 7-1 Example-Castle-themed play structure	34
Figure 7-2 Example- Exercise Stations.....	35
Figure 7-3 Example- Multi-Use Court.....	36

1.0 ACKNOWLEDGEMENTS

We wish to thank the following City Leaders for their support and guidance throughout the preparation of this Master Plan:

Worcester City Council:

Joseph M. Petty, Mayor
Morris A. Bergman
Anthony Economou
Michael T. Gaffney
Konstantina B. Lukes
Philip P. Palmieri
Sarai Rivera
Gary Rosen
Frederick C. Rushton
George J. Russell
Kathleen M. Toomey

Worcester Parks & Recreation Commission:

William T. Daring, Chairperson
Eric Goldstein
Lisa Markarian Labossiere
Meg Mulhern
Steven Sabacinski
George Sedares
Jared Swerzenski

City Administration:

Edward M. Augustus, Jr., City Manager
Paul J. Moosey, P.E., Commissioner of Public Works and Parks
Robert C. Antonelli, Jr., CPRP, Assistant Commissioner of Public Works and Parks

Additionally, we are grateful for the support provided by the Main South Community Development Corporation (MSCDC) who hosted the community meetings, and provided support in soliciting community involvement and neighborhood coordination. In addition, we would like to acknowledge the Castle Park Task Force, neighborhood residents, and representatives of various community organizations for their interest and input throughout the master planning process. Their support and participation was essential to the successful creation of a functional, appropriate, and attainable Master Plan to excite and that is fulfilling to the recreational needs of the community.

Figure 1-1 Early spring view of the existing Park



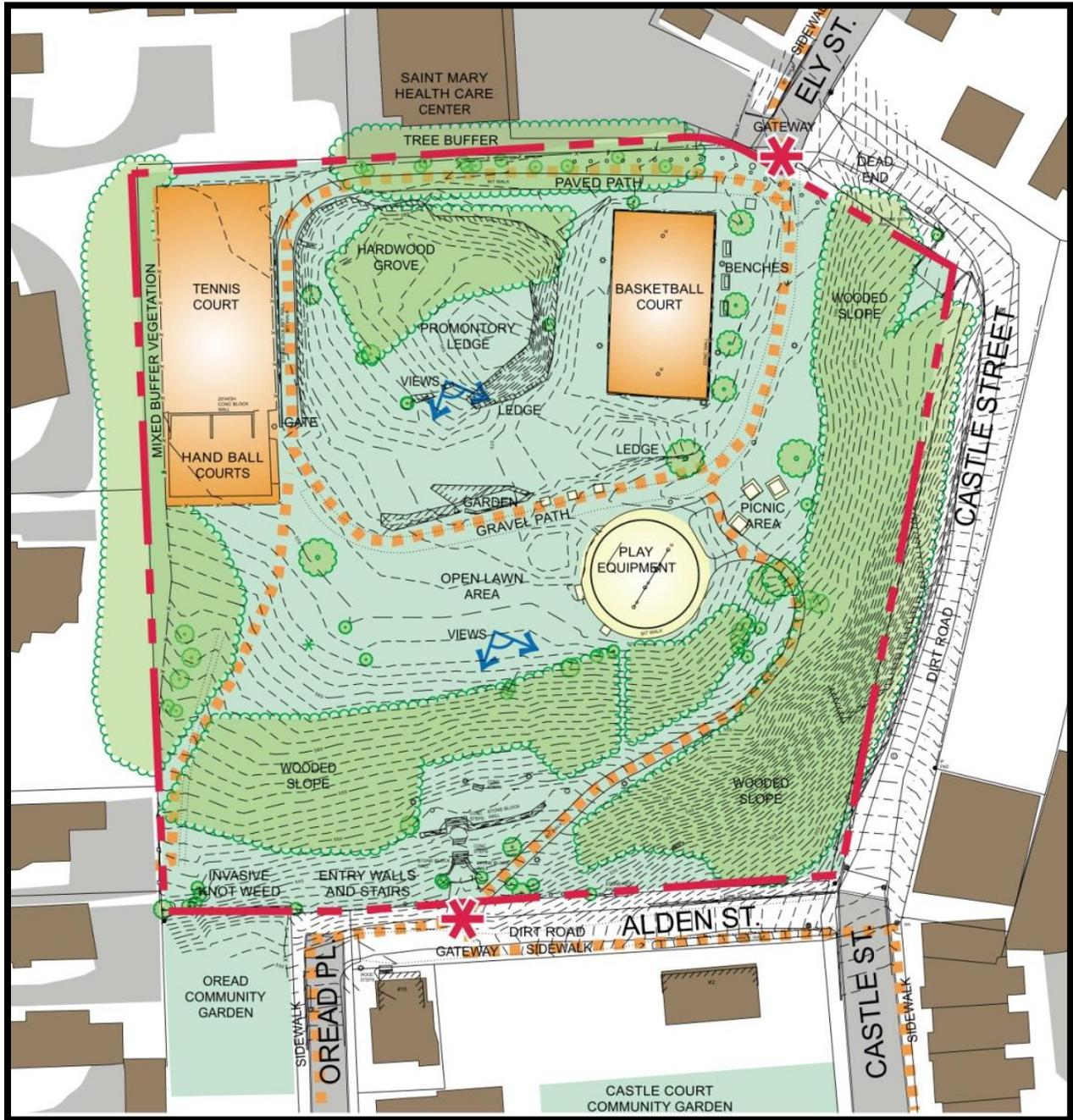
2.0 INTRODUCTION

The BSC Group, Inc. began working with the City of Worcester Department of Public Works and Parks (DPW&P) in April of 2013 to prepare a comprehensive Master Plan for the rehabilitation of Castle Park, (aka Oread Castle Park). Funding for this project will be provided through a combination of tax levy, grants, capital budget and private donations. The master plan has identified an overall plan for improvement and identifies specific projects that will be implemented in phases that are described in more detail later in this document.

The purpose of this master planning effort was to solicit community input regarding existing facilities within the park that need to be improved, as well as new elements and uses that should be integrated into the park. Beginning in May 2013, and for the following nine months, the Parks Department and BSC Group worked with representatives from DPW&P, the Main South CDC, neighborhood residents, and other community development groups and interested parties to solicit community input, develop design options and agree on a preferred master plan for the park. The preliminary conceptual plans were generated based upon initial community discussion of the needs and concerns of the neighborhood during a public forum. Following community and DPW&P review of these options, the preliminary plans were then refined into a final preferred Master Plan. While these design options were being evaluated for the park, BSC Group also completed a full topographic and boundary survey of the approximately 3.1 acre park in order to best assess the condition of the park and site resources, as well as identify property line and ownership issues.

The Master Plan, which was presented to the Parks Commission on March 20, 2014 represents the collaborative efforts of the community to re-invigorate this park by providing safe active and passive recreation areas, preserving and enhancing the site's natural features, and creating a positive neighborhood identity. The Master Plan addresses the critical concerns and needs of this diverse community in the most practical and efficient way possible, while understanding that the proposed improvements will be implemented in a phased manner. Descriptions of the community's goals, specific site improvements, and a proposed phasing plan are outlined in further detail in this report. This Master Plan serves as a guide book for improvements to Castle Park. Improvements will follow recommendations in this report, but will be refined and adjusted as needed to meet actual site conditions and funding.

Figure 2-1 Existing Conditions Exhibit



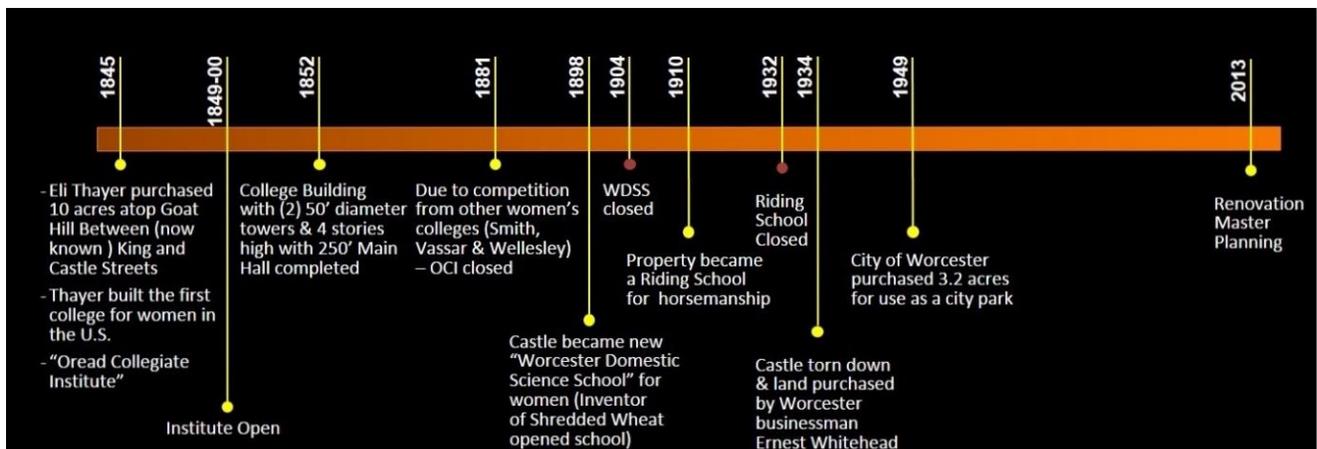
3.0 BACKGROUND & HISTORY

The Castle Park site has a long and important history serving the needs of community in a variety of ways.

It is important that every neighborhood has a park that provides beauty and recreational opportunities for its residents. Castle Park is this asset for the neighbors around King, Castle, Queen, Ely, Alden, and Oread Place. Presently, the park provides local residents with open and vegetated (trees) green space, walking paths, rock climbing, tennis, basketball, handball, swings, and soccer. But previously, Castle Park was also the site of one of the first women’s college in the nation and the home to an Abolitionist who changed the course of U.S. history. In this way, Castle Park has a special status for local residents and the City.

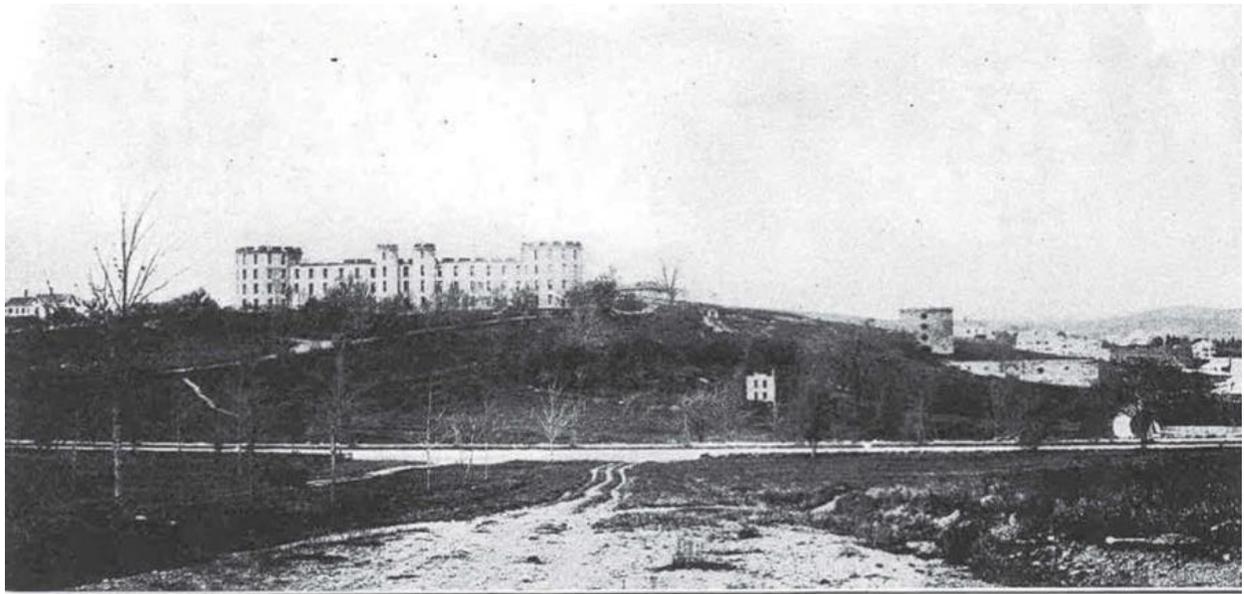
One of the very first colleges for women in this country, Oread Collegiate Institute, was built in Worcester and opened in 1849 on the site of Castle Park. The College was founded by Eli Thayer, who was educated at Worcester Academy, then Brown University, returning to be a professor and then Headmaster at Worcester Academy. He envisioned a school solely for women that gave the same kind of rigorous college level education as he had received at Brown. He had only to look out from the Worcester Academy grounds, (which was located in the Benefit Street area at the time) across Main Street to see Goat Hill – an undeveloped 10 acre parcel of land – and realized that this was the place for his first-in-the- nation collegiate institute of higher learning for women.

