

# PARK FACILITY STANDARDS MANUAL



DEPARTMENT OF RECREATION, PARKS AND CULTURAL ACTIVITIES  
CITY OF ALEXANDRIA, VIRGINIA

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# INTRODUCTION

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The City of Alexandria Park System is comprised of 566 acres of City owned public parkland. The City's Department of Recreation, Parks and Cultural Activities is responsible for the System's planning, management and maintenance. The park system provides a variety of active and passive facilities including athletic fields, playgrounds, recreation courts, trails, picnic areas, marina, pools, natural areas and dog exercise areas.

The Park Facility Standards Manual (Standards) establishes minimum design, construction and performance expectations for the City's park features. The intent of the Standards is to inform and guide park and open space planning, capital improvements and capital maintenance and to sustain life-cycle resource investments in public space. The Standards are a reference instrument for selection of materials, fixtures, and systems and integrate City criteria with industry standards and applicable Federal/State/City requirements into a primary-single source document. Anticipated benchmarks for performance/function, safety, environmental impact, and anticipated maintenance/life-cycle resource needs are established by each Standard.

Although established in Summer, 2012, the Park Facility Standards Manual is a living document that is updated and re-evaluated coincident with advancements in industry, changes in the City's park and open space system, and recreational needs.

This manual supplements industry standards, and federal/state/local requirements, while identifying City of Alexandria Park Facilities requirements. Information in this manual is not intended to replace or function as specifications, construction documents, or contract documents.

The standards are organized according to nine categories: Site Furnishings, Fences and Walls, Surfacing, Park Structures, Playgrounds, Ball Courts and Athletic Fields, Utility Systems, Signs and Marina Facilities.

The following expectations apply to each Standard:

## **PRINCIPLE LIFE CYCLE EXPECTATIONS**

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Materials shall be procured in compliance with City of Alexandria Procurement procedures.

Materials and products shall be recyclable or its components shall have the potential for re-use at the end of an item's useful life.

Products and replacement parts shall be proven reliable. Products subject to continual re-design as a result of product or material failure, or outdated design shall not be used.

Replacement parts, if applicable, shall be readily available throughout the life cycle of the product.

Materials and products shall be selected and installed in a manner that is sensitive to context and to the City of Alexandria Maintenance Standards.

## **PRINCIPLE IMPLEMENTATION EXPECTATIONS**

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Installation of products and materials identified in the following pages shall be performed consistent with regulatory requirements including permits, permissions, etc.

Installation of products and materials shall comply with manufacturer's recommendations unless otherwise identified.

# SECTION TEMPLATE

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## DATA

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Each Standard sheet is organized consistent with a template on the following pages. Standards will begin on the right hand page and continue on a second page if necessary. All requirements of the Standard shall be addressed.

Information is arranged under the headings of purpose, general information, site considerations, materials and finish, features, installation and life cycle expectations as needed for each specific Standard.

## IMAGERY

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Images are the property of the Department of Recreation, Parks and Cultural Activities unless otherwise identified.

# SECTION TEMPLATE

CHAPTER 01: INTRODUCTION

01

## PURPOSE

Scope and Function of Each Facility or Component

## GENERAL INFORMATION

Local/State/Federal Requirements

Special Conditions/Considerations

Preferred Manufacturer/Make/Model and Contact Information, if Applicable

Related Sections, if Applicable

Design Criteria, if Applicable

## MATERIALS AND FINISH

Material/Treatment

Fabrication Requirements

Color Requirements

## FEATURES

Components

Extras/Options

## INSTALLATION

Method/Type

Specific/Seasonal/Site Requirements

## LIFE CYCLE EXPECTATIONS

Warranty Requirements

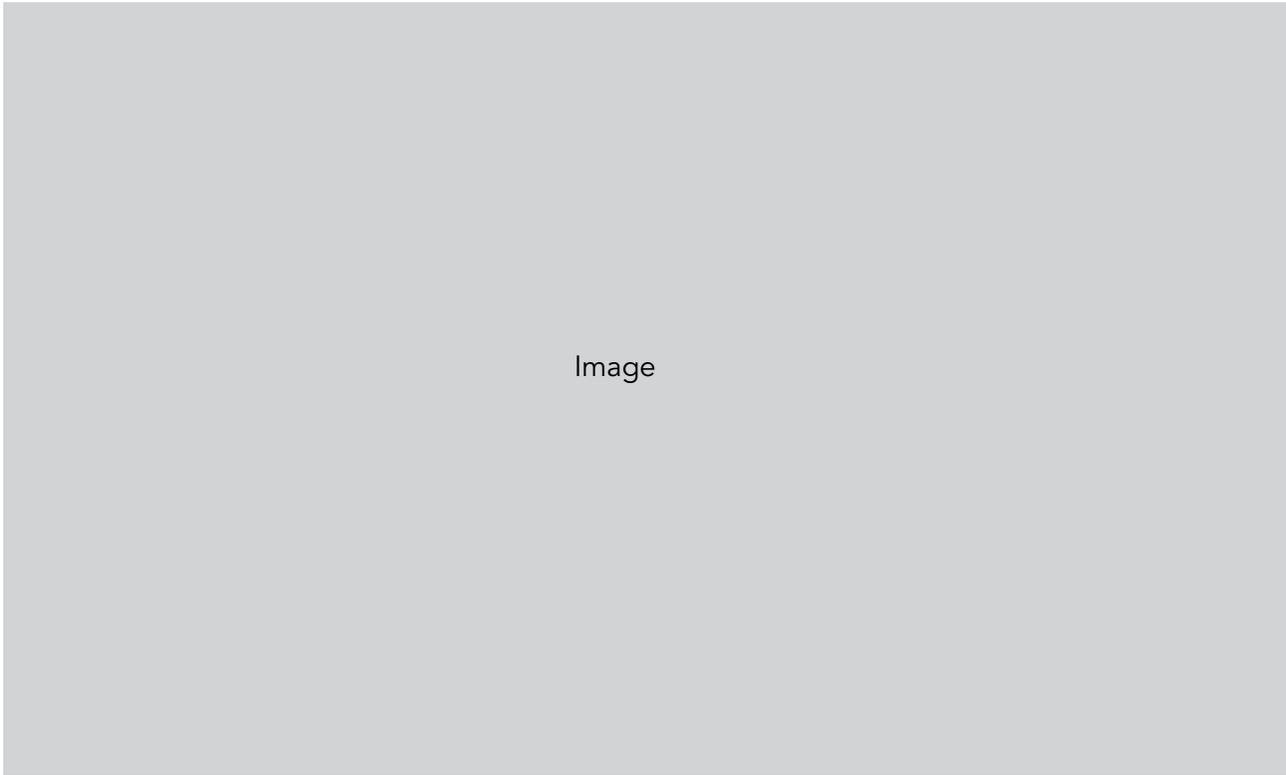
Specific/Seasonal/Site Requirements

## IMAGE FOOTNOTES

Source Data as Needed

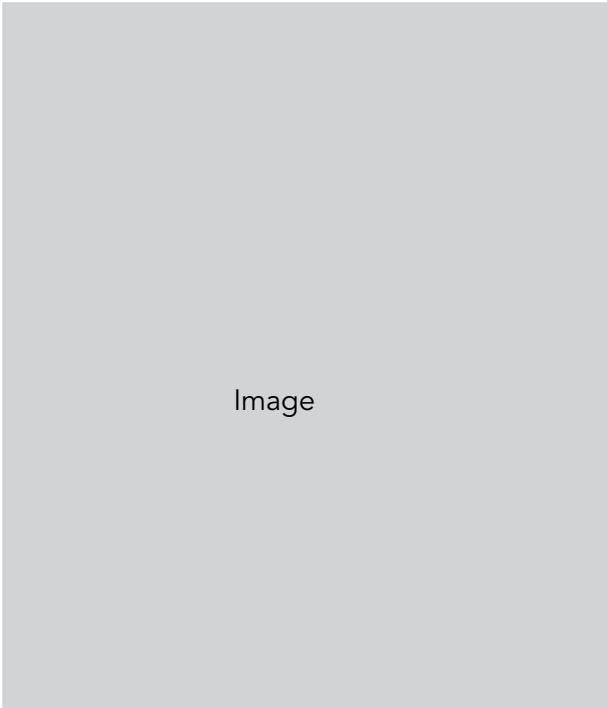
# SECTION TEMPLATE

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# STANDARDS AND ABBREVIATIONS

Standards shall comply with the most current and up-to-date standards, guidelines, and governing organizations cited in this document. If referenced standards conflict, the final determination of precedence shall be made by the Director of Recreation, Parks and Cultural Activities.

City Charter and Code. City of Alexandria, Virginia.

Design Guidelines for the Old and Historic Alexandria and the Parker-Gray District. City of Alexandria, Virginia.

Four Mile Run Design Guidelines. City of Alexandria, Virginia, Arlington County, Virginia and Northern Virginia Regional Commission.

Landscape Guidelines. City of Alexandria, Virginia.

Zoning Ordinance of the City of Alexandria, Virginia. City of Alexandria, Virginia.

ADA Standards for Accessible Design. As published by the Department of Justice; Washington D.C.

American Association of State Highway and Transportation Officials (AASHTO).

American National Standards Institute (ANSI).

American Society of Civil Engineers (ASCE).

American Society of Testing and Materials (ASTM). As published by ASTM International; West Conshohocken, PA.

Architectural Barriers Act.

Code of Virginia. Commonwealth of Virginia.

Commonwealth of Virginia Sanitary Regulations for Marinas and Boat Moorings. Commonwealth of Virginia.

Consumer Product Safety Commission (CPSC).

National Federation of State High Schools (NFSHS).

National Collegiate Athletic Association.

Virginia Clean Marina Guidelines. Commonwealth of Virginia.

Virginia Department of Health. Commonwealth of Virginia.

Virginia Uniform Statewide Building Code (USBC).

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# CHAPTER 2

## SITE FURNISHINGS

Athletic Equipment | Base Plates  
Athletic Equipment | Basketball Goal Systems  
Athletic Equipment | Foul Pole  
Athletic Equipment | Goals for Field Hockey  
Athletic Equipment | Goals for Lacrosse  
Athletic Equipment | Goals for Soccer  
Athletic Equipment | Tennis Net Systems  
Athletic Equipment | Volleyball Net Systems  
Bench | Natural Area  
Bench | Park  
Bench | Players  
Bicycle Rack  
Bleachers  
Bollard | Dog Exercise Area  
Bollard | Metal  
Bollard | Wood  
Drinking Fountain | Pet  
Drinking Fountain | Stand Alone

Flagpole  
Grill  
Hand Rails | Stand Alone  
Lighting | Area  
Lighting | Athletic Facilities  
Lighting | Ground Recessed  
Lighting | Historic Pole  
Lighting | Street Pole  
Picnic Table | ADA  
Picnic Table | Standard  
Receptacle | Ash/Coal  
Receptacle | Recycling  
Receptacle | Trash  
Wheel Stop

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# BASE PLATES

## PURPOSE

Ball field base equipment shall be provided at diamond fields as needed for play.

