



General Park Design Goals

The Park Department ensures quality parks by basing designs on the following goals:

Aesthetics: Parks should project a positive image and establish a permanent character for the community and City. Park designs should provide a sense of arrival with reference points to promote circulation. They should provide places for groups and individuals for both formal and impromptu events. They should indicate nature through seasonal changes and provide something unique, obvious, complex and simple. They should provide human and monumental scale and should be visible from a distance. Overall, a sense of place and community should be created through the design of each Park.

Function: Parks should be designed for all community members to use and enjoy the facilities. Parks must also be functionally designed for the people who maintain the facilities. The most current products and industry standards should be applied to the park's design.

Economics: Parks should be designed to provide for economical means of maintaining the park.

Civic Space - Playground

General Requirements

➤ Playground Equipment

Playgrounds shall be designed to offer the greatest “play value” possible within the neighborhood context and physical restrictions of the site. The play experience should challenge the users by addressing their physical, social and mental development while providing entertainment. The play environment shall be safe, durable, and vandal resistant and require minimal maintenance. Playground design and equipment shall meet the current requirements of Americans with Disabilities Act (ADA); Consumer Product Safety Commission (CPSC) and American Society for Testing and Materials (ASTM) including fall zone and equipment clearances.

1. Play Area Layout: Drinking fountains shall not be located adjacent to play areas but in close proximity. Trees are not allowed to overhang safety zones of play equipment.

2. Disabled Access: Maximize ground-level play components and to provide resilient accessible surfacing to a minimum of 50% of the play equipment.

3. Seating: Provide seating close enough to play areas for adults to supervise children. Seating shall be designed to meet ADA requirements and be located in an area to take advantage of provided shade opportunities.

Play Area Drainage and Construction:

1. Subgrade: The play area subgrade shall be sloped to a subsurface drainage system (1.5% minimum) for all play area surfaces. Concrete sub-base for poured in place rubber surfacing shall slope at 1% minimum towards drain inlet. Subgrade for concrete sub-base shall be compacted to 95% minimum.

2. Subsurface Drainage Systems: A subsurface drainage system shall be provided for all play surfaces. This system shall be designed for positive flow for the play area square footage.

Play Area Surfacing Materials:

Acceptable surfacing material includes engineered wood fiber, loose rubber fill or rubberized paving to a depth of 12". If both engineered wood products or loose rubber fill are used in the same play area, then they shall be separated from each other by a minimum of 10' of paving or rubberized surfacing.

1. Engineered Wood Fiber: Shall be an energy absorbing protective surfacing manufactured for playground installations. It shall be non-toxic, free of bark and organic materials, independently tested by American Society for Testing and Materials (ASTM) Standard F1292, with sufficient fines to comply with ADA requirements, while maintaining Head Impact Criteria (HIC). Engineered wood fiber shall only be used with a filter fabric and drain system. Depth shall be 12" minimum, and shall be of a thickness sufficient to attenuate falls per ASTM F1292.

2. Loose Rubber Fill: Shall meet the requirements of CPSC and ASTM for play areas. Color shall be brown or tan. Rubber shall be clean, with no fiber or steel radial remnants. Depth shall be of a thickness sufficient to attenuate falls per ASTM F1292.

3. Poured in Place Surfacing: Poured in place surfacing shall meet the requirements of CPSC and ASTM for play areas. All poured in place surfacing shall be installed 2 ½" thick including 6" compacted stone base or per manufactures specifications.

4. Equipment Installation: All play equipment shall be installed in accordance with the manufacturer's specifications. The installer is responsible for installing all equipment and restoring all areas damaged during installation. All playground equipment installers must be factory certified for the equipment they are installing. The factory certification of the installer must be presented with each proposal. The Construction Documents shall specify that the play equipment shall be installed as late in the construction process as possible.

➤ Drinking Fountain

Each playground shall have at least one drinking fountain which meets ADA requirements. Drinking fountains shall be pedestal ground mounted and provide a pet fountain option. A secure hose bib hookup shall be provided. This drinking fountain should be located near activity but not adjacent area with sand surface.

➤ Bike Rack

Shall be located on concrete paving and outside the major circulation routes.