Figure 3-1 *Castle Park History Timeline*



At the age of 29, Eli Thayer designed and oversaw the building of the Oread Collegiate Institute, which quickly became known as The Castle. The Castle had both boarding and day students and was quite popular. Many of The Castle’s graduates and attendees went on to great lives as community leaders, social benefactors, educators, artists, supporting wives, and inspiring mothers.

Figure 3-2 Oread Castle, 1852



OREAD CASTLE
1852

The Castle closed in 1881, 32 years after opening. During those 32 years other women's colleges opened with large financial support and Eli Thayer had become heavily involved in other pursuits. Portions of the 10 acre parcel were sold for development, such as the land for the Castle Street row houses that remain today. The Castle and a remaining 3 acres around it was sold in 1898 and reinvented into the Oread Institute School for Domestic Science. That institution lasted only until 1904 due to its founder's unexpected death. Between 1910 and 1932 the property was occupied by a school for Riding Horsemanship. Eventually, the Castle building fell into disrepair and was demolished in 1934. The hilltop property was subsequently sold to Earnest Whitehead and later purchased by the City in 1949 for use as the public park known today as Castle Park. The original castle footprint contained two 50' diameter towers separated by a long central building. Subsequent improvement plans for the park included the footprint of the eastern tower as a playground area which remains today.

Figure 3-3 Historical Photos

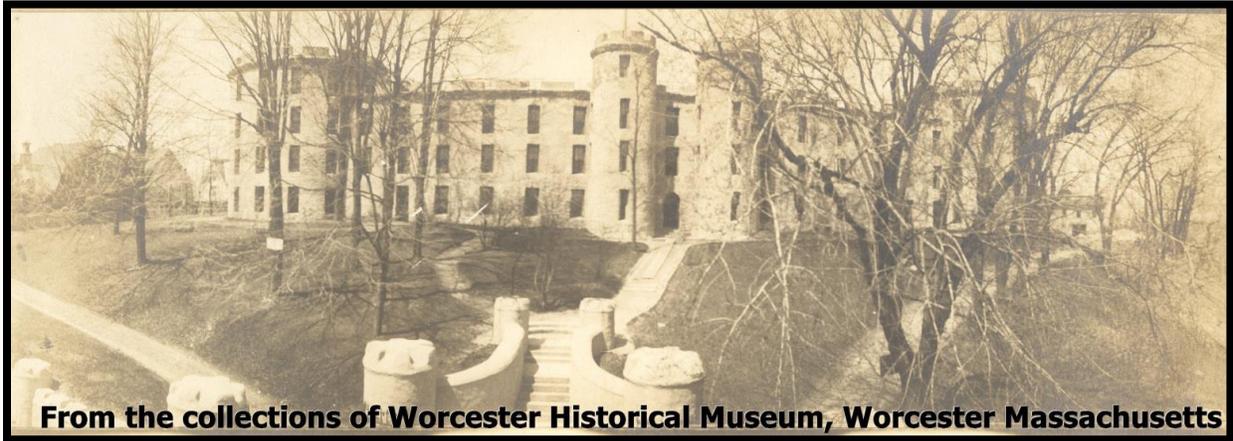
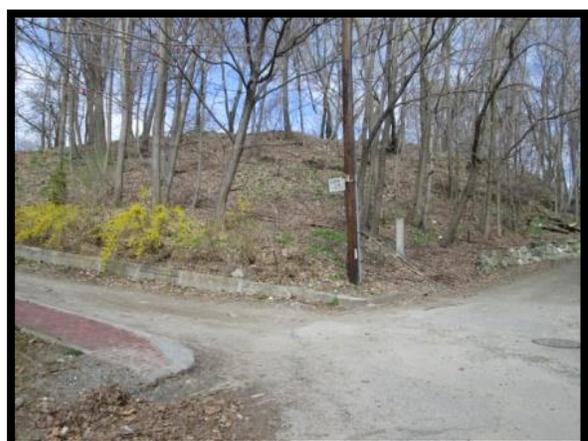


Figure 3-4 Castle Park Past & Present (View from corner of Alden and Castle Street)



4.0 EXISTING CONDITIONS

BSC Group began the master planning process by performing an on-the-ground survey of the park property to understand and evaluate the existing conditions and resources of the park. Specific park elements are described later in this section.

(Refer to Existing Conditions Exhibit in the Appendix.)

4.1 Neighborhood Context

Castle Park is located in the Main South neighborhood in a mixed-use area containing commercial, institutional, and residential uses. The predominant land use within a quarter mile of the park is multi-family residential. Immediate abutters to the park include multi-family residential buildings, St. Mary's Health Care Center and a concentration of commercial uses along Chandler, Piedmont and Main Streets. Other parks located within a one mile radius of Castle Park include Peace, University, Crompton, Beaver Brook, and Elm Parks. No other parks are within a quarter mile walk of this section of Main South making Castle Park critical to the social fabric of this community. Studies have shown that people are not typically willing to walk a distance of more than a quarter mile or ten minutes to access services or in this case a park. Having a park within walking distance is an essential component of this community as many residents don't have their own vehicles and depend on public transportation to access services.

Castle Park is of a size and location that mainly serves the needs of residents and workers in the neighborhoods within a quarter mile walk of the park. As such, the park serves a diversified demographic, which primarily consists of young families with children, and senior citizens who have lived in the neighborhood for decades or who reside at St. Mary's Health Care Center. Additionally, handball courts are not found in many parks throughout the City, thus the park's current handball court draw from a larger geographic area than just the immediate neighborhood.

The abutting St. Mary Health Care Center, provides short and long term skilled nursing and rehabilitative care. Though many of the residents and visitors to the health care center are confined to the facility itself, some could use the park for exercise and fresh air, and employees could certainly use the park. Furthermore, since there are a lot of commercial uses abutting and within close proximity to the park, potential users also include business employees and possibly customers too.

Consequently, the park master plan must consider the multi- generational and multi-cultural interests of the community.

Figure 4-1 Community Context Land Use Plan (within one mile)