## GENERAL INFORMATION

Base plate dimensions shall comply with National Federation of State High Schools or other governing authority.

Base plates shall be anchored in ground.

Related Standards: Infield Mix, Field Diagram | Baseball, Field Diagram | Softball.

## MATERIALS AND FINISH

Plate color shall be white with black trim.

Double first bases shall include a white base and an orange outside base.

Plates shall be manufactured from durable materials such as rubber, reinforced steel and polyurethane.

Materials shall be rated for exterior use and all-weather play.

## FEATURES

Home plate shall have a rubber waffle style interior. Plate shall be waterproof with a non-skid exterior surface.

Pitching rubber shall be four-way, adult size with inner support tubing.

Base plates shall be progressive release.

Base anchors and plugs shall be easily replaceable.

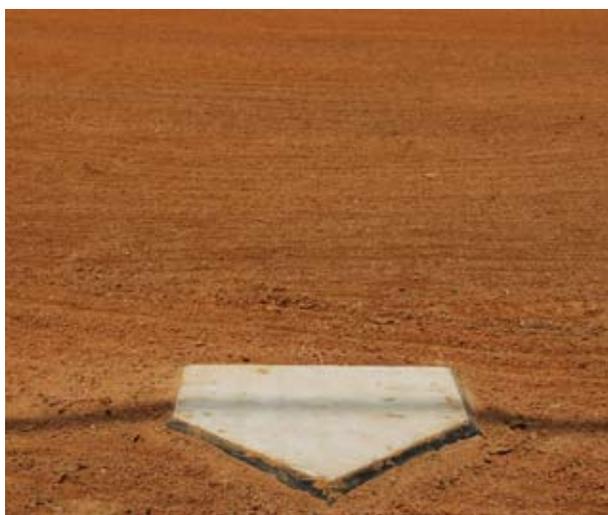
## INSTALLATION

Locate plates, pitching rubbers and bases in compliance with field layouts.

## LIFE CYCLE EXPECTATIONS

A 1 year minimum warranty is required.

Base plates are anticipated to require replacement after 2 years of normal and ordinary use, and annually for heavily programmed fields.



Base plate



Pitching rubber

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# BASKETBALL GOAL SYSTEMS

## PURPOSE

Competition style, heavy duty backstops shall be provided at outdoor basketball facilities.

## GENERAL INFORMATION

Post systems shall comply with National Collegiate Athletic Association regulations or other governing authority.

Related Standards: Court Diagram|Basketball, Court Surfacing.

## MATERIALS AND FINISH

Upright posts and supports shall be 6 inches minimum square structural steel tubing with ¼ inch thick walls.

Steel components shall have a double powder coat finish. Color shall be black.

Square backboard shall be perforated steel and include acrylic official perimeter and target area markings.

Goals shall be a double ⅝ inch diameter solid steel rim, with a continuous net attachment system.

Nets shall be heavy duty, weather resistant nylon fiber. Color shall be white.

## FEATURES

Backstop shall provide an extension inside the baseline. The backboard shall be 4 feet inside the baseline and the rim shall be 10 feet above the playing surface.

Post and backboard padding shall be installed when upright posts are located on or within the lined playing surface.

## INSTALLATION

Install posts consistent with manufacturer's recommendations. Position backstop consistent with NCAA standards.

Post foundation shall be flush to adjacent grade. Top of footing shall be sloped to shed water.

Wind loading design shall comply with American Society of Civil Engineers (ASCE) 7-98.

## LIFE CYCLE EXPECTATIONS

A 10 year minimum warranty is required.

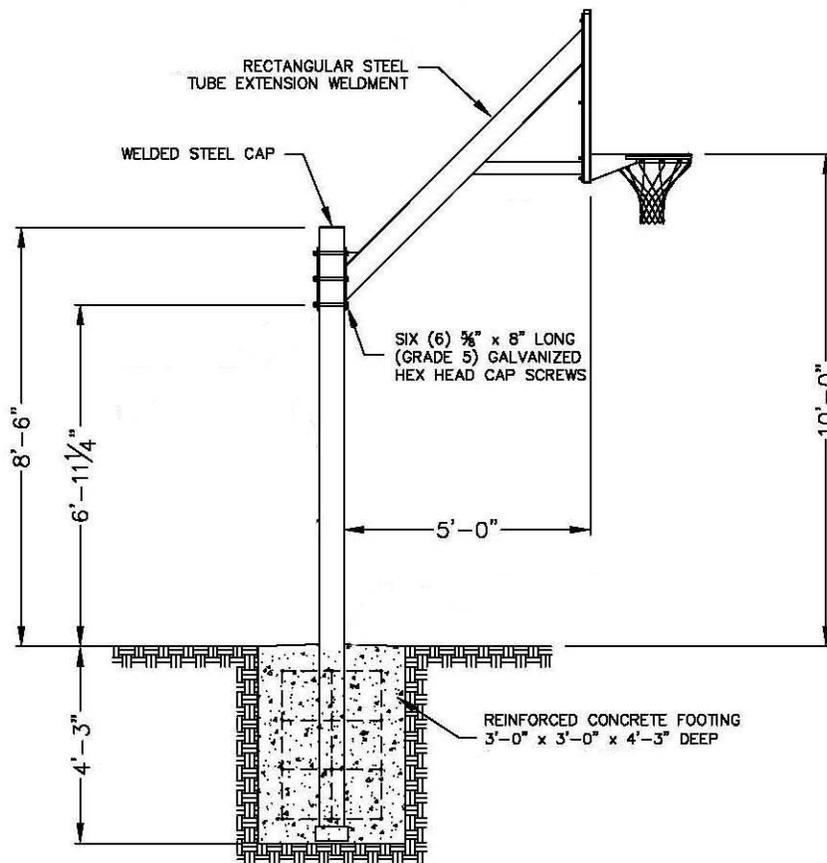
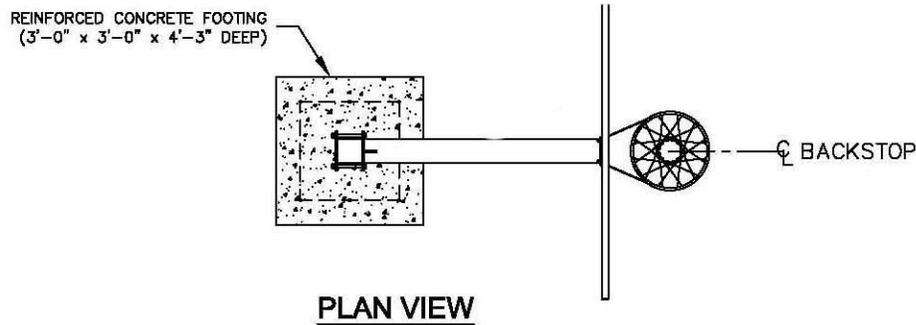
Basketball Goal Systems are anticipated to require replacement after 10 years of normal and ordinary use.

Nets are anticipated to require annual replacement with normal and ordinary use.



Basketball goal

# BASKETBALL GOAL SYSTEMS



Basketball goal (1)

Not to scale

## IMAGE FOOTNOTES

(1) <http://www.porterathletic.com/Product.aspx?ID=72>

## PURPOSE

Foul poles shall be utilized to identify play/foul territory on diamond ball fields.

## GENERAL INFORMATION

Foul poles shall comply with National Collegiate Athletic Association standards, Little League International regulations, or other governing authority.

Poles greater than 15 feet vertical dimension from finished grade require a Special Use Permit.

Related Standards: Track/Warning Track Surfacing, Field Diagram | Baseball, Field Diagram | Softball, Signs, Fence | Chain Link.

## MATERIALS AND FINISH

Poles shall be 3 ½ inches minimum to 6 inches maximum outside diameter, galvanized steel pipe with powder coat finish.

Color shall be yellow, PMS 113 or similar.

Foul Pole height shall be determined by ball field needs. Standard height is 15 feet from adjacent finish grade.

Wing panels shall be 18 inch horizontal width and 15 feet vertical height. Panels shall be 11 gauge expanded and flattened ¾ inch steel fabric.

## FEATURES

Pole heights can be 12 feet, 15 feet, 30 feet and 40 feet from adjacent grade with changes to pole diameter and wing panels dimensions.

## INSTALLATION

Install separate posts in-ground when existing fence posts cannot be used.

Pole shall be aligned with foul line and in line with outfield fence. Pole shall be 6 inch diameter minimum and integral to outfield fence where possible.

Pole foundation shall be designed to accommodate IBC Wind loading requirements.

Top of pole foundation shall be flush to adjacent grade. Top of footing shall be sloped to shed water.

## LIFE CYCLE EXPECTATIONS

A 10 year minimum warranty is required.

Foul Poles are anticipated to require replacement after 30 years of normal and ordinary use.



Foul pole located external to outfield fence

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# GOALS FOR FIELD HOCKEY

## PURPOSE

Field hockey goals shall be provided for a variety of age groups including youth and adult.

## GENERAL INFORMATION

Goal construction shall comply with the National Federation of State High Schools, National Collegiate Athletic Association regulations, or other governing authority.

Goals shall be removable, stored on-site and secured in a protected area.

Related Standards: Synthetic Infill Turf Systems, Field Diagram | Field Hockey.

## MATERIALS AND FINISH

Goals shall be reinforced, unitized or welded for stability.

Integral nets shall be weather resistant, heavy duty nylon cord or webbing.

Goal crossbars and uprights shall be constructed from heavy wall aluminum tubing with smooth welds, joints and corners. Tubing shall be 2 inches by 1 inch minimum. Backstays and stabilizing bars shall be galvanized steel and 1 3/8 inch minimum outside diameter.

Open tube bottoms shall not be permitted.

Frames shall be white in color.

Nets and bottom boards shall be black in color.

## FEATURES

Goals shall be portable with wheel transport systems.

## INSTALLATION

Goals shall be installed with tie down stakes for natural turf fields.

Goals on synthetic infill turf systems shall be weighted with an anchoring system that does not puncture the turf surface.

## LIFE CYCLE EXPECTATIONS

A 1 year minimum warranty is required.

Goals are anticipated to require replacement after 8 years of normal and ordinary use.



Field hockey goal (1)

## IMAGE FOOTNOTES

(1) [http://www.sportsfieldspecialties.com/index.php?option=com\\_content&view=article&id=51&Itemid=143](http://www.sportsfieldspecialties.com/index.php?option=com_content&view=article&id=51&Itemid=143)

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# GOALS FOR LACROSSE

## PURPOSE

Lacrosse goals shall be provided for a variety of age groups including youth and adult.

## GENERAL INFORMATION

Goal construction shall comply with the National Federation of State High Schools, National Collegiate Athletic Association, or other governing authority.