➤ Benches

Shall be placed on a concrete pad when located in lawn areas and designed and located to discourage skateboard activity. Some of the park benches should provide an area for companion seating.

➤ Picnic Tables

Shall be placed in open areas for picnicking purposes at a rate of 1 per acre. Where there is a gazebo or open air shelter shall be placed as needed (4 per gazebo or shade structure).

➤ Trees

Planted in lawn areas shall be spaced to permit the most effective use of mechanized maintenance equipment. There shall be 12 horizontal feet between trees and other vertical objects in the park. For all trees installed in lawn areas provide a non-lawn area (mulch ring), at least 2' radius from the baseline of each small tree trunk and out the drip line for larger trees to the edge of the lawn area. The 2' non-lawn radius mulch ring around the tree trunk shall have a 2" to 4" layer of mulch to prevent weed growth. There shall be no mulch on root crown of tree. Mulching material shall be pulled back no less than 2" and no more than 4" from the trunk.

Dense tree groves should be excluded from lawn areas, or provide a continuous surface of bark mulch under the grove that extends out to the drip line of the collective grove.

Planted in lawn areas shall be spaced to permit the most effective use of mechanized maintenance equipment. There shall be 12 horizontal feet, at maturity, between trees and other vertical objects in the park. For all trees installed in lawn areas provide a non-lawn area, 2' radius from the baseline of each tree trunk to the edge of the lawn area. The 2' non-lawn radius around the tree trunk shall have a 2" layer of mulch to prevent weed growth. There shall be no mulch on crown of tree. Dense tree groves should be excluded from lawn areas.

➤ Associated Landscaping

Planting Design: Shall be appropriate for the site, soils, moisture, and climate conditions and shall aesthetically enhance the park site and the park user's experience.

Plant Spacing and Locations: All planting shall be located to permit the proper operation of mechanized maintenance equipment. Plant locations and spacing shall permit normal plant development without undue crowding or trimming. Shrubs and groundcover should be spaced at one half of their mature diameter from all walkways.

➤ Gazebo or Shade Structure

Gazebos shall be pre-engineered – pre-fabricated hexagon or octagonal with cupola, handrails, and overhead ornamentation. Gazebo shall be placed near a walking trail with paved access from this path to the gazebo pad. Color shall relate and fit with the colors within the area of its placement.

➤ Decorative Fencing

Used to maintain views or to be consistent with the project's design theme.

➤ Trails

Paving and Walkway Designs: Walkways are provided in all parks for functional and aesthetic purposes. Functionally, walkways should provide a connection to different parts of the park and lead to special landmarks and/or shade structures and where practical benches. Walkways that provide a loop system are preferred. At park perimeter(s) and parking lots, walkways should be located to provide a logical, convenient, and aesthetic means of accessing the park. Walkways should be accessible to all users and in some areas they must be designed for emergency and maintenance vehicles. Aesthetically, walkways should be designed for the user to enjoy on and off-site views and the different amenities of the park.

Detailed Specifications

➤ Playground Equipment

Design / Play Equipment 5-12 year olds - The equipment will be designed for children 5 - 12 years of age and should include swings, and composite play structure. The combination of play equipment should include active upper body strength, eye hand coordination, balancing opportunities, social and intellectual events, fantasy and imaginative play. Please see enclosed for detailed specifications. Maximum deck height of play structure will be 72" (6 feet) above grade. Maximum height for swing structure will be eight (8) feet above grade.

Details

Posts – shall be 4 1/2 "diameter steel posts with 55,000 psi tensile strength and 50,000 psi yield strength. Caps for the posts shall be factory installed aluminum and shall be factory painted to match the post color.

Clamps – shall be made from cast aluminum, shall be 2" wide with a minimum wall thickness of 3/8". Clamp hinging shall be provided by a 5/16" x 2" plated, solid steel pin seated in a precision drilled hole: hollow. Cold-rolled hinge pins shall be excluded. Fasteners, seated and recessed below flush surface in a cast-in hex nut pocket, shall provide clamp fastening.

Hardware – shall be vandal resistant and stainless steel

Platforms – shall be fabricated from a minimum of 12 gauge hot rolled sheet steel which shall be

punched, formed and reinforced with welded in place 12 gauge hot rolled steel strips. Mounting plates shall be fabricated from 7-gauge hot rolled sheet steel and welded to assemblies as required. Platform shall be dipped in a poly-vinyl chloride bath with topside drain holes of .25" nominal diameter after curing. 25" micro-punched holes for safety.