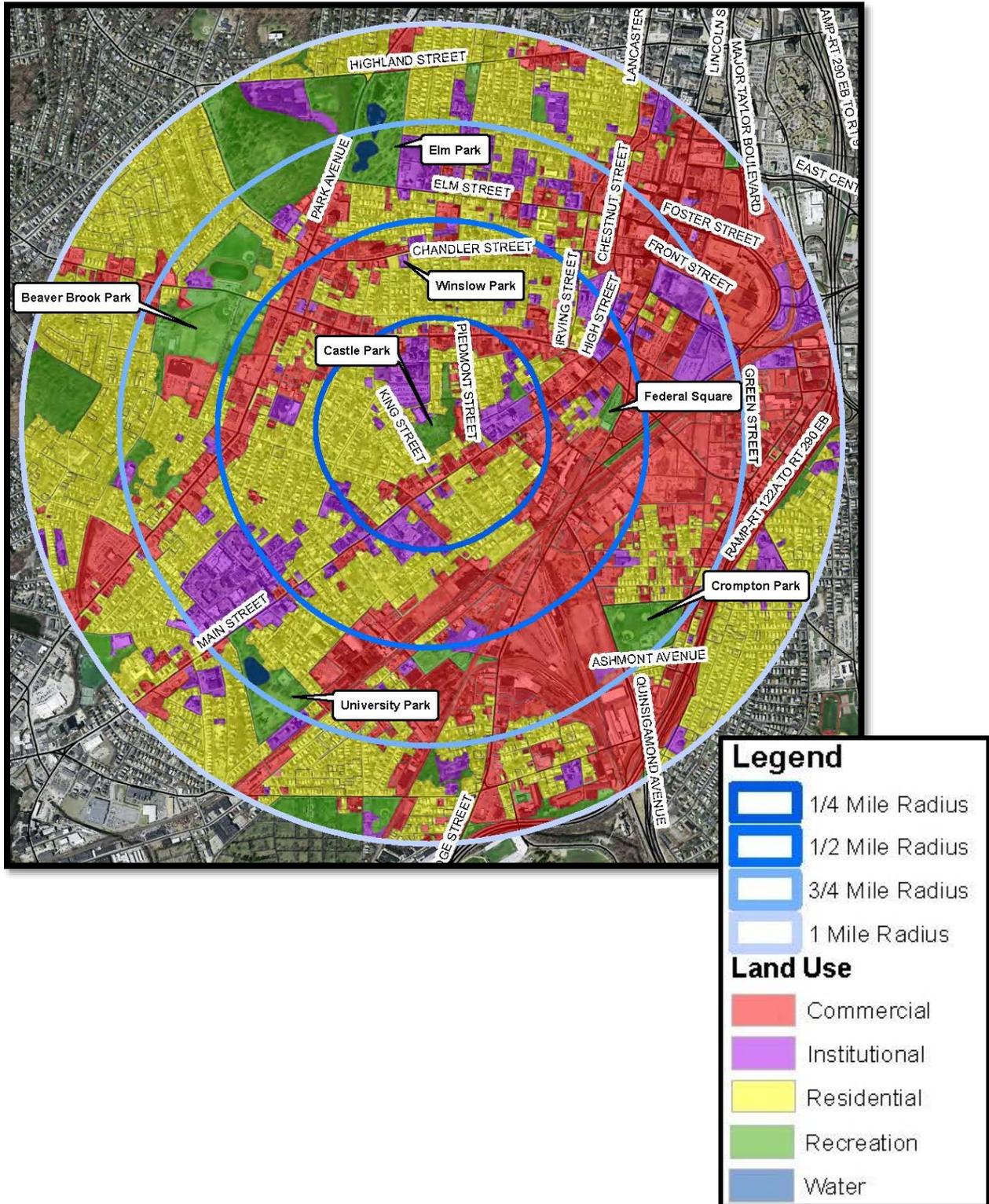


Figure 4-2 Community Context Land Use Analysis

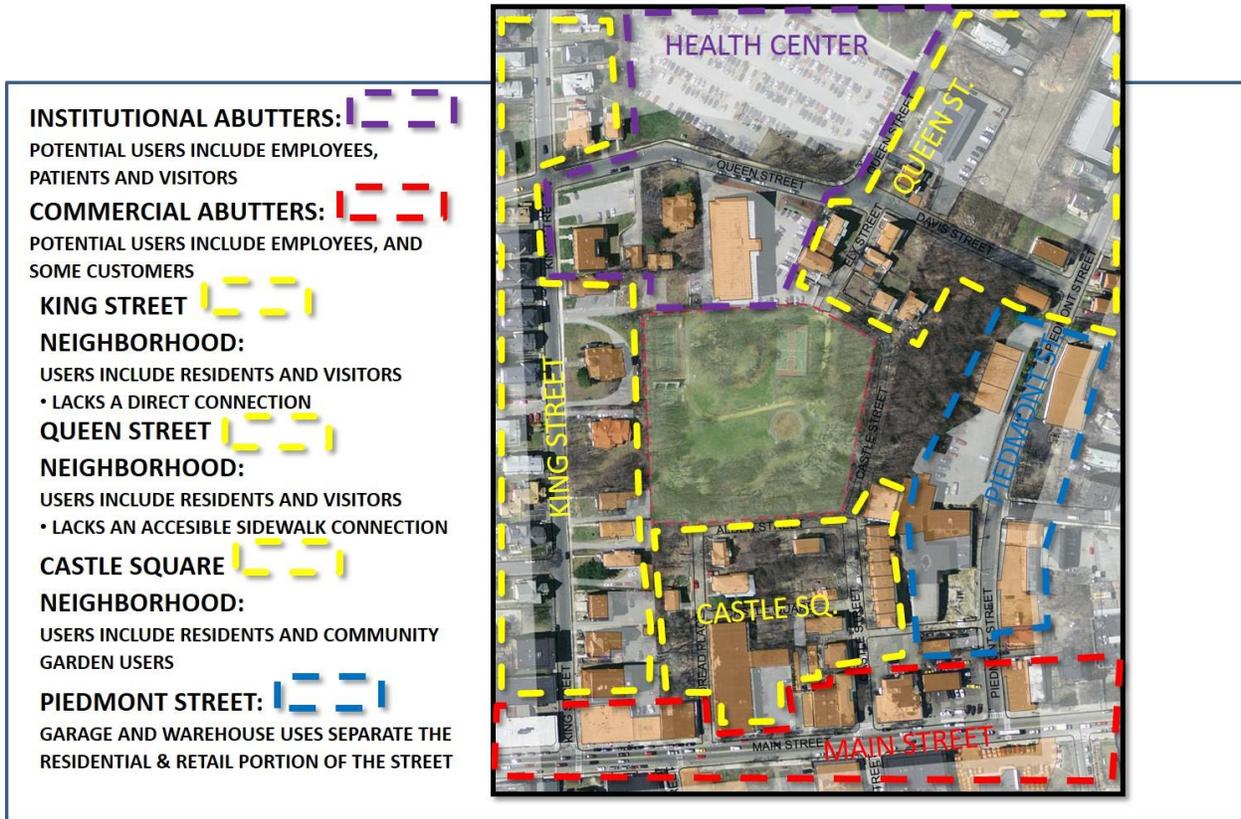


Figure 4-3 Community Context photos including residential, community gardens, and health care facilities.



4.2 Topography & Views

Castle Park is located on a hill that rises from a lower elevation of approximately 515 on its eastern boundary by Castle Street, to a higher elevation of approximately 585. This is a 70 foot change in elevation over a distance of approximately 300 feet, giving the park a dramatic visual impact from the lower abutting streets, and good views from the top of the park mainly during winter when the surrounding trees are leafless.

The steeper portions of the park are located along Alden and Castle Streets. Starting along the lower edge of the park along Castle Street, the topography rises steeply into the park at an average slope of 2:1 (50% slope) for about 70 to 120 feet. The slopes become less steep as one approaches the top of the site. These steeper slopes around the perimeter of the park are mostly vegetated, providing good soil stabilization and minimal erosion was observed. Therefore, these steep slopes are unsuitable for any major recreational activities other than sledding in the winter.

The higher portion of the park is undulating, with some relatively flat areas with slopes of 6-10%, but also some steeper slopes leading up to ledge outcroppings. The upper portion of the park does provide some opportunities for level recreational spaces that could accommodate courts and a playground. However, such elements would need to be skillfully placed around the areas of ledge and steeper slopes.

There is a walking path from the middle of Alden Street that traverses the hillside up into the park, with the lower portions of this path at a 25% slope, but then decreasing to a slightly less grade of 16%.

Due to the significant change in elevation relative to lands to the east and south, the higher portions of the site provide for some impressive views to the City of Worcester. Care should be taken to preserve these views, and selective tree clearing may help enhance some of these views.

Figure 4-4 View toward the South



Figure 4-5 Existing Topographic Map

Figure 4-6 South West Slopes



Figure 4-7 Southern Alden Street Slope



Figure 4-8 Western Slopes



4.3 Soils

According to the USGS Soil Survey, soils on the property are comprised of Paxton fine sandy loam, 8 to 15 percent slopes, which is characterized by well drained loamy soils over dense coarse-loamy lodgment till derived from granite and gneiss. Paxton soils, the state soil of Massachusetts, can be found at nearly level to steep slopes.

In addition, it is evident from the landform, as well as visual observations, that the site has a lot of exposed ledge. Features need to be placed around these ledge outcroppings, and there needs to be care in building anything on the site that will require a deep footing as depth to ledge is not known in many locations.

Figure 4-9 Soils & Ledge



4.4 Vegetation & Wildlife

In general, the vegetation at Castle Park is comprised of lawn and wooded slopes, with some shade trees planted by the Parks Division and memorial trees planted by neighbors.

The lawn areas are predominantly located on the upper portion of the site, providing both play areas as well as an open setting for many of the recreational elements on the site. There is also an open “scrub” grass along Alden Street, through which there is a path leading into the park and includes the remains of the previous grand stairway and walls from the sites former uses.

Figure 4-10 Typical On-Site Vegetation



The sloped areas are wooded with larger mature-canopied trees, with much of the undergrowth removed to allow views up the slope into the park. A large understory of scrub brush containing a combination of honeysuckle (invasive), forsythia, ground cover pachysandra and other woody plants occupy the wooded sloped areas adjacent to Castle and Alden Streets. Some additional specimen trees including a small Dawn Redwood (*Metasequoia glyptostroboides*), and two ornamental Cherry trees are planted in the lawn area along the edge of the southern treeline at the top of slope.

Figure 4-11 Perimeter Vegetation



Due to the urban setting of the park, the observed wildlife appears limited to small species such as squirrels and chipmunks, birds, and insects.

Continued selective clearing beneath the trees on the sloped area will help with park security by preserving views into and within the park. However, existing mature trees on the slopes should be retained for both aesthetic and slope stabilization purposes.

4.5 Site Utilities

Existing site utilities include electrical service and water. The electrical service is limited to power for pathway lighting and court lights, however many of these lights are damaged and/or not functioning making it difficult to evaluate the extent of usable wiring. There is an electrical service feed box close to the Ely Street entrance to the park.

There appears to be water service into the park from the top of Castle Street, close to its intersection with Ely Street. Survey records show a water valve in the park close to the picnic area. However, the water service was not tested to evaluate if it still is functional.

There is a system of drainage structures/pipes as well as sewer service located in the abutting Castle Street, and there is water service in both Castle and Alden streets abutting the park.

Figure 4-12 Electrical Box & Light Fixtures



4.6 Access & Circulation

Public access to Castle Park is via Castle Street, Alden Street, or the ends of both Oread Place and Ely Streets. Informal access has been made through holes in the chain link fence along the western property line and King Street residential properties. However, since Castle Park is nestled into a dense neighborhood, located atop a large hill, and abuts only two streets, Castle Street and Alden Street, it is not highly visible, nor is it easily apparent how to get to the park from surrounding roads.

Vehicular access to Castle Park is limited due to the poor condition of the adjacent streets and the lack of parking. Castle and Alden streets are gravel surface private ways and have little to no pavement on the driving surface. Castle Street has a sidewalk on the opposite side of the street from

the park, but along only a portion of the street, and, and it is in very poor condition. Alden Street has a new brick sidewalk, but it also is on the opposite side of the street from the park.

There is limited on-street parking along Castle Street, but this mainly serves the residential property at the northern terminus of Castle Street. Ely Street is a gravel road in very poor condition with a sidewalk consisting of brick, broken pavement and gravel on one side of the road. At the end of Ely Street, there is only room enough for a couple of informal paved parking spaces. Accessible parking is not currently identified at the park.

Figure 4-13 Parking



Ely Street



End of Castle Street

However, due to the parks location it is primarily accessed by foot. Therefore, strong pedestrian connections are needed to the abutting streets, and improved sidewalks are needed along these streets to better connect the surrounding neighborhood to the park.

One portion of the east side of the park along Castle Street is bound by a stone retaining wall separating the park from residential properties along Castle Street. Aside from this walled property line, all other pedestrian access into the park is relatively unrestricted, except that steep slopes making it difficult to walk directly into the active areas in the park from Alden Street. Primary pedestrian access is from the end of Ely Street, as well as a path leading into the park from Alden Street. Access from King Street is not currently available and the desire by the neighborhood to have a direct access to the Park from King St. was strongly encouraged.

The interior pedestrian pathways in the park include a circular path around the upper relatively level area of the park. This pathway connects the access point from Ely street to the park facilities, including the playground, picnic area, handball, tennis and basketball courts. This walkway also provides opportunities to enjoy views to other parts of the city. However, this walkway is in poor condition, with portions of stonedust and dirt. Therefore, an improved ADA/MAAB compliant pathway is necessary.

Figure 4-14 Interior Park Walkways



Figure 4-15 Walkway from Alden St.



4.7 Site Amenities & Recreational Uses

For such a small, constrained parkland, Castle Park contains a surprising variety of active and passive recreational uses. It is unique that a park of this size with significant topographic variation has recreational facilities that require flat surfaces such as the existing playground, basketball, tennis and handball courts.

Areas of active recreation are located within the upper, more level areas of the park and include a playground, a basketball court, tennis court and two handball courts. The playgrounds and courts were installed in the 1980's, and have served the neighborhood well for many years. Other areas of the park include "passive recreation" or unstructured recreational opportunities including a small picnic area, benches, a walking loop and small open lawn areas. As mentioned earlier, there are wooded slopes, which have no planned use but do enhance the amount of green space and park aesthetics. The following is a summary of the existing condition and limitations of each of the park facilities.

Pedestrian Entrances/Walkways

Visitors access the park through two main entrance points; a lower entrance on Alden Street and an upper entrance at the end of Ely Street. Both entrances are accessed from private roads that are in

poor condition and lack accessible sidewalks and routes. This is a major impediment to providing a park experience to people of all abilities and thus does not conform to State and Federal requirements for accessibility.

Figure 4-16 Alden Street Park Entrance



Figure 4-17 Ely Street Park Entrance



The Ely Street entrance is the primary access point for people driving to the park and is comprised of a paved area that can accommodate two to three vehicles. No formal signage is present announcing the arrival to Castle Park. There is another entrance point at the bottom of the hill on Alden Street that includes the remains of walls and steps from the old school, as well as more recent entrance treatments from the 1980's rehabilitation work. This entrance leads to a paved walkway that traverses the hillside to the recreational uses at the top of the hill. Portions of this walkway need to be improved, but in order to be an accessible route, major regrading of the hillside and installation of an extensive accessible ramp would be necessary.

The majority of park visitors reside to the west of the park but do not have direct access to the park from King Street, the closest public road. The desire to access the park from King Street is evident by a large hole cut in the fence where people cut through private property to enter the park through the damaged fence.

The Parks Division has long recognized the need to provide access from King St. to Castle Park. As such, the City retained a 10' wide access easement along King Street Terrace as part of a property transfer between the City and St. Mary's. The intent to provide pedestrian access from King Street along the access easement poses several challenges, although not insurmountable they are;

- Vehicle access from King Street to the new St. Mary's parking lot must be maintained.
- Residents of the multi-family building to the north of the easement are currently using the easement for access to a rear parking lot.