Goals shall be removable, stored on-site and secured in a protected area.

Related Standards: Synthetic Infill Turf Systems, Field Diagram | Lacrosse Girls, Field Diagram | Lacrosse Boys.

## MATERIALS AND FINISH

Goals shall be one piece, reinforced, unitized or welded for stability.

Nets shall be 4mm, weather resistant, heavy duty nylon cord or webbing.

Goal frame shall be constructed from Schedule 40 steel tubing with smooth welds, joints and corners. Frames shall be 1.9 inches outside diameter. Goal dimensions shall be 6 feet vertical height by 6 feet horizontal width by 7 feet deep.

Back base bars shall be constructed from 4 inch wide,  $\frac{3}{8}$  inch thick flat steel bar with lacing bar.

Open tube bottoms shall not be permitted.

Nets shall be white in color.

Frames shall be orange in color.

## INSTALLATION

Goals shall be installed with tie down stakes for natural turf fields.

Goals on synthetic infill turf systems shall be weighted with an anchoring system that does not puncture the turf surface.

## LIFE CYCLE EXPECTATIONS

A 1 year minimum warranty is required.

Goals are anticipated to require replacement after 8 years of normal and ordinary use.



Lacrosse goal (1)

## IMAGE FOOTNOTES

(1) [http://www.sportsfieldspecialties.com/index.php?option=com\\_content&view=article&id=50&Itemid=144](http://www.sportsfieldspecialties.com/index.php?option=com_content&view=article&id=50&Itemid=144)

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# GOALS FOR SOCCER

## PURPOSE

Soccer goals shall be provided for a variety of age groups including youth and adult.

## GENERAL INFORMATION

Goal construction shall comply with the National Federation of State High Schools, National Collegiate Athletic Association regulations, or other governing authority.

Goal dimensions will vary according to play level, and shall comply with the National Federation of State High Schools, National Collegiate Athletic Association regulations, or other governing authority.

Goals shall be removable, stored on-site and secured in a protected area.

Related Standards: Synthetic Infill Turf System, Field Diagram | Soccer.

## MATERIALS AND FINISH

Goals shall be one piece, reinforced, unitized or welded for stability.

Nets shall be 4mm, hexagonal or square, weather resistant, heavy duty nylon cord or webbing.

Goals shall be constructed from heavy wall aluminum tubing with smooth welds, joints and corners. Goal frame tubing shall be 4 inch outside diameter.

Open tube bottoms shall not be permitted.

Net and frames shall be white in color.

## FEATURES

Goals shall be portable with wheel transport systems.

Adult goals shall be 8 feet vertical height and 24 feet wide. Goals shall be 5 feet deep at the top and 10 feet deep at the bottom.

Youth goals shall be 6 feet vertical height and 18 feet wide. Goals shall be 4 feet deep at the top and 6 feet deep at the bottom.

## INSTALLATION

Goals shall be installed with tie down stakes for natural turf fields.

Goals on synthetic infill turf systems shall be weighted with an anchoring system that does not puncture the turf surface.

## LIFE CYCLE EXPECTATIONS

A 5 year minimum warranty is required.

Goals are anticipated to require replacement after 8 years of normal and ordinary use.



Soccer goal

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# TENNIS NET SYSTEMS

## PURPOSE

Regulation tennis net systems shall be provided at outdoor tennis facilities.

## GENERAL INFORMATION

Regulation nets shall comply with United States Tennis Association standards or other governing authority.

Related Standards: Court Surfacing, Court Diagram | Tennis, Signs.

## MATERIALS AND FINISH

Net posts shall be 3 ½ inches minimum aluminum or galvanized steel with green powder coat finish with caps.

Net fabric shall be weather resistant No. 36 nylon. Nets shall have a galvanized top cable with a white headband. Protective net edging shall be provided at bottom and ends.

Center net straps shall be included.



Tennis net system

## FEATURES

Net tensioning reel shall be vandal resistant. Reel shall be heavy duty with lubrication impregnated parts and heat pinioned gears. Wheel handle shall be concealed or removable.

Center net anchors shall be provided.

Net posts shall be installed on top of piers as determined by soil conditions.

## INSTALLATION

Posts shall be installed in ground prior to final surface installation and court lining.

Post layout shall comply with USTA athletic standards.

Top of post foundation shall be flush with final surface. Top of footing shall be sloped to shed water. Concrete net post footers shall be 1 foot-6 inches diameter and 3 feet vertical depth minimum.

Center net anchors shall be set in 1 foot by 1 foot horizontal dimensions and 1 foot minimum vertical depth concrete footings.

## LIFE CYCLE EXPECTATIONS

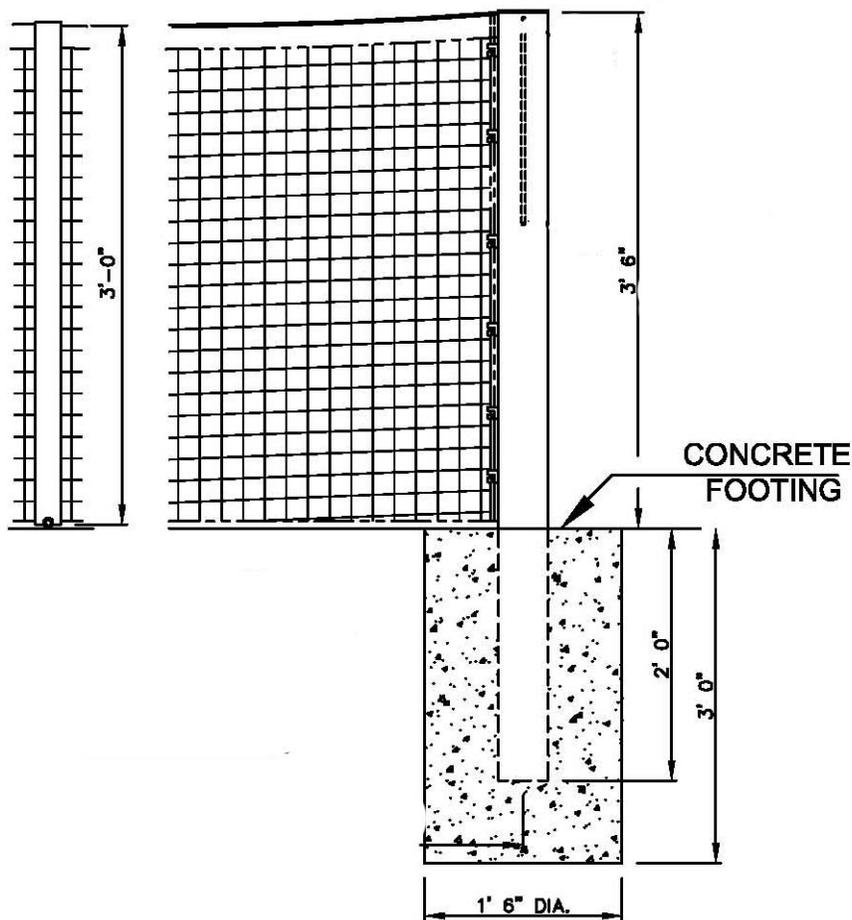
A 2 year minimum warranty is required for posts.

Nets are anticipated to require replacement annually with normal and ordinary use.

Posts are anticipated to require replacement after 10 years of normal and ordinary use.

# TENNIS NET SYSTEMS

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Tennis net end post (1)

Not to scale

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## IMAGE FOOTNOTES

(1) <http://www.porterathletic.com/pdf/cutsheets/R-865.PDF>



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# BENCH | NATURAL AREA

## PURPOSE

Natural Area benches shall be located along paths and trails. Natural Area benches shall be located in parks in the Carlyle Coordinated Development District, the Eisenhower East Coordinated Development District and natural areas.

## GENERAL INFORMATION

A standard, free-standing bench shall have back support and two side rails.

The standard bench is the Columbia Cascade, Timber Form Restoration bench, model 2118-6 (6 foot length) in black powder-coated cast iron with kiln-dried 6 inch wide Alaska yellow cedar slats, or City approved equal.

## MATERIALS AND FINISH

Benches shall be constructed of a sturdy, durable metal such as galvanized steel, ductile cast iron or other metals designed for commercial exterior use.

Metal finishing shall be of high-quality, permanently affixed powder coating, applied through a heat-finished process.

Metal elements of benches shall be black.

Metal products shall have smooth welds, joints and corners. Joint fasteners shall be embedded or sealed.

Wood elements shall be kiln-dried, natural finished yellow cedar.

## FEATURES

Benches may include a center rail.

## INSTALLATION

Benches shall be permanently affixed to a hardscape surface (concrete, pavers, etc.).

Provide 3 feet-4 inches minimum hardscape clearance on the accessible sides of benches.

Provide a solid surface of 3 feet-4 inches by 3 feet-4 inches minimum accessible area directly adjacent to benches.

Trash or recycling cans shall be placed 5 feet minimum from a bench.

Benches shall be located in seasonally shaded areas when possible.

## LIFE CYCLE EXPECTATIONS

A 10 year warranty is required.

Bench slats are anticipated to require replacement after 10 years of normal and ordinary use.

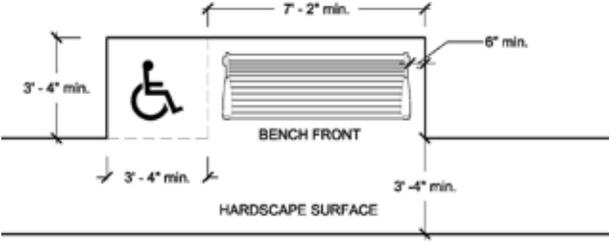
Bench frames are anticipated to require replacement after 20 years of normal and ordinary use.



Natural area bench

# BENCH | NATURAL AREA

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Bench with ADA space, plan view

Not to scale

## PURPOSE

Park benches shall be located along paths and trails adjacent to activity areas.

## GENERAL INFORMATION

A standard, free-standing bench shall have back support and two side rails.

The standard model is the Victor Stanley, Classic Series, model CR-96 (6 foot length), with vertical slats, backrest and two side handrails in black, or City approved equal.

Benches shall comply with City of Alexandria Small Area Plan Requirements.

## MATERIALS AND FINISH

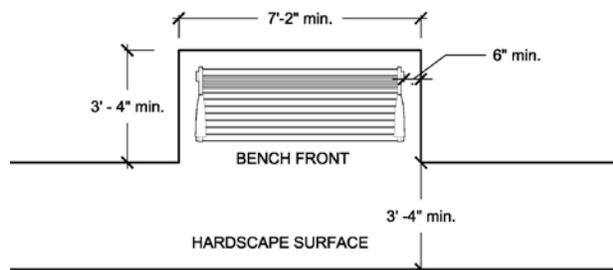
Benches shall be constructed of a sturdy, durable metal such as galvanized steel, ductile cast iron or other metals designed for commercial and exterior use.