Steps – shall be fabricated from a minimum of 12 gauge hot rolled sheet steel which shall be punched, formed with welded in place 12 gauged hot rolled steel slides. Mounting plates shall be fabricated from 7-gauge hot rolled sheet steel and welded to assemblies as required. Steps shall be dipped in a poly-vinyl chloride bath with topside drain holes of .25" nominal diameter after curing.

Plastic Parts – shall be manufactured from rotationally molded, linear, low-density polyethylene with a .250" wall and textured non-sliding surfaces. Plastic parts shall inhibit UV light and shall range in density from no less than .938 to no more than .940 per ASTM D1505. Plastic parts shall have tensile strength at yield no less than 2900 psi and exhibit no flexural modulus below 120,000 psi.

Slides – shall be manufactured of rotationally molded UV stabilized polyethylene no less than .250" wall. The integral entrance with molded –in handgrip makes easy transition from standing and sitting. The slide can be attached to 32", 48", 56", 64", and 72" high platforms and can turn right, left, be straight or spiral. The exit support shall be a 10 gauge galvanized steel plate welded to a galvanized steel support tube of at least 2.375" O.D. x .095" wall and shall be powder coated. The **entrance for spiral slides** shall be attached to a unitary enclosure with 3/8" button-head cap screws and secured with 3/8" nuts. The spiral slide exit shall provide a smooth transition from sliding to standing. **Hood** shall be manufactured of rotationally molded polyethylene with double walls no less than .250" thick, with molded-in inserts for fasteners and textured surfaces. Will be attached to the enclosure and the slide with 3/8" t-nuts and secured with 3/8" button-head cap screws.

Roofs – shall be manufactured of rotationally molded, UV-stabilized, double wall polyethylene with wall thickness no less than .1875". The top surface shall be textured and the bottom surface shall have mold-in reinforcing ribs. Roof corners shall sleeve into 4.5" OD support posts and be permanently riveted in place.

Climbers – shall be for 48" and 64" high platforms.

Arch Swing – Pendulum shall be hot dipped galvanized malleable iron Grade 32510. Bearings shall be an oil impregnated bronze. Arch posts shall be one piece all welded construction consisting of 4 1/2" OD x 12 GA galvanized steel tubing and 8 GA galvanized steel plate. Finished with a baked on powder coating. Chain shall be an assembly consisting of 3/8" diameter, 4/0 straight coil chain.

Swing Seats –

- a. Molded rubber seat. Seat shall be molded rubber, reinforced with a steel insert. Riveted galvanized attachment hardware. Swing chain shall be an assembly consisting of 3/8" diameter, zinc plated steel S-hooks, and 3/8" diameter, 4/0 straight coil chain.
- b. Molded rubber infant seat. Seat shall be molded rubber, reinforced with a steel insert. Riveted galvanized attachment hardware. Swing chain shall be an assembly consisting of 3/8" diameter, zinc plated steel S-hooks, and 3/8" diameter, 4/0 straight coil chain.

Design / Play Equipment 0-5 years old- The equipment will be designed for children 0 - 5 years of age and should be a composite play structure. The combination of play equipment should include active upper body strength, eye hand coordination, balancing opportunities, social and intellectual events, fantasy and imaginative play. Features to the play equipment include – in priority order: Shade, bike path loop going around the structure w/traffic signs – there should be a safety zone between this exterior bike loop and the playground structure, steps for early walkers, hanging bar, some type of loop pattern within the playground structure, slides w/1/2 tunnel, balance beam, and interactive panels to include steering wheel or other items that spin. Please see enclosed for detailed specifications. Maximum deck height of play structure will be 48” (4 feet).

Details

Posts – shall be 4 1/2 “diameter steel posts with 55,000 psi tensile strength and 50,000 psi yield strength. Caps for the posts shall be factory installed aluminum and shall be factory painted to match the post color.