- A vertical difference of over 17' exists between King Street terrace at King St. and the courts at Castle Park. Therefore, a new access route could not be accessible due to the need to have a stairway along the this proposed walkway leading to the park, and the lack of available room for a ramp system within this access easement.

Once within the park, facilities are connected by two main pathways; an interior 8' wide paved and gravel walking loop and a paved walkway from Alden Street. Park maintenance, police and emergency vehicles utilize the 8' wide interior walkway to access the park. A portion of the path between the playground and tennis/handball court has fallen into disrepair. A fully accessible walkway should be installed to connect the new and refurbished recreational elements.

Figure 4-18 Interior pathways



Picnic Area

The park has a small picnic area located near the playground. The picnic area consists of a few wooden picnic tables set on concrete pads within a lawn area. The tables are in poor condition and do not include an accessible seat. Any plans for a refurbished park will be required to include accessible furniture and equal access to all facilities within the park.

Figure 4-19 Existing Picnic Areas



Basketball Court

The basketball court is located directly in front of the Ely Street entrance to the park. The court pavement surface is exactly 50' x 94' and lacks the required run out safety zone which is typically between 8' and 10' wide and extends from the in-bounds line. The court is surrounded by a 6" high concrete curb and also lacks fence to keep the ball in play. The combination of the curb, no fence and lack of run out zone creates a safety hazards for users. Large court lighting was installed during previous improvements, but the lighting has been damaged and is not functioning. The court surface has some cracking, and is in relatively good condition. The court is heavily utilized for pick up and league games and there is a desire to keep a full sized, lighted basketball court surrounded by fence in the park.

Figure 4-20 Existing Basketball Court



Playground

An existing playground is located within what is believed to be the footprint of the original Castle east tower. The size and circular configuration of the play area limited the quantity and variety of existing play elements to one small jungle gym and a three bay swing set. The required safety zones further confine and limit the available use area of the playground. The granite curb around the play area has been undermined and is failing and the area is not ADA compliant. The safety surface is engineered wood fiber and has been maintained to provide the appropriate depth for the equipment fall heights with the exception of the to/fro areas under the swings which has been displaced over time and lack rubber mats that would provide the requisite fall attenuation. The condition of the play equipment is relatively good and could be considered for reuse.

The community would like to have a playground at the park, and to do so will require a completely new installation with fully accessible elements. In addition, the community suggested that the playground be located at a more visible location to help with security and create a feeling of safety.

Figure 4-21 Existing Playground & Condition



Handball Courts

The handball courts are located in the northwest corner of the park. The handball courts are configured to have walls intended to support two games simultaneously, however only one court can be used at a time due to the close proximity of the active zones and potential for collision and injury. The remote location of the handball courts combined with the tall walls provides an unobservable area for illicit activity when the courts are not in use. The current location and configuration of the handball courts is a major concern to the overall safety at the park. To this end, the community has decided to eliminate the handball courts at this facility.

Figure 4-22 Existing Handball Court



Tennis Court

The existing tennis court is located on the north side of the handball court wall and is surrounded on all sides by 10' high chain-link fence. The back side of the handball court wall serves as a "back board" for those individuals who want to practice their tennis swing or soccer kick. The community utilizes the tennis court for multiple purposes such as confined soccer, tennis, and children practicing riding their bikes. The community wishes to maintain a multi-purpose court within Castle Park that can easily be used for several athletic activities within the footprint of a tennis court area.

The benefit of the combined court surfaces is the availability of a large level area with existing supportive subsurface materials located in a park with limited level surfaces. Relocating the basketball or tennis court was a major topic of discussion throughout the public participation process and meetings.

Figure 4-23 Existing Tennis Court & Soccer Play Area



Miscellaneous Site Amenities

The west and a portion of the north property lines are defined by an existing 6' high chain link fence. The condition of the fence is fair with several holes, disconnected fabric and leaning poles along its length.

Wood posts and chain limits vehicle access from the Ely St. and Alden St. entrances to the park interior. A 10' separation between a section of the wood posts at the Alden St. entrance provides police vehicle access to the park.

Vehicle access along the remaining periphery of the park is limited by steep slopes, ledge outcroppings and thick vegetation. The interior of the park contains large ledge outcroppings that enhance the naturalized atmosphere at the park. People test their climbing skills on the vertical faces of the ledge however, this activity is not a sanctioned use promoted within the park.

Benches on concrete pads are located in various spots along the walkways and adjacent to activity areas.

Figure 4-24 Existing Site Amenities



5.0 SITE OPPORTUNITIES AND GOALS

To better understand issues and opportunities within and abutting Castle Park and in order to set master plan goals, BSC conducted its own site evaluation of the park and surrounding context. In addition, BSC facilitated discussion during the public meetings in order to understand neighborhood concerns and site constraints.

Although consensus is often difficult to achieve in a public setting, where community members have different perceptions and priorities, all were able to agree on the issues that need addressing at Castle Park. Major site issues and opportunities were summarized into the following categories:

- **Physical Features:** The steep topography and dense vegetation of this site makes it difficult to have strong connections to the abutting neighborhoods, and it is a challenge to see into the park from surrounding roads. Negative activity within of the site often goes unobserved except by the immediate abutters. Proposed improvements need to consider visibility and access through these sloped areas. (visibility issues, disconnect of park amenities, etc.)
- **Accessibility:** Site topography limits placement of accessible routes, the existing condition of surrounding sidewalks is poor and inaccessible, lack of defined accessible parking and accessible routes is to be addressed as a top priority. (walkway surfaces, curb ramps, van accessible parking)
- **Safety and security:** These issues need to be taken into consideration for all park improvements and the management of vegetation on the site in order to preserve sight lines. (lighting, cameras, site access, abutters' encroachment)
- **Maintenance is a key concern:** Proposed improvements need to be of design and materials to be easily maintained by parks maintenance staff. (vandalism, trash, limited Parks Division resources, retaining wall/walkway repairs)
- **Lack of unity or site identity:** Upper areas of the park need to be connected to lower and sloped areas through the use of consistent materials and signage. (no consistent signage or gateways into park)
- **Condition of Park elements:** Need to update facilities and equipment. All park elements are worn and need to be updated. (courts, pathways, equipment)
- **Diverse Demographic:** The park facilities should address the needs of the surrounding neighborhood's a mix of ages and cultures. (multi-generational and multi-cultural users)
- **Perception:** Negative activity has damaged the reputation of Castle Park and created a perception that Castle Park can be at times a dangerous and unpleasant environment. Security cameras, increased police presence, neighborhood crime watch, and more positive activity by local residents, leagues and adjacent businesses will combine to make Castle Park a great park to visit and play. (history of gang activities, drugs, and violence overshadow the Park's good qualities). In addition, vista clearing, dead tree removal and crown pruning will help improve sight lines into the park.

Once the major site constraints and topics of concern were identified, the discussion was ultimately transitioned into a discussion of the ways to resolve and work around these limitations, consequently resulting in a series of general Master Plan focus areas that include the following goals and objectives:

- Create a park identity through signage at both upper and lower levels, as well as adding unifying elements throughout the park, including signage, paving, benches, etc.
- Cluster and rearrange activities in a way to appropriately locate the active and passive recreational elements in the park so as to enhance the functionality and capacity of each element without hindering the experience of other park users or abutting residences.
- Provide flexibility in the design in order to accommodate various types of people and inevitable changes in park use.
- Rejuvenate and supplement existing site amenities.
- Develop an overall site security plan, incorporating both vehicular and pedestrian safety concerns.
- Design so as to retain a natural feel with little to no environmental impacts and minimal maintenance requirements.

In summary, the community and the Parks Division recognize the potential and value of one of the City's oldest parks and is confident that the implementation of the Master Plan and associated improvements will further create a desirable amenity within the City that can be used in many different and positive ways that enlighten, improve health and strengthen community ties.

6.0 COMMUNITY PARTICIPATION

In order to understand and assess the current condition of Castle Park, the demographic of park users, recreational needs of the community, and to discuss what the priorities of the Master Plan should be, the Parks Division and BSC Group conducted a series of five (5) public input meetings culminating in a presentation of a final Master Plan to the Worcester Parks and Recreation Commission. In addition, Main South Community Development Corporation (MSCDC) facilitated the Castle Park Task Force, a community action group dedicated to improving the quality of the Park and community at large.

Over a period of nine months, the project team met with representatives from the MSCDC, residential abutters, St. Mary representatives, and other interested parties. At the first public meeting, BSC and the Assistant Commissioner of Parks introduced the project goals, explained existing site conditions, opportunities/ constraints to attendees as well as providing an outline of the Master Planning process moving forward. (meeting notes and attendee lists are located in the Appendix for reference). After the initial introduction and presentation of existing conditions, we then solicited community input on issues and ideas for improvements and park enhancements. Based on the goals and the development program discussed during the community meeting and confirmed by City representatives, BSC generated two conceptual master plan alternatives indicating various options for combining the following preferred elements of a renovated Castle Park:

- One basketball court; 50' x 94' with run out zones, fencing and lighting
Revised: This item was revised June 25, 2015 by the Parks and Recreation Commission and _____ by City Council to add an additional 50'x84' basketball court
- Two regulation handball courts with run out zones, 16' high court wall, fencing and lighting
Revised: This item was revised and removed June 25, 2015 by the Parks and Recreation Commission and _____ by City Council.
- A 120' x 60' multi-use court with fencing and lighting
- Large playground with adjacent patio, benches and picnic tables
- A paved walking loop
- Exterior exercise equipment
- Pedestrian lighting along walkways
- Formalized and accessible parking spaces
- Pedestrian access from King St.
- Improvements to the existing wall, steps and frontage along Alden St.
- Provide access directly from St. Mary's to the park
- Maintain direct vehicle access from Ely St. to St Mary's parking lot
- Vehicle access from King St. to the new St. Mary's rear parking lot

- Refurbishment of lawn and vegetation areas, and addition of shrubs and ground cover plants that produce edible fruit
- Improved safety

The conceptual Master Plan alternatives were presented to the community at a second public meeting where BSC and Parks Division staff presented a summary of input received at the first meeting followed by a discussion with attendees about what they liked and disliked about the two alternative plans. Based on community feedback at this meeting, two additional master plan options were developed and presented at the third meeting. Further refinement of the Master Plan alternatives was necessary due to increased involvement from attendees that were not present at the previous two meetings. At a fourth meeting, BSC along with the Parks Division presented a preliminary master plan that combined the development program defined throughout the previous public input meetings. A fifth and final public forum was conducted in order to achieve neighborhood consensus on the preferred Master Plan for improvements to Castle Park.

Table 6-1 *Schedule of Public Meetings*

Date	Location	Meeting Objective
May 5, 2013	Main South CDC	Project Introduction
July 8 2013	Main South CDC	Present Conceptual Master Plan Alternatives
October 21, 2013	Main South CDC	Present Conceptual Master Plan Alternatives
November 25, 2013	Main South CDC	Present Preliminary Master Plan
February 10, 2014	Main South CDC	Present the Preferred Master Plan
March 20, 2014	50 Skyline Drive	Present Draft Master Plan to Parks and Recreation Commission
June 25, 2015	50 Skyline Drive	Revised Master Plan

This public input process was instrumental in setting the program of elements to be included in the redesign of the park and help set priorities for the phased construction of these improvements.