Metal finishing shall be of high-quality, permanently affixed powder coating, applied through a heat-finished process.

Metal elements of benches shall be black in color.

Metal products shall have smooth welds, joints and corners. Joint fasteners shall be imbedded or sealed.

Benches shall contain a minimum of 70% post-consumer steel.



Bench location, plan view

Not to scale

## FEATURES

Benches may include a center rail.

## INSTALLATION

Benches shall be permanently affixed to a hardscape surface (concrete, pavers, etc.).

Provide 3 feet- 4 inches minimum hardscape clearance on the accessible sides of benches.

Provide a solid surface of 3 feet-4 inches by 3 feet-4 inches minimum accessible area directly adjacent to benches.

Trash or recycling cans shall be placed 5 feet minimum from a bench.

Benches shall be located in seasonally shaded areas when possible.

## LIFE CYCLE EXPECTATIONS

A 10 year warranty is required.

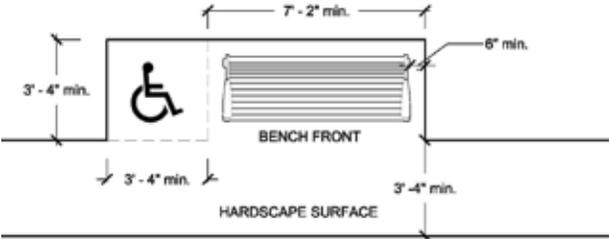
Benches are anticipated to require replacement after 20 years of normal and ordinary use.



Park bench

# BENCH | PARK

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Bench with ADA space, plan view

Not to scale

# BENCH | PLAYERS

CHAPTER 2: SITE FURNISHINGS

02

## PURPOSE

Player benches shall be located adjacent to athletic facilities in designated player areas.

## GENERAL INFORMATION

Bench shall be free-standing with a back support.

The standard bench model is Alumagoal, 15 foot length players bench, or City approved equal.

## MATERIALS AND FINISH

Benches shall be constructed of durable metal such as aluminum, galvanized steel, or other metals for commercial and exterior use.

Metal finishing shall be PVC coated or brushed aluminum. Metal surface shall be ribbed/non-slip.

Metal elements of benches shall be black, dark green or grey in color.

Metal products shall have smooth welds, joints and corners. Joint fasteners shall be imbedded or sealed.

Materials and parts shall contain recycled materials.

Bench supports shall be imbedded in concrete where possible.

## FEATURES

Surface mounted and in-ground support posts are available. Support posts shall be  $\frac{3}{8}$  inch outside diameter galvanized steel.

Benches are available in the following lengths: 8 feet, 10 feet, 15 feet and 21 feet.

Benches longer than 10 feet shall include bracing and supports to provide long term stability.

Portable benches are available for use on synthetic infill turf fields.

## INSTALLATION

Benches shall be permanently affixed to a hardscape surface except on synthetic turf fields or temporary installations where a portable version shall be used.

Provide a 3 feet minimum horizontal hardscape clearance on accessible perimeters of benches where mounted on hardscape.

Permanent and portable benches shall include safety end caps on supports.

## LIFE CYCLE EXPECTATIONS

A 10 year minimum warranty is required.

Benches are anticipated to require replacement after 15 years of normal and ordinary use.



Aluminum bench, permanent installation

# BENCH | PLAYERS

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Portable bench

# BICYCLE RACK

CHAPTER 2: SITE FURNISHINGS

02

## PURPOSE

Bike racks shall be provided at parks and recreation facilities consistent with the "Alexandria Bicycle Transportation and Multi-use Trail Master Plan."

## GENERAL INFORMATION

Bike racks shall be the "Inverted U" type bicycle rack, approximately 3 feet tall and 18 inches wide after installation.

Commercially produced bike racks meeting the standards identified in the "Bicycle Transportation and Multi-use Trail Master Plan" and this document shall be acceptable alternatives.

The standard bike rack is the Inverted U rack, Victor Stanley, Cycle Sentry Series, model BRWS-101, or City approved equal.

Related Standards: Surfacing Section.

## MATERIALS AND FINISH

Inverted U bicycle racks shall be fabricated from 1 ½ inch inner diameter Schedule 40 steel pipe. The bicycle racks shall not be welded in sections.

Racks shall be hot dipped galvanized steel and powder-coated.

Racks shall be black in color.

Metal products shall have smooth welds, joints and corners.

Bike rack construction, including baseplates if necessary, shall be theft and vandal proof.

## FEATURES

Alternative racks shall be subject to approval by the Director of the Department of Transportation and Environmental Services and the Director of the Department of Recreation, Parks and Cultural Activities.

A polished stainless-steel finish is an available option on certain sites subject to approval by the Director of Recreation, Parks and Cultural Activities.

## INSTALLATION

Racks shall be flange mounted on concrete, or imbedded consistent with the "Alexandria Bicycle Transportation and Multi-use Trail Master Plan".

Where flange mounted on concrete, a 5 inch diameter minimum steel base plate, ¾ inch thick, shall be used, with a minimum of 3 mounting anchor holes in each base plate. Anchors shall be theft-proof.

Bike racks shall be set firm and plumb.

Where required, steel shims shall be installed prior to anchoring in place. Baseplates more than ¾ inch from grade shall require high-strength epoxy non-shrink grout.

Bike racks shall be installed consistent with the manufacturer's recommendations.

Multiple racks shall be installed parallel with adjacent units, 2 feet-6 inches apart.

Racks shall be located so that parked bikes do not impede pedestrians.

Racks shall be located 3 feet minimum from parallel or perpendicular walls.

## LIFE CYCLE EXPECTATIONS

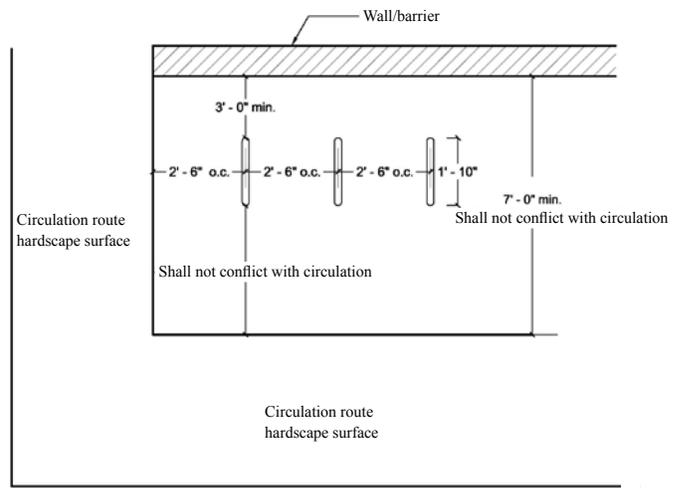
A 10 year minimum warranty is required.

Bike racks are anticipated to require replacement after 20 years of normal and ordinary use.

# BICYCLE RACK

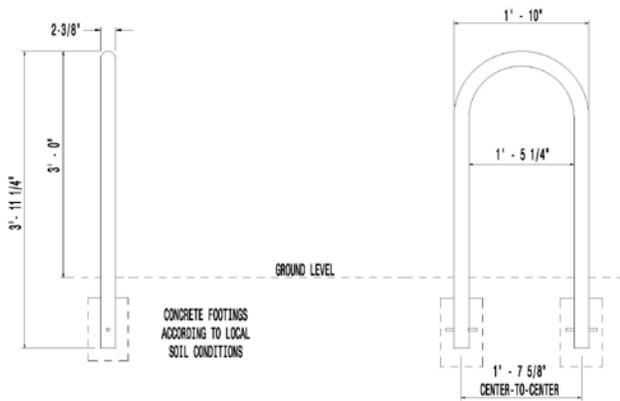


Inverted U bicycle rack



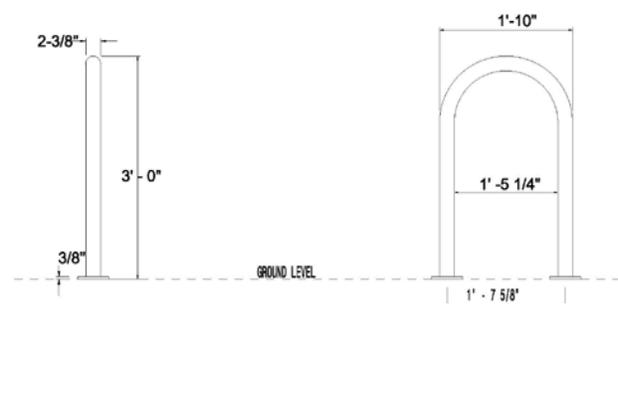
Bike rack, plan view

Not to scale



Surface mount (1)

Not to scale



Surface mount (1)

Not to scale

## IMAGE FOOTNOTES

(1) [www.securesitedesign.com](http://www.securesitedesign.com)

## PURPOSE

Structural bleacher assemblies shall be installed to provide spectator seating at outdoor athletic facilities.

## GENERAL INFORMATION

Bleachers shall comply with the most current building codes and ADA standards including requirements for guardrails and barriers.

Related Standards: Surfacing Section.

## MATERIALS AND FINISH

Bleacher seats shall be constructed of anodized aluminum.

Bleachers with more than 5 rows of seats or seats more than 2 feet-6 inches above adjacent grade shall include a chain link guard rail.

Bleacher treads and seats shall be a slip resistant ribbed surface.

Furnished assembly shall be free from sharp edges, pinch points, corners or protrusions.

Seats shall be continuous bench style.

## INSTALLATION

Comply with manufacturer's recommendations for assembly.

Bleachers shall be installed on a hardscape surface with 4 feet minimum clear horizontal distance from the edge of structure on accessible perimeter.

Where possible, bleachers shall be accessible by hardscape surface pathways.

Bleachers shall be stabilized with wedge anchors.

Bleachers shall be anchored to concrete as required by USBC.