Clamps – shall be made from cast aluminum, shall be 2” wide with a minimum wall thickness of 3/8”. Clamp hinging shall be provided by a 5/16” x 2” plated, solid steel pin seated in a precision drilled hole: hollow. Cold-rolled hinge pins shall be excluded. Fasteners, seated and recessed below flush surface in a cast-in hex nut pocket, shall provide clamp fastening.

Hardware – shall be vandal resistant and stainless steel

Platforms – shall be fabricated from a minimum of 12 gauge hot rolled sheet steel which shall be punched, formed and reinforced with welded in place 12 gauge hot rolled steel strips. Mounting plates shall be fabricated from 7-gauge hot rolled sheet steel and welded to assemblies as required. Platform shall be dipped in a poly-vinyl chloride bath with topside drain holes of .25” nominal diameter after curing. .25” micro-punched holes for safety.

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Poured in Place Surfacing – furnish and install poured in place surfacing 2 ½ thick including 6” compacted stone base or per manufactures specifications.

Slides – shall be manufactured of rotationally molded UV stabilized polyethylene no less than .250” wall. The integral entrance with molded –in handgrip makes easy transition from standing and sitting. The slide can be attached to 32”, 48”, 56”, 64”, and 72” high platforms and can turn right, left, be straight or spiral. The exit support shall be a 10 gauge galvanized steel plate welded to a galvanized steel support tube of at least 2.375” O.D. x .095” wall and shall be powder coated. The **entrance for spiral slides** shall be attached to a unitary enclosure with 3/8” button-head cap screws and secured with 3/8” nuts. The spiral slide exit shall provide a smooth transition from sliding to standing. **Hood** shall be

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- d. Molded rubber infant seat. Seat shall be molded rubber, reinforced with a steel insert. Riveted galvanized attachment hardware. Swing chain shall be an assembly consisting of 3/8" diameter, zinc plated steel S-hooks, and 3/8" diameter, 4/0 straight coil chain.

➤ Drinking Fountain

Stern-Williams Model 5400-90 barrier free, surface mounted fountain & pet fountain or a accepted comparable shall be specified. This drinking fountain shall be placed on a cement slab 6' x 8' and 6" thick with minimum of 1% slope from drinking fountain to edge of slab.

➤ Bike Rack

Please review 2008 City of Fitchburg Bicycle and Pedestrian Plan for bike rack details on acceptable options. Bike rack shall be placed on concrete pad with a 1% cross slope for drainage. Pad shall extend 4' beyond the bike rack dimensions all sides.

➤ Benches

Shall be placed on concrete pads with a 1% cross slope for drainage. Pads shall extend 4' beyond the bench dimensions on all sides. Some of the benches should be contiguous to walkways or have walkways leading to them for disabled access. Orientation of the benches adjacent to walkways shall be parallel to walkways. Bench slats shall be 4" x 4" recycled plastic, cedar in color, 6' feet in length, supported with 2-7/8" OD steel pipe. Fasteners need to be stainless steel.

➤ Picnic Tables

Shall be 6' in length constructed of treated lumber with 1-1/2" OD x 16 gauge steel tubing with 1-1/2" x 1-1/2" x 1/8" steel angel iron for top and seat supports.

- Trees
Shall be hardy to zone 5a. Shall be selected from the Fitchburg Suggested Tree List or approved by the Urban Forester. Shall meet criteria specified in the Fitchburg Tree Planting Special Provisions spec sheet.

- Associated Landscaping

Planting Design: Shall be appropriate for the site, soils, moisture, and climate conditions and shall aesthetically enhance the park site and the park user's experience.

Plant Spacing and Locations: All planting shall be located to permit the proper operation of mechanized maintenance equipment. Plant locations and spacing shall permit normal plant development without undue crowding or trimming. Shrubs and groundcover should be spaced at one half of their mature diameter from all walkways.

- Gazebo-Shade Structure

Please refer to the City of Fitchburg Park Department May 2008 RFP for Nevin Village Green Park Shelter for shelter manufactures and details including approved shelter model numbers and size.

- Decorative Fencing

All components shall be tubular steel and galvanized (free of burrs and sharp edges). Fence color to be a powder coated paint applied electrostatically.

- Trails

Please refer to the Public Works "Standard Specifications For Public Works Construction" page 58 sheet 4.02 for specifications on trail construction.