Figure 6-1 *Community Meeting*



7.0 MASTER PLAN SPECIFIC SITE IMPROVEMENTS

(Refer to the Master Plan and Site Plan Exhibits in the Appendix)

With the basic goals in mind and particular requests from the Parks Division and the community, a comprehensive Castle Park Master Plan has been developed which includes site improvements ranging from specific recreational components to general park-wide enhancements. The Master Plan proposes retaining the existing active and passive uses in the park, with general upgrades and additions to lighting, circulation, security, and seating. The Master Plan also proposes adding a couple of new elements, such as exercise equipment and a small parking area.

The various site improvements as identified, are intended to be a guide for future development and are subject to change as specific implementation plans are commenced. The Master Plan site improvements have been broken into eight different categories as described below.

7.1 Parking

The need for additional standard and accessible parking at Castle Park is satisfied by identifying separate parking areas at the three major entrance points to the park on Ely, Alden and King Streets. A minimum of 5 dedicated and an additional 13 potential parking spaces could be made available in areas as noted below.

Ely Street Entrance Parking:

New paved parking spaces are provided at the Ely Street entrance that will accommodate a total of four (4) standard and one (1) van accessible parking spaces. The van accessible parking space satisfies the requirements of ADA/MAAB. A curb ramp is placed at the curb line in front of the accessible entrance next to the van parking space and a set of removable bollards will be installed to prevent vehicles from entering the park. The Worcester Parks Division standard wood guardrail will be placed at the top of curb to deter vehicles from entering the park. Maintenance and police vehicles will access the park by removing the bollards when necessary.

Alden Street Parking:

Approximately three (3) parallel parking spaces will be identified along Alden Street. Regrading of the road edge to provide a level parking pad will be necessary to fit the width of a car and allow passage of cars along the roadway.

King Street:

King St. Terrace will be identified as a pedestrian access to Castle Park. King Street is a public way which will be within easy walking distance to the park once the King St. Terrace improvements have been completed. On-street parking is permitted within a public way and King Street is wide enough to have cars parked on both sides of the road and while allowing passage of cars along the roadway.

Approximately 10 parking spaces could be available for on-street parking along King St. Although this parking is factored into providing parking for the Park, it will not be specifically identified by signage on King St, basically, it will be a “first come, first serve” parking arrangement as is typical for urban streets.

7.2 Walkways

A short section of the sidewalk along Ely St. on either side of the St. Mary’s parking lot entrance will be improved to provide curb ramps connected to the walkway at the Park. Park elements will be connected by a new 8’ wide, paved walking loop that is relatively flat and is fully ADA/MAAB compliant. The loop is approximately 1/7th of a mile and a mile marker will note that seven times around the loop equals one mile.

The existing paved walkway from Alden St. becomes very steep as it approaches the top of the hill. This section of walkway will be relocated to reduce the steep grades and intersect the proposed walking loop at a right angle. A new wood guardrail will be installed on the downhill side of the entire length of the existing walkway to improve safety of pedestrians as they walk along this walkway.

A new 6’ wide paved walkway will be identified along King St. Terrace and a new stairway at the northwest corner of the park will provide access into the park from the west side neighborhood. The residents of the multi-family building on the north side of the new walkway currently use the existing paved driveway (former King St. Terrace) as access to a parking lot that is located off the driveway however, the abutting land owner does not own or have rights to access the parking lot over the easement. A potential conflict between pedestrians walking up the easement and vehicles backing out of the parking lot onto the pedestrian easement exists and should be addressed prior to opening the walkway to users of the park. This issue will be addressed by placement of signage to inform users of potential conflict.

The community wishes to recreate the old walkway between the existing stairway at Alden St. that had traversed the western slope and is shown on the Master Plan as “potential new walkway”. The final location, grading and surface material will be determined at the time of design. If this walkway is constructed it would add a more challenging secondary loop for fitness enthusiasts.

7.3 Playground

A top priority of the improvement program for Castle Park is the renovation of the children’s playground. The community voiced the need for a new and expanded playground, with a greater variety of equipment for various age groups and abilities. A location closer to the Ely Street entrance to the park was favored for access and visibility. The playground design will incorporate an “entry” plaza with benches and picnic tables which would create a welcoming gateway into the park as well as providing a comfortable space for adults to sit and gather while their children play. Specific playground design features will be determined as design plans for the playground are advanced.

The desire exists within the community to honor the history of the Park by incorporating an element of the old Castle into the playground. Many opportunities exist to accommodate this request and one example is shown on the Master Plan as a simulation of the parapet tower wall within the play area and outlining a section of the patio. As the design plans for the play area are advanced, consideration of a Castle themed play structure could be another way to incorporate the history of Castle Park into the overall park design.

Figure 7-1 Example-Castle-themed play structure



The size, theme and configuration of the play structure will be determined during the design phase. This image is included to show the possibility for themed play structures.

7.4 Exercise Stations

A unique feature of the Master Plan is the introduction of outdoor exercise equipment in Castle Park. The community expressed their intention to create a park that provides a variety of physical fitness opportunities to all types of people and abilities, from young to old, fit or not, the new Castle Park will encourage all visitors to “get fit”. Manufactured fitness equipment will provide a balance to the multitude of court sport activities in the park. The fitness equipment station will be located along the walking loop encouraging users to “do a loop, then push some metal, and repeat”!

Figure 7-2 Example- Exercise Stations



7.5 Multi-Use Court

One of the most heavily used courts in the park is the tennis court but it's not only used for tennis but also for contained soccer, riding bicycles and practicing against the back of the handball court wall among others. The community strongly supported the inclusion of a multi-use sport court in the renovation plans for Castle Park. The preferred location of the multi-use court along the southern edge of the lawn area was established after consideration of several alternative locations. The 60'x120' paved court will have pavement markings for tennis and contained soccer. Adjustable nets supports and soccer goals are proposed for easily changing the court use to another sport. The court will be enclosed by chainlink fence ranging in size from 10-16' with gates on both ends of the court connecting to the walkway. Sport lighting is also proposed for the multi-use court.

Figure 7-3 Example- Multi-Use Court



7.6 Basketball Court

The renovation of the existing basketball court requires the removal of the concrete curbing, expansion of the court surface to provide adequate run-out area and full depth reconstruction of the court surface. Understanding the extent to which the court is to be renovated provided the opportunity to consider alternative locations away from the main entrance. The community felt that an improved basketball court will increase the positive activity in the park due to more people using the basketball court thus more “eyes on the Park”.

The preferred location of the basketball court is along the western property line where the tennis and handball courts currently exist. In order to fit the width of the basketball court, it will be necessary to extend the level area toward the property line and install a retaining wall just inside the western property line and also a short haunch wall on the eastern side of the basketball court adjacent to the walkway. 10’ high chain link fence will surround the court with two access points, one accessible access from the southern entrance off the walking loop, and the second through an opening between the handball and basketball courts. Sports lighting will be installed and set on automatic timers controlled by the Parks Division.

A typical feature to be included at all the new courts is sports lighting. The lighting will integrate a safety light that turns on approximately 15 minutes prior to the sports lights shutting off, allowing visitors to safely navigate their way out of the park. The sports lighting will include shields to direct lighting toward the court surface and away from adjacent properties.

7.7 Handball Courts – *This section regarding Handball Courts removed June 25, 2015*

A very active handball community exists in Worcester and Central Mass., in general. The quantity of courts available for players is comparatively small relative to the large population of handball enthusiasts. Castle Park is currently home to two handball courts and it was made abundantly clear by the community that at least two handball courts of regulation size and adequate spacing, must be included in any improvement plan for Castle Park.

The location of the new courts was determined largely by the requirement to prevent negative use behind the tall court wall. Two new regulation sized courts are proposed sharing a single 16’ high concrete wall with sports netting on top of the wall to prevent balls from leaving the court. The preferred location of the handball wall is along the west property line and tucked into the northwest corner thereby eliminating access to the back of the wall. The courts are enclosed by a 10’ high chainlink fence with a lockable gate at the top of the stairs leading to King Street. Access to the courts occurs in two places, a stair way from the walking loop and an opening in the fence between the basketball and handball courts, which also provides the accessible route to the handball courts. The handball court wall may also be used for other uses such as a backboard for ball sports or as a movie screen during community events.

7.8 Miscellaneous Site Improvements

- Site Furniture: benches, bike racks, trash receptacles.
- Landscape: fruit producing vegetation, retain and protect existing mature trees. upgrade existing perennial garden (only if maintenance is donated).
- Hardscape: repair historic walls/steps, new retaining walls, sidewalk repair.
- Fence: ornamental fence, chain link fence, wood guardrail.
- Signage: Park sign, park rules, ADA signs, interpretive signage, off-site way finding signage.
- Safety: pedestrian lighting, sports lighting, security cameras, emergency call boxes.
- Utilities: Drainage, Water (*not* drinking fountain), and Electrical service improvements.
- Restroom facilities-temporary port-o-johns for specific events.

8.0 PHASING AND IMPLEMENTATION

From the beginning of the master planning process it was indicated and understood that all of the desired improvements would not be economically feasible in a single capital improvement project. The first phase to be implemented is based on available funding, addressing safety and regulatory requirements and construction logistics. The goal is to implement the most logical and immediately necessary improvements that would be acceptable to the neighborhood, and meet the currently available budget. Beyond Phase 1 it is difficult to determine phases for the remaining project improvements as they will be developed as a function of available funding.

9.0 PRELIMINARY COST ESTIMATE

General order of magnitude costs were developed for the elements shown in the draft Master Plan.

(Refer to Appendix F for cost estimate spreadsheets)

Note: total estimated cost based on March, 2014 construction costs.

★Soft costs are equal to approximately 20% of the total construction costs and typically include engineering, project management services, permitting, printing and advertising, construction contingencies, and other efforts associated with the implementation of a project.

Appendix C:

Site Plan Exhibit

SITE PLAN EXHIBIT

IN
WORCESTER, MASSACHUSETTS
 PROWSE COUNTY
CASTLE PARK MASTER PLAN
 MARCH 2014

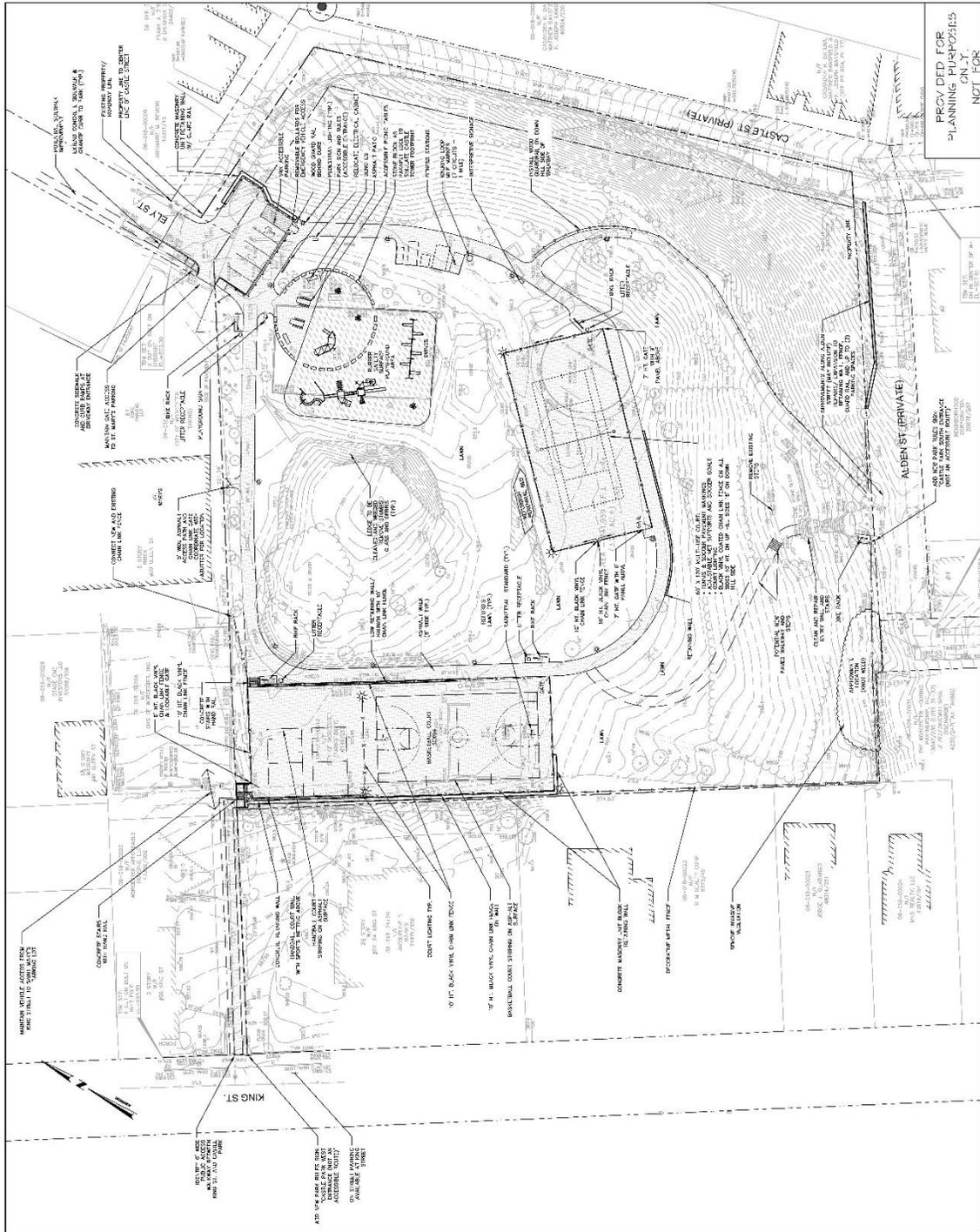
REV.	DATE	DESCRIPTION

Prepared by:
BSC GROUP
 20 Maple Street
 Worcester, Massachusetts 01602
 508-747-8800

City of Worcester Planning & Zoning
 50 South Park Drive
 Worcester, MA 01602

Scale: 1" = 20'-0"

Sheet: 3 of 3



PROVIDED FOR
 PLANNING PURPOSES
 NOT FOR
 CONSTRUCTION

C

DPW & Parks - Parks, Recreation and Cemetery Division Oread Castle Public Hearing Number One Main South Community Development Corporation, 875 Main St. Worcester MA 01610 Robert C. Antonelli Jr., Assistant Commissioner MAY 06, 2013 @ 6:30 PM				
	Name (PLEASE PRINT)	Address	Phone No.	E-Mail Address
1	Christopher Faucher	817 Main St. Worcester		
2	Mirella Blasco	4 Ely St Worcester		
3	Ao Fagan Blasco	9 Ely St		
4	Barbara Haller	34 Castle St 01610		
5	Maia Pilgrim	22 Castle St 01610		
6	Lizbeth Encarnacion-Rocha	7 Lucian St		
7	Janet Rivera	7 Lucian St 01603		
8	Stacie Brinsage	16B Castle St. 01610		
9	Ellen Banfield	2d Castle St 01610		
10	Casper Starr	16 castle street		
11	Frank J. Faucher	800 MA(4) ST		
12				
13				

DPW & Parks - Parks, Recreation and Cemetery Division Oread Castle Public Hearing Number Two Main South Community Development Corporation, 875 Main St. Worcester MA 01610 Robert C. Antonelli Jr., Assistant Commissioner July 8, 2013 @ 6:30 PM				
	Name (PLEASE PRINT)	Address	Phone No.	E-Mail Address
1	James Cuadrado	24 Douglas ST Worc. Ma		
2	Matt Landegun	791 Main street worc ma		
3	Therese Johnson	53 perry Ave worc, MA		
4	Troy Tyce 98-7922876	18 Castle St worc. MA 01610		
5	Christopher Faucher	817 Main St. Worc. Ma 01610		
6	Barbara Haller	34 Castle St Worc 01610		
7	Peggy Middaugh	16 Alden St.		
8	Casper Starr	16 Castle St / 875 Main St		
9	Janet Rivera	Worcester City Council		
10	Nancy O'Brien	22 Monterey Dr. Cherr Valley		
11	Floriano's Heide Bosung	27 Castle Street 01610 Worcester		
12	Kenya Dekar Rebelo	41 Ely street 01610 worcester		
13	Maia Pilgrim	22 Castle St. 01610 Worcester		
14				U
15				
16				
17				
18				
19				
20				

DPW & Parks - Parks, Recreation and Cemetery Division
Oread Castle Public Hearing Number 3
 Main South Community Development Corporation, 875 Main St. Worcester MA 01610
 Robert C. Antonelli Jr., Assistant Commissioner
 October 21, 2013 @6:30 PM



	Name (PLEASE PRINT)	Address	Phone No.	E-Mail Address
1	STEVEN MURPHY	22 CASTLE ST.		
2	Erin Morely	22 Castle St		
3	FRANK ZITOMERSKY	800 Main St		
4	KARISANO HYLLER	34 Castle St		
5	William Ortiz	22 Monterey Drive		
6	Nancy Ortiz	22 Monterey Drive		
7	Peggy Middaugh	16 Alden St		
8	William Belche	Box 75 Worcester MA 01614		
9	Jordanos Hadit Bosuwoje	22 Castle Street		
10	Cassy Starr	16 Castle / 875 Main St		
11				

DPW & Parks - Parks, Recreation and Cemetery Division
Oread Castle Public Hearing Number 4
 Main South Community Development Corporation, 875 Main St. Worcester MA 01610
 Robert C. Antonelli Jr., Assistant Commissioner
 November 25, 2013 @6:30 PM



	Name (PLEASE PRINT)	Address	Phone No.	E-Mail Address
1	JAMES GUARDADO	24 Douglas St		
2	Nancy & William Ortiz	22 Monterey Drive		
3	Cassy Starr	16 Castle St / 875 Main St		
4	Peggy Middaugh	16 Alden St.		
5	A Revicki	3 Fly St		
6	Jordanos Hadit Bosuwoje	22 Castle Str.		
7				

DPW & Parks - Parks, Recreation and Cemetery Division
Oread Castle Public Hearing Number 5
 Main South Community Development Corporation, 875 Main St. Worcester MA 01610
 Robert C. Antonelli Jr., Assistant Commissioner
 February 10-2014 @6:30 PM



	Name (PLEASE PRINT)	Address	Phone No.	E-Mail Address
1	FRANK ZITOMERSKY	34 CASTLE ST.		
2	Brandi Pilco	14 King St		
3	Claudia Guarango	14 King St		
4	Harig Carbonell	14 King St		
5	Shata Li	8th St		
6	Frederic Krolben	38 Birch St		
7	Moses Dixon	office of Rep. Keefe.		
8	Barbara Haller	34 Cuth St Worcester 01610		
9	Nancy & William Ortiz	22 Monterey Dr. Cherry Valley 01611		
10	Peggy Middaugh	16 Alden St 01610		
11	Cassy Starr	16 Castle Street #2		
12	Jacqueline Harfus	22 King Street Worcester MA 01610		
13				

E

DESIGNERS OPINION OF COST



33 Waldo Street
 Worcester, MA
 Ph: 617.896.4300 Fx:

Project: Worcester Parks
 Location: Castle Park-Master Plan
 Subject: Order of Magnitude costs

Calc.: CLB
 Checked: LDF
 Date: 3/24/2014
 Revised: _____

Item No.	Item Description	Quantity	UOM	Unit Cost	Subtotal
	Demolition				\$ 57,810.56
	Lighted Basketball Handball Court				\$ 260,427.00
	Playground				\$ 240,929.31
	Lighted Multiuse Court				\$ 165,294.08
	ADA Accessible Lighted Walkway				\$ 170,000.00
	Accessible Parking Ely St.				\$ 62,834.81
	Site Amenities				\$ 10,500.00
	Exercise Equipment & Signage				\$ 26,750.00
	Propertyline Fencing Guardrails				\$ 89,300.00
	Gates, Bikeracks				\$ 7,500.00
	Grading Retainingwalls & Landscape				\$ 143,650.68
	Not Associated with a specific Facility				\$ 181,000.00

	\$ 1,415,996.44
20% Soft costs	\$ 283,199.29
	\$ 1,699,195.73
	\$ 1,700,000.00



Detailed costs.

DESIGNERS OPINION OF COST



33 Waldo Street
Worcester, MA
Ph: 617.896.4300 Fx:

Project: Worcester Parks
Location: Castle Park-Master Plan
Subject: Order of Magnitude costs

Calc.: CLB
Checked: LDF
Date: 3/24/2014
Revised:

Item No.	Item Description	Quantity	UOM	Unit Cost	Subtotal
1	PREPARATION AND DEMOLITION				
	Misc. Demo	1	LS	\$ 8,000.00	\$ 8,000.00
	Remove stonedust paths	425	LF	\$ 10.00	\$ 4,250.00
	Fence removed-tennis-handball-basketball	710	LF	\$ 10.00	\$ 7,100.00
	Construction fence	880	LF	\$ 2.00	\$ 1,760.00
	Construction entry pad	5	SY	\$ 15.00	\$ 75.00
	Erosion control-wattle	900	LF	\$ 4.00	\$ 3,600.00
	Handball wall removed	75	EA	\$ 30.00	\$ 2,250.00
	Court pavement removal	1,580	SY	\$ 10.00	\$ 15,798.89
	Tree removal	7	EA	\$1,000	\$ 7,000.00
	Tree protection	330	LF	\$ 2.00	\$ 660.00
	Play area removal	267	SY	\$ 10.00	\$ 2,666.67
	Remove site furniture and conc pads	12	EA	\$200	\$ 2,400.00
	Ledge removal	10	CY	\$ 50.00	\$ 500.00
	Light pole removal	7	EA	\$ 250.00	\$ 1,750.00
2	DRAINAGE				
	Play area subdrain	450	LF	\$ 35.00	\$ 15,750.00
	Parking drainage- to bioswale	1	EA	\$ 5,000.00	\$ 5,000.00
	Grading & Earthwork	5,333	SY	\$ 1.65	\$ 8,800.00
	Misc. drainage improvements	3	EA	\$ 2,500.00	\$ 7,500.00
3	GENERAL IMPROVEMENTS				
	Gravel borrow	757	CY	\$ 35.00	\$ 26,506.67
	Gravel rehandled	263	CY	\$ 10.00	\$ 2,633.15
	16' high handball wall & net	61	LF	\$ 500.00	\$ 30,500.00
	Amend & rehandle topsoil	191	CY	\$ 20.00	\$ 3,818.52
	Screened Loam borrow	159	CY	\$ 40.00	\$ 6,367.90
	8' decorative metal fence-west prop line	370	LF	\$ 160.00	\$ 59,200.00
	6' vinyl chain link fence	200	LF	\$ 74.00	\$ 14,800.00
	6' vinyl chain link gate	5	EA	\$ 850.00	\$ 4,250.00
	10' Black vinyl court side fence	652	LF	\$ 120.00	\$ 78,240.00
	16' Black vinyl court side fence	172	LF	\$ 200.00	\$ 34,400.00
	bike rack & pad	5	EA	\$ 650.00	\$ 3,250.00

Continued.