## LIFE CYCLE EXPECTATIONS

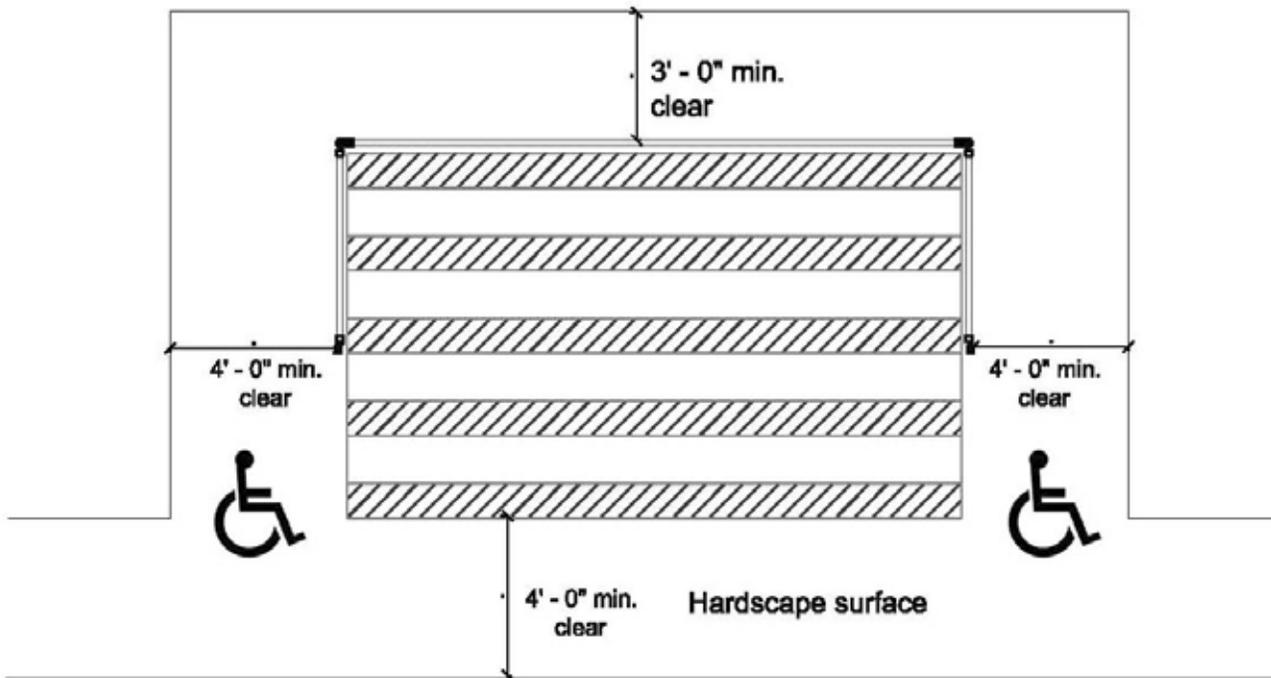
A 5 year minimum warranty is required.

Bleachers are anticipated to require replacement after 10 years of normal and ordinary use.



Typical bleachers

# BLEACHERS



Typical bleachers (1), plan view

Not to scale

## IMAGE FOOTNOTES

(1) <http://www.arcata.com/details/gtgrands/prod0743.html>

# BOLLARD | DOG EXERCISE AREA

## PURPOSE

Composite bollards shall identify boundaries in official City Dog Exercise Areas.

## GENERAL INFORMATION

Composite bollards shall be 4 inches by 4 inches square (nominal dimensions).

## MATERIALS AND FINISH

Composite resin shall be structural grade composed of 50% wood fiber and 50% polyethylene or fiberglass.

Bollard color shall be an earth tone or brown color.

Bollards shall be 3 feet in vertical height measured from finished grade after installation.

## FEATURES

A 3 inch by 3 inch reflective aluminum sign with "Paw Print" graphic shall be displayed on two sides of each bollard.

A 2 inch wide continuous band of white or yellow reflective material shall be located at the top of each bollard.

## INSTALLATION

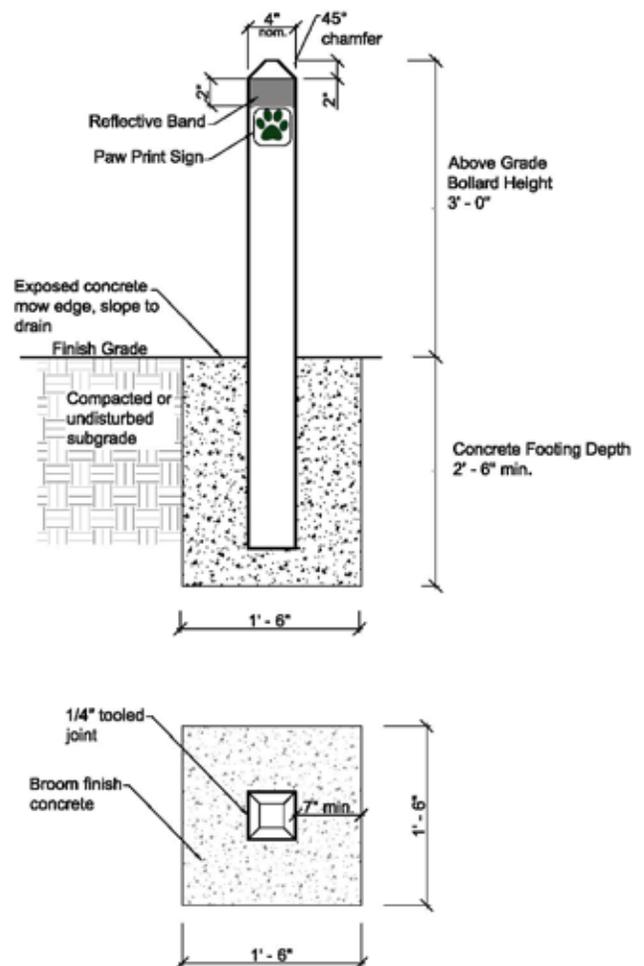
Each bollard shall be permanently installed using a 1 foot-6 inches diameter 2 feet-6 inches vertical depth concrete footing.

Bollards shall not prevent emergency or maintenance access to fields and parks.

Footings shall be flush to adjacent grade. Top of footing shall be sloped to shed water.

## LIFE CYCLE EXPECTATIONS

Bollards are anticipated to require replacement after 20 years of normal and ordinary use.



Unfenced Dog Exercise Area bollard

Not to scale

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## PURPOSE

Bollards shall be used to limit unauthorized vehicular traffic without restricting the movement of pedestrians and cyclists in historic areas.

## GENERAL INFORMATION

The standard bollard is the Fair Weather, B-1 Series (5 inches diameter) bollard with two, 2 inch width collars in black powder-coated, Schedule 10 steel, or City approved equal. Collar relief from the surface of the bollard shall be  $\frac{1}{4}$  inches.

## MATERIALS AND FINISH

Bollards shall be a durable metal such as galvanized steel, designed for commercial exterior use.

Metal finishing shall be a high-quality, permanently affixed powder coating.

Bollard color shall be black.

Finished assembly shall have smooth welds, joints and corners.

Hinges, latches and moving parts shall be weather resistant and lubricated at time of purchase.

## FEATURES

Eyebolts shall be provided in instances where chain will provide an additional barrier between bollards.

Metal bollards are available in heights of 2 feet-6 inches, 3 feet, 3 feet-6 inches, or 4 feet, and 4 inch and 8 inch diameter.

Mounting styles are permanent embedded, surface bolted and sleeved/removable.

## INSTALLATION

Bollards shall be spaced 3 feet-4 inches minimum horizontal distance.

Removable installation shall be used where authorized and emergency access is needed.

Removable mounting requires a sleeve/casing installed 2 vertical feet into the ground. Removable bollards shall be secured with lock and key.

Bollards shall be marked with reflective tape between the decorative collars.

## LIFE CYCLE EXPECTATIONS

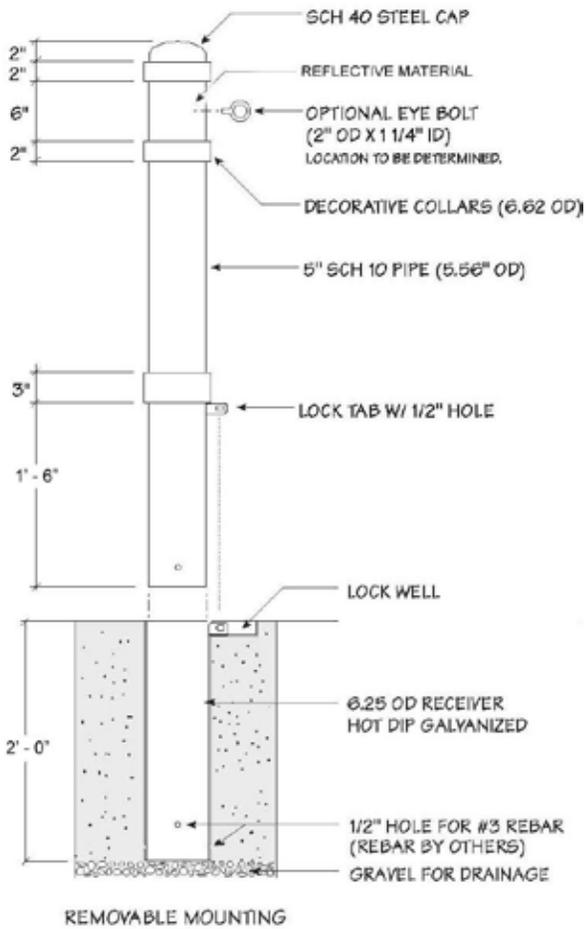
A 10 year minimum warranty is required.

Bollards are anticipated to require replacement after 20 years of normal and ordinary use.



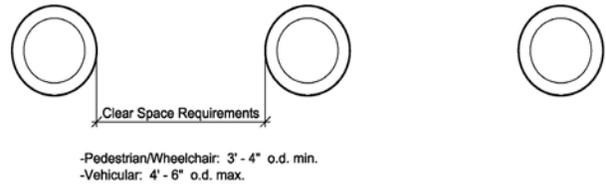
Metal bollard

# BOLLARD | METAL



Bollard section (1)

Not to scale



Bollard spacing (1)

Not to scale

## IMAGE FOOTNOTES

(1) [www.fairweathersf.com](http://www.fairweathersf.com)

# BOLLARD | WOOD

CHAPTER 2: SITE FURNISHINGS

02

## PURPOSE

Wood bollards shall limit vehicular traffic without restricting the movement of pedestrians and cyclists in natural resource parks.

## GENERAL INFORMATION

Wood bollards shall be constructed of 4 inch by 4 inch pressure treated lumber imbedded into 1 foot-6 inches minimum solid subgrade material (nominal dimensions).

Vertical height shall be 2 feet-6 inches minimum and 4 feet maximum measured from finish grade.

## MATERIALS AND FINISH

Wood bollards shall be constructed of pressure treated lumber. Pressure treated lumber shall be Alkaline Copper Quaternary (ACQ) or Copper Borate Azole (CA) type.

Bollard tops shall include a 45 degree chamfer continuous at top.

A 2 inch wide continuous band of white or yellow reflective material shall be located at the top of each bollard.

## INSTALLATION

Bollards shall be spaced 3 feet-4 inches minimum horizontal distance bollard face to bollard face.

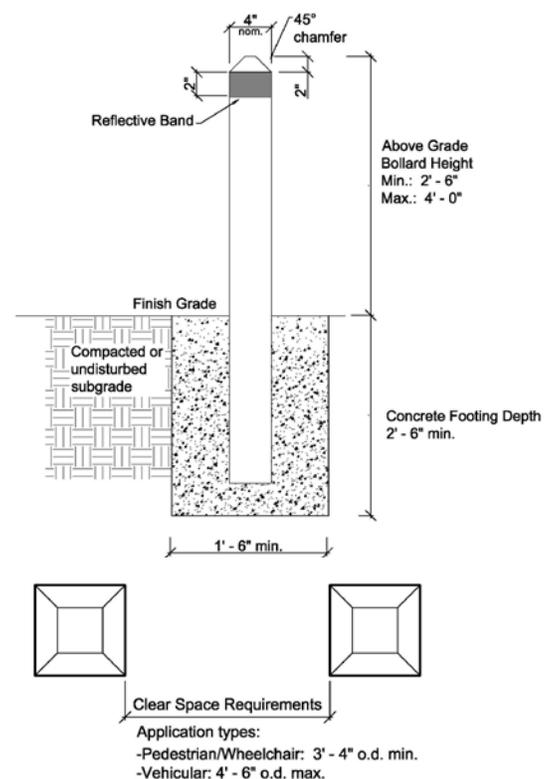
Bollards shall not prevent emergency or maintenance access to fields and parks.

Wood bollards shall be mounted in concrete footing with 1 foot-6 inches minimum diameter and 2 feet-6 inches minimum vertical depth. Footing shall be flush to adjacent grade. Top of footing shall be sloped to shed water.

Removable installation shall be used where authorized and emergency access is needed.

## LIFE CYCLE EXPECTATIONS

Bollards are anticipated to require replacement after 15 years of normal and ordinary use.



Wood bollard

Not to scale

Intentionally Blank

# DRINKING FOUNTAIN | PET

CHAPTER 2: SITE FURNISHINGS

## PURPOSE

Fountains with a ground level dog fountain shall be installed in parks with dedicated pet areas and other areas receiving large amounts of pedestrian traffic.

## GENERAL INFORMATION

The standard fountain is the Most Dependable Fountains, Inc., 400 Series, Pedestal Drinking Fountain with optional pet fountain, or City approved equal.

Where accessibility and pet water systems conflict, the Most Dependable Fountains Inc., Model 300 pedestal pet fountain shall be used.

Only authorized pet fountains shall be attached to standard drinking fountain systems.

## MATERIALS AND FINISH

Fountains shall be constructed of stainless steel for commercial and exterior use and powder coated.

Dark green or stainless steel are the required colors for fountains. The bubbler, bowl and buttons shall be satin finish stainless steel.

Metal products shall have smooth welds, joints and corners.

Hinges, latches and mechanical parts shall be weather resistant.

Fountains shall include jug fillers.

## INSTALLATION

Fountains shall be mounted permanently to hardscape surfaces or in-ground mount per manufacturer's recommendations.

Provide a 3 feet-4 inch minimum horizontal dimension of hardscape surface at the accessible perimeter of each fountain.

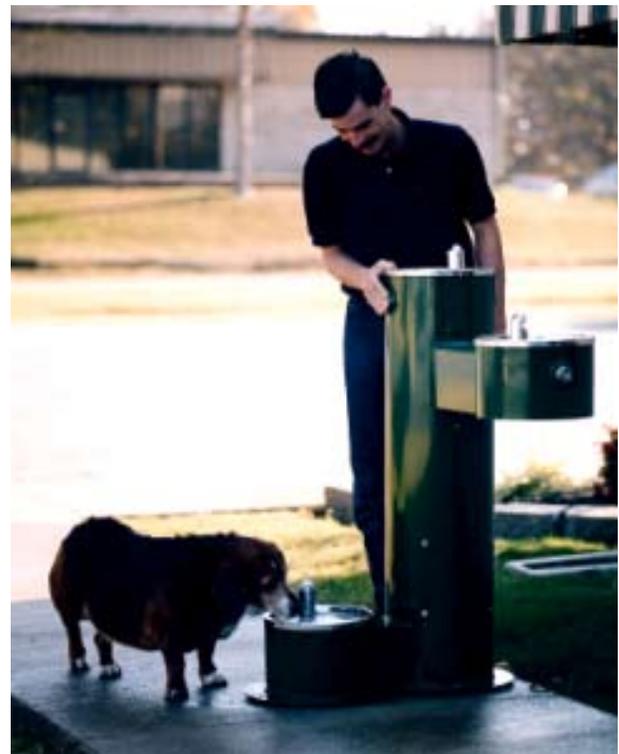
Fountains shall be installed by a licensed plumber consistent with applicable City and State Codes.

Top of slab shall be sloped to shed water.

## LIFE CYCLE EXPECTATIONS

A 1 year minimum warranty is required.

Fountains are anticipated to require replacement after 5 years of normal and ordinary use.



Drinking fountain with pet bowl (1)

## IMAGE FOOTNOTES

(1) <http://mostdependable.com/>

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# DRINKING FOUNTAIN | STAND ALONE

## PURPOSE

Water fountains shall be provided in parks where water supply is desirable, particularly near active park sites and playgrounds.

## GENERAL INFORMATION

Fountains shall be accessible for wheelchair and mobility devices at standard height.

Fountains shall provide 2 feet-3 inches minimum vertical clearance and 2 feet-10 inches maximum vertical clearance from adjacent finished grade.

The drinking bubbler height shall be 3 feet-2 inches maximum vertical distance from adjacent grade.

Fountains shall be activated by a low-weight, 5lbs or less, push-button operation mechanism located below the bowl.

Bubblers shall have a welded protector shield.

Fountains shall include a vandal proof panel for access to interior systems and filters.

The standard park drinking fountain is the Most Dependable Fountain Inc., Model 410, pedestal drinking fountain with satin finish stainless steel bowl, and stainless steel or green powder-coated galvanized steel pedestal, or City approved equal.

## MATERIALS AND FINISH

Fountains shall be constructed of standard steel or stainless steel, for commercial and exterior use.

Green powder coated and stainless steel shall be the finish options for fountains. The bubbler, bowl and buttons shall be satin finish stainless steel.

Metal products shall have smooth welds, joints and corners.

Hinges, latches and mechanical parts shall be weather resistant.

Fountains shall include jug fillers.

## INSTALLATION

Fountains shall be mounted permanently to hardscape surfaces or in-ground mount per manufacturer's recommendations.

Provide a 3 feet-4 inch minimum horizontal dimension of hardscape surface at the accessible perimeter of each fountain.

Fountains shall be installed by a licensed plumber consistent with applicable City and State Codes.

Top of slab shall be sloped to shed water.

## LIFE CYCLE EXPECTATIONS

A 1 year minimum warranty is required.

Fountains are anticipated to require replacement after 5 years of normal and ordinary use.



Drinking fountain (1)

## IMAGE FOOTNOTES

(1) <http://mostdependable.com/>

Intentionally Blank

## PURPOSE

Flagpoles shall be installed to display local, state and federal flags.

## GENERAL INFORMATION

Flags and flagpoles shall be consistent with the United States Flag Code.

Flagpoles shall be 30 feet maximum vertical height without an approved Special Use Permit.

The halyard and pulley system shall be interior and accessed by a locked panel at the base of the pole.

## MATERIALS AND FINISH

Flagpoles shall be constructed of seamless extruded aluminum alloy tubing, with a minimum wall thickness of  $\frac{5}{32}$  inch, and a brushed satin finish.

Flagpoles and flashing collar shall have a directional, medium satin polish and be sealed with a clear, hard-coat wax.

Flagpoles shall be designed to fly a 6 feet by 10 feet American flag, a 5 feet by 8 feet Virginia State flag and a 4 feet by 6 feet City of Alexandria flag in combination.

## INSTALLATION

Flagpoles shall not be located in conflict with active uses or vegetation.

Flagpoles shall be installed in locations that do not disrupt pedestrian traffic. Provide a 3 feet-4 inch minimum horizontal width hardscape surface adjacent to accessible pathway.

Flagpoles shall be located adjacent to accessible hardscape surfaces.

Concrete footings shall be consistent with manufacturer's recommendations and designed by a professional engineer. Top of footing shall be sloped to shed water.

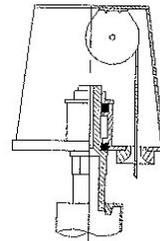
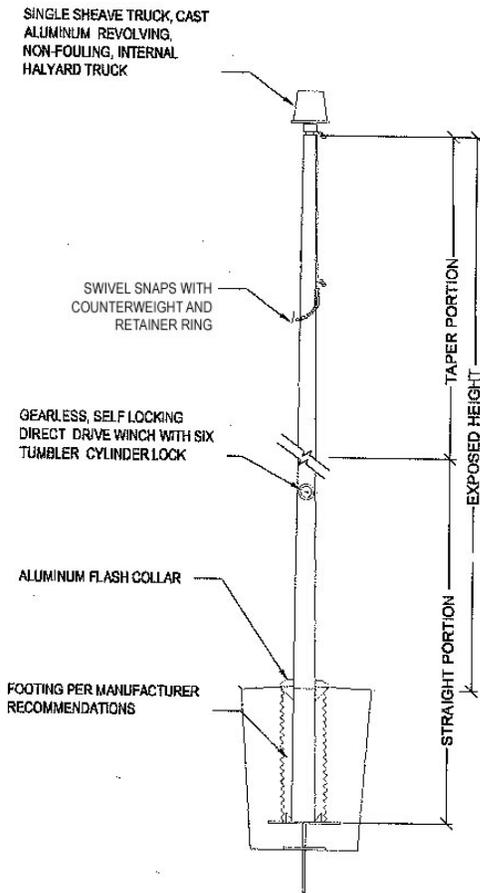
Flagpole footings shall be designed for wind loading consistent with City of Alexandria Code.

## LIFE CYCLE EXPECTATIONS

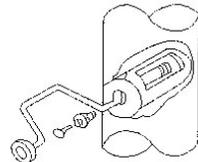
A 10 year minimum warranty is required.

Flagpoles are anticipated to require replacement after 20 years of normal and ordinary use.

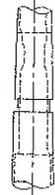
# FLAGPOLE



TRUCK DETAIL  
NOT TO SCALE



WINCH DETAIL  
NOT TO SCALE



SLEEVE DETAIL  
NOT TO SCALE

Flagpole

Not to scale

Flagpole internal halyard

Not to scale

## PURPOSE

Grills shall be located in areas where food consumption is encouraged.

## GENERAL INFORMATION

Where grills are permitted, at least one grill in each park shall be wheelchair accessible, with a minimum 1 per every 5 installed at each park.

The standard grill model is Summit Supply Corporation of Colorado, Model Number EC-40-B2, or City approved equal.

Grills shall be located based on prevailing winds, in relationship to pavilions or nearest picnic area. Grills shall be located to minimize impact of odors, noise, and fire in relation to adjacent uses.

Related Standards: Receptacle | Ash/coal.

## MATERIALS AND FINISH

Finish shall be black enamel.

Units shall not contain plastic, resin, wood or unfinished metal.

Metal products shall have smooth welds, joints, and rounded corners. Joint fasteners shall be imbedded or sealed.

Units shall have a firebox dimension of 8 inches depth by 3 feet-6 inches width by 1 foot-5 inches height.