F



	Site furniture	7	EA	\$ 1,500.00	\$ 10,500.00
	Accessible curb ramp	2	EA	\$ 560.00	\$ 1,120.00
	Asphalt walkways & patio	1,316	SY	\$ 55.00	\$ 72,361.67
	Asphalt parking and roadway	235	SY	\$ 55.00	\$ 12,925.00
	Alden St. Asphalt parking and roadway	89	SY	\$ 55.00	\$ 4,888.89
	Court surface pavement marking	650	LF	\$ 0.50	\$ 325.00
	Parking area pavement marking	300	LF	\$ 0.50	\$ 150.00
	Asphalt Court Surface	2,109	SY	\$ 35.00	\$ 73,811.11
	Acrylic Court Painting	2,109	SY	\$ 27.00	\$ 56,943.00
	Basketball Standard	2	EA	\$ 4,000.00	\$ 8,000.00
	play areas; conc edging	325	LF	\$ 25.00	\$ 8,125.00
	Safety surface rubber	884	SY	\$ 90.00	\$ 79,600.00
	swings, play structure, net climber	1	LS	\$ 80,000.00	\$ 80,000.00
	Exercise equipment	1	LS	\$ 20,000.00	\$ 20,000.00
	Reset granite curb as feature	30	EA	\$ 100.00	\$ 3,000.00
	Restore perennial garden & understory plnts	10	SY	\$ 40.00	\$ 400.00
	Canopy Tree	5	EA	\$ 850.00	\$ 4,250.00
	Pedestrian lighting w/bases	14	EA	\$ 5,000.00	\$ 70,000.00
	Sports lighting	7	EA	\$ 25,000.00	\$ 175,000.00
	Electrical service improvements	1	LS	\$ 100,000.00	\$ 100,000.00
	Concrete stair tread	70	LF	\$ 60.00	\$ 4,200.00
	Steel ada railings	52	LF	\$ 150.00	\$ 7,800.00
	Meadow seed establishment	2,550	SY	\$ 3.00	\$ 7,650.00
	Lawn seed establishment	2,866	SY	\$ 2.00	\$ 5,731.11
	Wood guardrail	340	LF	\$ 45.00	\$ 15,300.00
	Parking lot retaining wall -3' high	65	LF	\$ 300.00	\$ 19,500.00
	Walkway retaining wall -3' high	100	LF	\$ 300.00	\$ 30,000.00
	Court retaining wall -3' high	210	LF	\$ 300.00	\$ 63,000.00
	Alden St. retaining wall -3' high	180	LF	\$ 300.00	\$ 54,000.00
	Refurbish Alden St. entrance & stone wall	1	LS	\$ 20,000.00	\$ 20,000.00
	Park signs & off -site wayfinding signs	5	EA	\$ 750.00	\$ 3,750.00
	WSecurity cameras	4	EA	\$ 5,000.00	\$ 20,000.00
	Interpretive signage	1	SY	\$ 3,000.00	\$ 3,000.00
4	MOBILIZATION AND DEMOBILIZATION				
	Mobilization 3%		LUMP	5%	\$ 22,140.42
	phased design, bid and construction-3 years				

	\$ 1,416,297.99
20% Soft costs	\$ 283,259.60
	\$ 1,699,557.59
	\$ 1,700,000.00

F

Costs grouped by areas.

DESIGNERS OPINION OF COST



33 Waldo Street
Worcester, MA
Ph: 617.896.4300 Fx:

Project: Worcester Parks
Location: Castle Park-Master Plan
Subject: Order of Magnitude costs

Calc.: CLB
Checked: LDf
Date: 3/24/2014
Revised: _____

Playground

Item No.	Item Description	Quantity	UOM	Unit Cost	Subtotal
1	PREPARATION AND DEMOLITION				
	Misc. Demo	1	LS	\$ 3,000.00	\$ 3,000.00
	Fence removed-basketball	300	LF	\$ 10.00	\$ 3,000.00
	Court pavement removal	533	SY	\$ 10.00	\$ 5,333.33
	tree removal	2	EA	\$1,000	\$ 2,000.00
	Tree protection	150	LF	\$ 2.00	\$ 300.00
	remove site furniture and conc pads	3	EA	\$200	\$ 600.00
	light pole removal	4	EA	\$ 250.00	\$ 1,000.00
2	DRAINAGE				
	play area subdrain	450	LF	\$ 35.00	\$ 15,750.00
	Grading & Earthwork	1,111	SY	\$ 1.65	\$ 1,833.33
3	GENERAL IMPROVEMENTS				
	Gravel borrow	147	CY	\$ 35.00	\$ 5,159.26
	Gravel rehandled	89	CY	\$ 10.00	\$ 888.89
	site furniture	2	EA	\$ 1,500.00	\$ 3,000.00
	Asphalt walkways & patio	137	SY	\$ 55.00	\$ 7,547.22
	Asphalt parking and roadway	235	SY	\$ 55.00	\$ 12,925.00
	play areas; conc edging	325	LF	\$ 25.00	\$ 8,125.00
	Safety surface rubber	884	SY	\$ 90.00	\$ 79,600.00
	swings, play structure, net climber	1	LS	\$ 100,000.00	\$ 100,000.00
	Reset granite curb as feature	30	EA	\$ 100.00	\$ 3,000.00
	Canopy Tree	5	EA	\$ 850.00	\$ 4,250.00
4	MOBILIZATION AND DEMOBILIZATION				
	Mobilization 3%		LUMP	5%	\$ 2,470.60

	\$ 259,782.64
20% Soft costs	\$ 51,956.53
	\$ 311,739.17
	\$ 312,000.00

F



DESIGNERS OPINION OF COST



33 Waldo Street
Worcester, MA
Ph: 617.896.4300 Fx:

Project: Worcester Parks
Location: Castle Park-Master Plan
Subject: Order of Magnitude costs

Calc.: CLB
Checked: LDF
Date: 3/24/2014
Revised: _____

Handball Court

Item No.	Item Description	Quantity	UOM	Unit Cost	Subtotal
1	PREPARATION AND DEMOLITION				
	Misc. Demo	1	LS	\$ 2,000.00	\$ 2,000.00
	Court pavement removal	484	SY	\$ 10.00	\$ 4,838.89
2	DRAINAGE				
	Grading & Earthwork	484	SY	\$ 1.65	\$ 798.42
	misc. drainage improvements	1	EA	\$ 2,500.00	\$ 2,500.00
3	GENERAL IMPROVEMENTS				
	Gravel borrow	81	CY	\$ 35.00	\$ 2,822.69
	Gravel rehandled	81	CY	\$ 10.00	\$ 806.48
	16' high handball wall with net	61	LF	\$ 500.00	\$ 30,500.00
	Court surface pavement marking	50	LF	\$ 0.50	\$ 25.00
	Asphalt Court Surface	484	SY	\$ 35.00	\$ 16,936.11
	Acrylic Court Painting	484	SY	\$ 27.00	\$ 13,065.00
	sports lighting	2	EA	\$ 25,000.00	\$ 50,000.00
	Electrical service improvements	1	LS	\$ 100,000.00	\$ 100,000.00
	Concrete stair tread	70	LF	\$ 60.00	\$ 4,200.00
	Steel ada railings	52	LF	\$ 150.00	\$ 7,800.00
4	MOBILIZATION AND DEMOBILIZATION				
	Mobilization 3%		LUMP	5%	\$ 2,213.32

	\$ 238,505.91
20% Soft costs	\$ 47,701.18
	\$ 286,207.09
	\$ 287,000.00

F



DESIGNERS OPINION OF COST



33 Waldo Street
Worcester, MA
Ph: 617.896.4300 Fx:

Project: Worcester Parks
Location: Castle Park-Master Plan
Subject: Order of Magnitude costs

Calc.: CLB
Checked: LDF
Date: 3/24/2014
Revised: _____

Tennis/ Multiuse Court

Item No.	Item Description	Quantity	UOM	Unit Cost	Subtotal
1	PREPARATION AND DEMOLITION				
	Misc. Demo	1	LS	\$ 2,000.00	\$ 2,000.00
	remove stonedust paths	425	LF	\$ 10.00	\$ 4,250.00
	play area removal	267	SY	\$ 10.00	\$ 2,666.67
	remove site furniture and cone pads	8	EA	\$200	\$ 1,600.00
	ledge removal	10	CY	\$ 50.00	\$ 500.00
2	DRAINAGE				
	Grading & Earthwork	803	SY	\$ 1.65	\$ 1,325.50
	misc. drainage improvements	1	EA	\$ 2,500.00	\$ 2,500.00
3	GENERAL IMPROVEMENTS				
	Gravel borrow	134	CY	\$ 35.00	\$ 4,686.11
	Gravel rehandled	44	CY	\$ 10.00	\$ 444.44
	10' Black vinyl court side fence	172	LF	\$ 120.00	\$ 20,640.00
	16' Black vinyl court side fence	172	LF	\$ 200.00	\$ 34,400.00
	Court surface pavement marking	300	LF	\$ 0.50	\$ 150.00
	Asphalt Court Surface	803	SY	\$ 35.00	\$ 28,116.67
	Acrylic Court Painting	803	SY	\$ 27.00	\$ 21,690.00
	Sports lighting	2	EA	\$ 25,000.00	\$ 50,000.00
4	MOBILIZATION AND DEMOBILIZATION				
	Mobilization 3%		LUMP	5%	\$ 3,750.64

	\$ 178,720.03
20% Soft costs	\$ 35,744.01
	\$ 214,464.03
	\$ 215,000.00

F



DESIGNERS OPINION OF COST



33 Waldo Street
Worcester, MA
Ph: 617.896.4300 Fx:

Project: Worcester Parks
Location: Castle Park-Master Plan
Subject: Order of Magnitude costs

Calc.: CLB
Checked: LDF
Date: 3/24/2014
Revised: _____

Basketball Court

Item No.	Item Description	Quantity	UOM	Unit Cost	Subtotal
1	PREPARATION AND DEMOLITION				
	Misc. Demo	1	LS	\$ 2,000.00	\$ 2,000.00
	Fence removed	450	LF	\$ 10.00	\$ 4,500.00
	handball wall removed	75	EA	\$ 30.00	\$ 2,250.00
	Court pavement removal	1,580	SY	\$ 10.00	\$ 15,798.89
2	DRAINAGE				
	Grading & Earthwork	1,309	SY	\$ 1.65	\$ 2,159.85
	misc. drainage improvements	1	EA	\$ 2,500.00	\$ 2,500.00
3	GENERAL IMPROVEMENTS				
	Gravel borrow	133	CY	\$ 35.00	\$ 4,666.67
	Gravel rehandled	263	CY	\$ 10.00	\$ 2,633.15
	10' Black vinyl court side fence	652	LF	\$ 120.00	\$ 78,240.00
	Court surface pavement marking	300	LF	\$ 0.50	\$ 150.00
	Asphalt Court Surface	800	SY	\$ 35.00	\$ 28,000.00
	Acrylic Court Painting	800	SY	\$ 27.00	\$ 21,600.00
	Basketball Standard	2	EA	\$ 4,000.00	\$ 8,000.00
	sports lighting	2	EA	\$ 25,000.00	\$ 50,000.00
	Court retaining wall -3' high	210	LF	\$ 300.00	\$ 63,000.00
4	MOBILIZATION AND DEMOBILIZATION				
	Mobilization 3%		LUMP	5%	\$ 5,737.43

	\$ 291,235.98
20% Soft costs	\$ 58,247.20
	\$ 349,483.18
	\$ 350,000.00

F



DESIGNERS OPINION OF COST



33 Waldo Street
Worcester, MA
Ph: 617.896.4300 Fx:

Project: Worcester Parks
Location: Castle Park-Master Plan
Subject: Order of Magnitude costs