## FEATURES

A metal scoop shall be provided with each grill to dispose of ashes/coals.

Cooking grate shall be anti-theft.

## INSTALLATION

Pedestal grills shall be permanently mounted on in-ground posts. Adjacent grade shall be covered by a surface layer of compacted stone dust 3 inches vertical depth over filter fabric and extending 3 feet-4 inches in each direction from the base of the pedestal.

ADA grills shall be mounted between 1 foot-7 inches and 2 feet from finished grade to the cooking surface. Standard grills may be mounted up to 4 feet from finished grade to the cooking surface.

Provide a solid surface of 3 feet-4 inches by 3 feet-4 inches minimum accessible area at the perimeter of each ADA grill unit on the side facing the hard surface path.

Grills shall be located a minimum of 16 feet from any tree trunk and 60 feet from any playgrounds.

Top of footing shall be sloped to shed water.

## LIFE CYCLE EXPECTATIONS

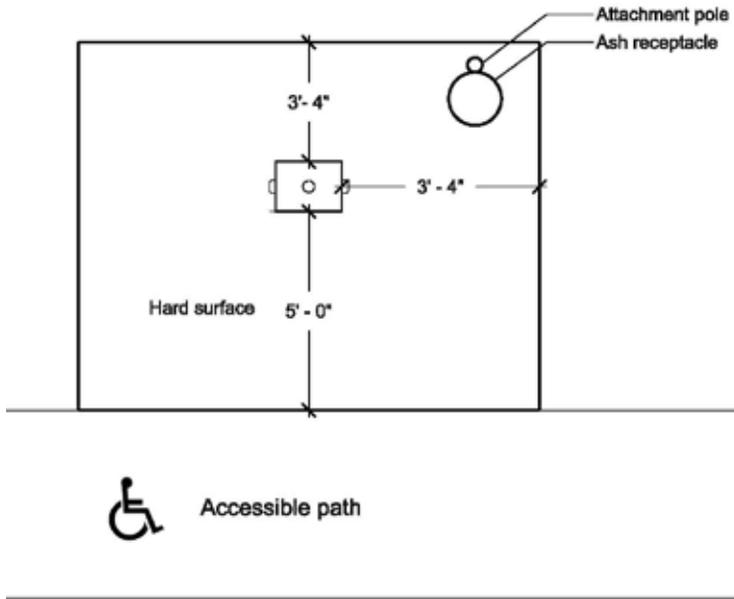
A minimum warranty of 1 year is required.

Grills are anticipated to require replacement after 10 years of normal and ordinary use.



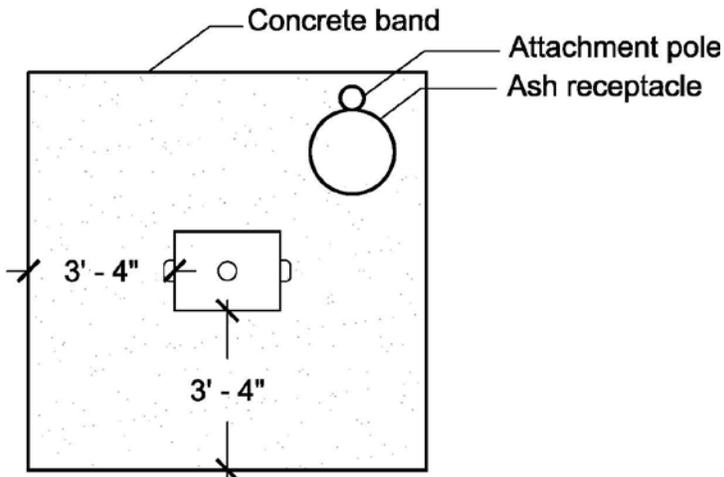
Grill

# GRILL



Accessible grill, plan view

Not to scale



Grill station, plan view

Not to scale

# HAND RAILS | STAND ALONE

CHAPTER 2: SITE FURNISHINGS

## PURPOSE

Hand rails shall be placed in locations where ramps change 6 inches or more in grade and on stairs. Handrails may also be used in conjunction with walls 1 foot-6 inches or more in vertical height.

## GENERAL INFORMATION

Hand rails shall be installed consistent with state and local building code and federal ADA standards.

## MATERIALS AND FINISH

Hand rails shall be constructed of durable materials such as galvanized steel, recycled composite resin or other appropriate splinter free, exterior material.

Metal finishing shall be of high-quality, permanent, black powder coating, provided through a heat-finished process.

Metal products shall have smooth welds, joints and properly treated corners. Joint fasteners shall be imbedded or sealed.

Composite resin shall be structural grade composed of 50% wood fiber and 50% polyethylene or fiberglass.

## FEATURES

If site requirements cause changes to height, design or color contradictory to these guidelines, the proposed design shall be approved for compliance with accessibility needs by the Department of Recreation, Parks and Cultural Activities.

In heavy use areas, skateboard deterrents may be required.

## INSTALLATION

Secure rails through a permanent in-ground or surface method consistent with manufacturer's recommendations.

Provide hand rails on both sides of the path.

Handrails shall be 5 feet minimum horizontal length.

Engineer and anchor hand rails to withstand loads per USBC.

## LIFE CYCLE EXPECTATIONS

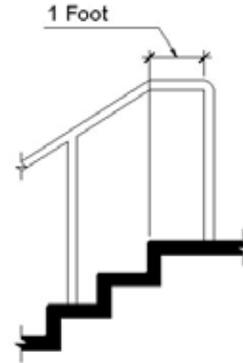
A 5 year minimum warranty is required.

Hand rails are anticipated to require replacement after 20 years of normal and ordinary use.

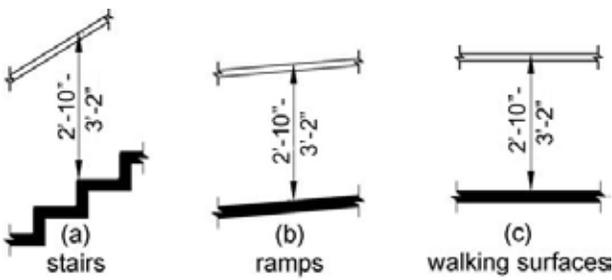
# HAND RAILS | STAND ALONE



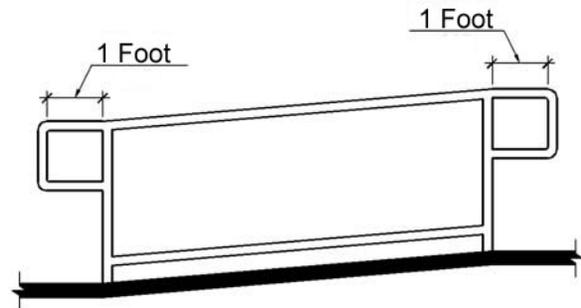
Hand rail at stair



Hand rail at top stair (1)



Hand rail heights (2)



Hand rail at ramp (3)

## IMAGE FOOTNOTES

(1,2,3) 2010 ADA Standards for Accessible Design, Department of Justice

## PURPOSE

Lighting shall be used to illuminate portions of the park including parking lots and designated areas.

## GENERAL INFORMATION

Square, down light fixtures shall be installed in park locations subject to historic light guidelines or City of Alexandria small area plan approval may be modified.

Lighting in POS zoned properties requires a Special Use Permit.

## MATERIALS AND FINISH

The lamp housing shall be die-cast aluminum with a black powder coat finish.

The lens frame shall be die-cast aluminum with a hinge assembly for maintenance. The lens shall be high impact, clear-tempered glass.

The metal pole and fitter shall be finished with a black powder coat finish.

Light fixtures shall be mounted on square aluminum poles with an extended pole mounting arm to offset the fixture.

Light poles shall be 15 feet in height and installed with an anchor base. The anchor bolts shall be recessed into an anchor base casting. Provide tamper resistant covers.

## FEATURES

Light fixtures that require separate ballast boxes are not permitted.

Lamps may include a wire guard.

Lamps shall be metal halide.

LED options may be installed with the approval of the Director of Recreation, Parks and Cultural Activities, and the Director of Transportation and Environmental Services.

Double fixtures are available.

## INSTALLATION

Light poles shall be located so as not to be in conflict with vegetation or plantings.

Lights shall be located a minimum of 3 feet from the edge of all shared-use paths or pedestrian walkways.

Light pole foundations shall be flush to finished grade. Top of footing shall be sloped to shed water.

Connections installed beneath paving shall be sleeved.

Installation work shall be performed in conformity with USBC.

Luminaire shall not extend below fixture housing.

## LIFE CYCLE EXPECTATIONS

A 3 year minimum warranty is required on area light fixtures.

A 3 year minimum warranty is required on poles.

Lights are anticipated to require replacement after 20 years of normal and ordinary use.

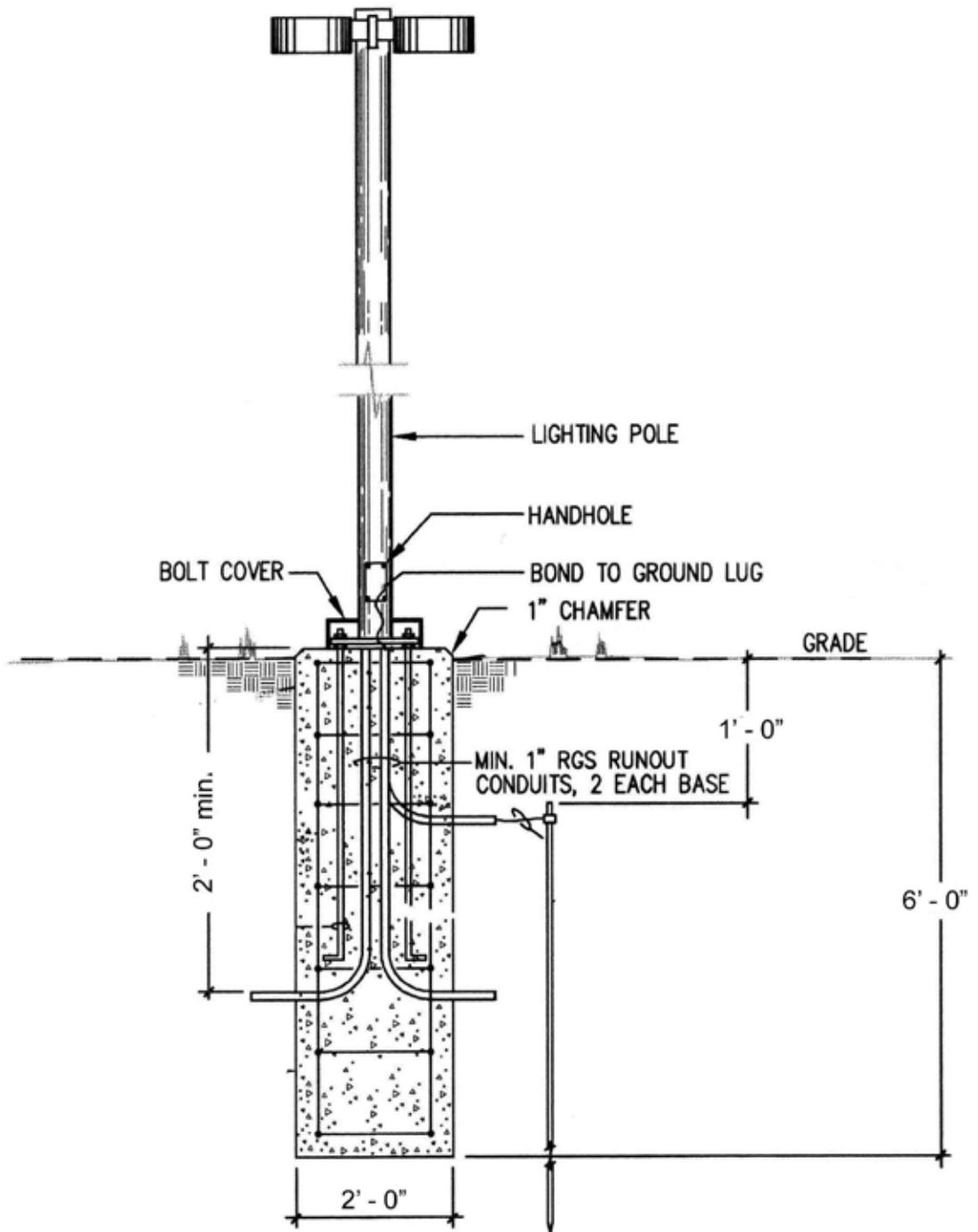


Square light fixture (1)