Calc.: CLB
Checked: LDF
Date: 3/24/2014
Revised: _____

General Park and Access Improvements

Item No.	Item Description	Quantity	UOM	Unit Cost	Subtotal
1	PREPARATION AND DEMOLITION				
	Misc. Demo	1	LS	\$ 2,000.00	\$ 2,000.00
	remove stonedust paths	425	LF	\$ 10.00	\$ 4,250.00
	Construction fence	880	LF	\$ 2.00	\$ 1,760.00
	Construction entry pad	5	SY	\$ 15.00	\$ 75.00
	erosion control-wattle	900	LF	\$ 4.00	\$ 3,600.00
	tree removal	5	EA	\$1,000	\$ 5,000.00
	Tree protection	180	LF	\$ 2.00	\$ 360.00
	light pole removal	3	EA	\$ 250.00	\$ 750.00
2	DRAINAGE				
	Grading & Earthwork	1,626	SY	\$ 1.65	\$ 2,682.90
3	GENERAL IMPROVEMENTS				
	Gravel borrow	236	CY	\$ 35.00	\$ 8,245.09
	Amend & rehandle topsoil	191	CY	\$ 20.00	\$ 3,818.52
	Screened Loam borrow	159	CY	\$ 40.00	\$ 6,367.90
	8' decorative metal fence-west prop line	370	LF	\$ 160.00	\$ 59,200.00
	6' vinyl chain link fence	200	LF	\$ 74.00	\$ 14,800.00
	6' vinyl chain link gate	5	EA	\$ 850.00	\$ 4,250.00
	bike rack & pad	5	EA	\$ 650.00	\$ 3,250.00
	site furniture	5	EA	\$ 1,500.00	\$ 7,500.00
	Accessible curb ramp	2	EA	\$ 560.00	\$ 1,120.00
	Asphalt walkways & patio	1,178	SY	\$ 55.00	\$ 64,814.44
	Asphalt parking and roadway	235	SY	\$ 55.00	\$ 12,925.00
	Alden St. Asphalt parking and roadway	89	SY	\$ 55.00	\$ 4,888.89
	restore perennial garden & understory plnts	10	SY	\$ 40.00	\$ 400.00
	Canopy Tree	5	EA	\$ 850.00	\$ 4,250.00
	pedestrian lighting w/bases	14	EA	\$ 5,000.00	\$ 70,000.00
	Electrical service improvements	1	LS	\$ 100,000.00	\$ 100,000.00
	Meadow seed establishment	2,550	SY	\$ 3.00	\$ 7,650.00
	Lawn seed establishment	2,866	SY	\$ 2.00	\$ 5,731.11
	wood guardrail	340	LF	\$ 45.00	\$ 15,300.00

Continued.



	parking lot retaining wall -3' high	65	LF	\$ 300.00	\$ 19,500.00
	Walkway retaining wall -3' high	100	LF	\$ 300.00	\$ 30,000.00
	Alden St. retaining wall -3' high	180	LF	\$ 300.00	\$ 54,000.00
	refurbish Alden St. entrance & stone wall	1	LS	\$ 20,000.00	\$ 20,000.00
	park signs & off -site wayfinding signs	5	EA	\$ 750.00	\$ 3,750.00
	security cameras	4	EA	\$ 5,000.00	\$ 20,000.00
	interpretive signage	1	SY	\$ 3,000.00	\$ 3,000.00
4	MOBILIZATION AND DEMOBILIZATION				
	Mobilization 3%		LUMP	5%	\$ 9,692.19

	<u>\$ 574,931.05</u>
20% Soft costs	<u>\$ 114,986.21</u>
	\$ 689,917.26
	\$ 690,000.00

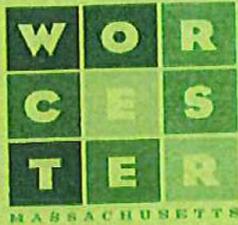
F

ADDENDUM #1 – JUNE 25, 2015



Appendix D-1: Grading Exhibit– Revised June 25, 2015





City of Worcester DPW and Parks

Parks, Recreation and Cemetery Division

Date: June 25, 2015

Time: Approx. 7:00PM

Place: Parks and Recreation Commission Meeting***

50 Skyline Drive, Worcester, MA 01605, Meeting Room A

*** This is scheduled for discussion as the second item on the meeting agenda.

Castle Park Proposal to Revise the Master Plan

Topics to include:

The presentation of a proposal by DPW and Parks, for revisions to the current Master Plan. This presentation will be followed by an open public discussion/question and comment period to allow the Parks and Recreation Commission to better understand and ascertain the impact to the neighbors, citizens and organizations that currently use the facility.

Invitation

All are Invited and Encouraged to Attend.

Phone: (508) 799-1190
Fax: (508) 799-1293
E-Mail: parks@worcestermma.gov

Call (508) 799-1294 in the event of severe weather, for up-to-date meeting status.

The City of Worcester does not discriminate on the basis of disability. The Parks, Recreation and Cemetery Division will provide auxiliary aids and services, written materials in alternative formats, and reasonable modifications in policies and procedures to persons with disabilities upon advance request. Please contact the Parks Division at parks@worcestermma.gov or phone (508) 799-1190 or the City ADA Coordinator at disabilities@worcestermma.gov.

CITY OF WORCESTER

DEPARTMENT OF PUBLIC WORKS AND PARKS

Parks, Recreation and Cemetery Division 50 Skyline Drive Worcester, MA 01605-2898

Paul J. Moosey, P.E.
Commissioner



Robert C. Antonelli, Jr., CPRP
Assistant Commissioner

(508) 799-1190
(508) 799-1293 FAX

Edward M. Augustus, Jr., City Manager

Parks & Recreation Commission

Thursday, June 25th 2015

Sign-in Sheet

(PRINT ONLY)

<u>Name</u>	<u>Address</u>	<u>Item of Interest</u>
1. <i>Suey DiBora</i>	<i>1173 West Boylston St. Worcester MA</i>	<i>Festival</i>
2. <i>Aurika De Souza</i>	<i>6 Brussels St Worcester, MA</i>	<i>Festival</i>
3. <i>Arvind Venkatesan</i>	<i>172 Coburn Ave Worcester, MA</i>	<i>Worcester Cricket Cl</i>
4. <i>Gopinath Madhavan</i>	<i>100 Research Drive Worcester</i>	
5. <i>Randell B. Orma</i>	<i>11 Lake Ave. Worcester, MA 01604</i>	
6. <i>Hung Nguyen</i>	<i>455 Main St</i>	<i>WW II Memorial</i>
7.		
8. <i>Stewart</i>		<i>Coopond</i>
9. <i>Osun Starr</i>	<i>22 Castle #22</i>	<i>Castle Park</i>
10. <i>Keegan Middaugh</i>	<i>16 Alder St</i>	<i>Castle Park</i>
11. <i>Peter Harrobian</i>	<i>676 Pleasant St 02</i>	<i>Newton Hill</i>
12. <i>Philip Bolduc</i>	<i>2 Chalmers Rd.</i>	<i>Newton Hill</i>
13. <i>Rick Miller</i>	<i>23 GERMAN ST</i>	<i>FNH</i>
14. <i>Bill BERNHARD</i>	<i>54 MORNING SIDE</i>	<i>FNH</i>
15.		
16.		
17.		
18.		
19.		
20.		

"Serving Our Community"

"Pride In Our Parks"

DESIGNERS OPINION OF COST

Revision June 25, 2015

PHASE I (DOUBLE COURT OPTION)



33 Waldo Street
Worcester, MA
Ph: 617.896.4300 Fx:

Project: Worcester Parks
Location: Castle Park-Master Plan
Subject: Order of Magnitude costs

Calc.: CLB
Checked: LDF
Date: 3/2/2015
Revised: 6/25/2015

Item No.	Item Description	Quantity	UOM	Unit Cost	Subtotal	Notes
1	PREPARATION AND DEMOLITION					
	Misc. Demo	1	LS	\$ 4,000.00	\$ 4,000.00	
	Fence removed-tennis-handball-basketball	485	LF	\$ 10.00	\$ 4,850.00	
	Construction fence	880	LF	\$ 2.00	\$ 1,760.00	
	Construction entry pad	5	SY	\$ 15.00	\$ 75.00	
	Erosion control-wattle	900	LF	\$ 4.00	\$ 3,600.00	
	Handball wall removed-conc block	1,700	SF	\$ 3.50	\$ 5,950.00	
	Low granite block wall removed-stacked	200	SF	\$ 15.00	\$ 3,000.00	
	Court pavement removal	1,058	SY	\$ 10.00	\$ 10,578.89	
	Ledge removal	80	CY	\$ 75.00	\$ 6,000.00	
	Tree removal	14	EA	\$ 850.00	\$ 11,900.00	
	Tree clearing - dead trees	12	LS	\$ 850.00	\$ 10,200.00	
	Tree pruning - for vistas	1	LS	\$ 8,000.00	\$ 8,000.00	
	Tree protection	330	LF	\$ 2.00	\$ 660.00	
	Light pole removal	7	EA	\$ 250.00	\$ 1,750.00	
2	DRAINAGE					
	Grading & Earthwork	2,889	SY	\$ 1.75	\$ 5,055.56	
	Stormdrain piping	220	LF	\$ 41.00	\$ 9,020.00	
	Drainage structures	2	EA	\$ 2,500.00	\$ 5,000.00	
3	GENERAL IMPROVEMENTS					
	Ordinary borrow	241	CY	\$ 20.00	\$ 4,828.89	
	Gravel borrow	361	CY	\$ 35.00	\$ 12,623.98	
	Gravel rehandled	33	CY	\$ 10.00	\$ 333.33	
	Loam and seed disturbed areas	1	LS	\$ 5,000.00	\$ 5,000.00	
	6' vinyl chain link gate	3	EA	\$ 850.00	\$ 2,550.00	
	6' vinyl chain link	40	LF	\$ 95.00	\$ 3,800.00	
	10' Black vinyl court side fence	610	LF	\$ 120.00	\$ 73,200.00	
	bike rack & pad	3	EA	\$ 650.00	\$ 1,950.00	
	Site furniture	2	EA	\$ 1,500.00	\$ 3,000.00	
	Asphalt walkways	643	SY	\$ 55.00	\$ 35,365.00	
	Court surface pavement marking	650	LF	\$ 1.00	\$ 650.00	
	Asphalt Court Surface	1,521	SY	\$ 35.00	\$ 53,238.89	
	Acrylic Court Painting	1,521	SY	\$ 27.00	\$ 41,070.00	
	Basketball Standard	4	EA	\$ 4,000.00	\$ 16,000.00	
	Pedestrian lighting w/bases	11	EA	\$ 5,000.00	\$ 55,000.00	
	Sports lighting	4	EA	\$ 25,000.00	\$ 100,000.00	
	Electrical service improvements	1.0	LS	\$ 100,000.00	\$ 100,000.00	
	Communication Conduits	1,100.0	LF	\$ 21.00	\$ 23,100.00	
	Concrete stair tread w/hand rail	70	LF	\$ 120.00	\$ 8,400.00	
	Walkway retaining wall -3' high	100	LF	\$ 300.00	\$ 30,000.00	
	Court retaining wall -3' high (5' MAX)	250	LF	\$ 300.00	\$ 75,000.00	
	Park signs	2	EA	\$ 750.00	\$ 1,500.00	
4	MOBILIZATION AND DEMOBILIZATION					
	Mobilization 5%		LUMP	5%	\$ 36,900.48	
					\$ 774,910.01	
				20% Contingency	\$ 154,982.00	
				Soft costs	\$ 99,300.00	
					\$ 1,029,192.02	
				Say	\$ 1,030,000.00	



Master Plan Approved by

**Worcester Parks and
Recreation Commission**

March 20, 2014

Revised and approved June 25, 2015

Master Plan Approved by

**Worcester
City Council**

July 22, 2014

Revised and approved-February 23, 2016

G