## IMAGE FOOTNOTES

(1) [www.sitelighting.com](http://www.sitelighting.com); Philips Gardco lighting.

# LIGHTING | AREA



Area light pole assembly

Not to scale

# LIGHTING | ATHLETIC FACILITIES

## PURPOSE

Athletic field and court lighting systems shall be provided to ensure safe play environments where athletic field/court use is desired beyond normal daylight hours.

## GENERAL INFORMATION

Athletic field and court lighting shall be provided as a complete sports lighting system.

The standard system is the Musco Light-Structure Green, or City approved equal.

Lighting levels shall provide safe play for the programmed sports. The average foot candle level on a rectangular playing surface shall be 50 fc and the uniformity shall be 2.0:1.0. The average foot candle level on a court playing surface shall be 30 fc and designated uniformity shall be 2.0:1.0.

Lighting in POS zoned properties requires a Special Use Permit.

## MATERIALS AND FINISH

Light poles and cross arms shall be galvanized steel, and shall meet wind loading requirements of the IBC Building Code and AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.

Bases shall be pre-stressed direct burial concrete. Foundations shall be designed by a professional engineer licensed in the Commonwealth of Virginia.

The mounting heights for athletic fields are 60-80 feet above the playing surface. Mounting heights for athletic courts are 20-40 feet above the playing surface.

Wiring shall be contained inside the cross arms and poles.

Light fixtures shall be 1500W or 1000W metal halide lamps with external visors to minimize light glare and spill.

## FEATURES

Light system shall include a remote monitoring system for performance tracking.

Lighting system shall include a remote lighting control system that allows operation via web site, phone, fax and email. System shall be programmable up to a year in advance and accept a seven day schedule.

Lighting system shall include an accessible on-off selector switch located on one of the poles.

Lighting shall include pegs on poles for maintenance access.

Ballasts shall be located on each individual pole.

## INSTALLATION

Light pole installations require separate permits.

Coordinate player-activated switches and timers to minimize additional infrastructure.

Installation work shall be performed in conformity with USBC.

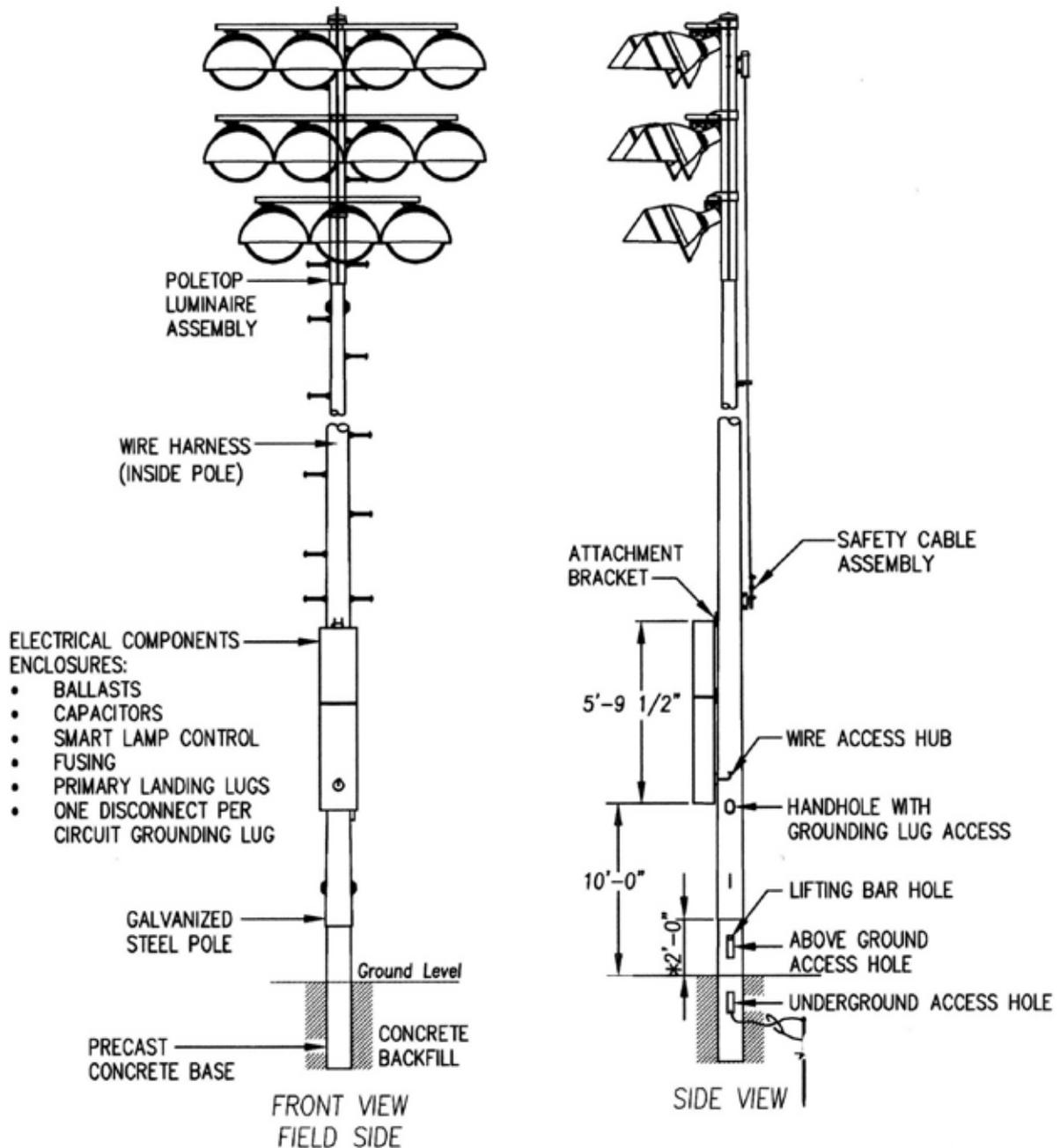
Poles shall include direct burial concrete bases.

## LIFE CYCLE EXPECTATIONS

A 25 year warranty is required on athletic lighting systems.

Lighting systems are anticipated to require replacement after 40 years of normal and ordinary use.

# LIGHTING | ATHLETIC FACILITIES



Typical athletic lighting

Not to scale

# LIGHTING | GROUND RECESSED

## PURPOSE

Ground recessed lights shall be used to illuminate significant park features or items of special interest such as art, flag poles and signs.

## GENERAL INFORMATION

Lighting installations require electrical permits.

Lighting in POS zoned properties requires a Special Use Permit.

## MATERIALS AND FINISH

The lamp housing shall be composite material, resistant to ultraviolet degradation and corrosion.

The lens shall be ADA compliant, anti-slip material and able to withstand loads up to 200 PSI, with a commercial grade frame.

## FEATURES

Lens frame material shall be bronze, aluminum or black finish.

Directional shields shall be provided where appropriate.

Lamps shall be metal halide.

LED options may be installed with the approval of the Director of Recreation, Parks and Cultural Activities.

## INSTALLATION

Lights shall be installed in locations with positive drainage away from lights.

Flush light fixtures shall be installed in hardscape surfaces.

Connections installed beneath paving shall be sleeved.

Installation work shall be performed consistent with USBC.

Install manufacturer's recommended drainage.

## LIFE CYCLE EXPECTATIONS

A 1 year minimum warranty is required on ground recessed light fixtures.

Lamps are anticipated to require replacement after 2 years of normal and ordinary use.

Light fixtures are anticipated to require replacement after 7-10 years of normal and ordinary use.

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# LIGHTING | HISTORIC POLE

## PURPOSE

The historic pole light shall be used as a street or park road light in the City's Historic Districts to illuminate portions of public land or right-of-way.

## GENERAL INFORMATION

Gadsby light fixtures shall be installed in the Gadsby Light District within the Old and Historic District of Alexandria.

Lighting in POS zoned properties requires a Special Use Permit.

## MATERIALS AND FINISH

Lights shall be mounted on fiberglass or aluminum poles.

Poles and fitters shall be finished with a black UV-resistant catalyzed urethane coating.

Light poles/fixtures/luminaires shall be 14 feet total height from finished grade and installed with an anchor base.

The ornamental base cover shall be designed to cover the anchor bolts with one or two pieces, be vandal resistant, and finished to match the post.

The pole top shall meet the requirements of the Department of Transportation and Environmental Services.

No cage, band, or finial shall be installed.

Fixture metal finishing shall be a high-quality, permanently affixed powder coating, done through a heat-finished process.

## FEATURES

Light fixtures that require separate ballast boxes are not permitted.

Globes/post tops shall include full top reflectors.

LED options may be installed with the approval of the Director of the Department of Recreation, Parks and Cultural Activities, and the Director of the Department of Transportation and Environmental Services.

## INSTALLATION

Light poles shall be located so as not to be in conflict with vegetation or plantings.

Lights shall be located a minimum of 3 feet from the edge of all shared-use paths or pedestrian walkways.

Light pole foundations shall be flush to finished grade. Top of footing shall be sloped to shed water.

Connections installed beneath paving shall be sleeved.

Installation work shall be performed in conformity with USBC.

Lights shall be installed on a GFI circuit and switch.

## LIFE CYCLE EXPECTATIONS

A 3 year minimum warranty is required on historic light fixtures.

A 3 year minimum warranty is required on poles.

Lights are anticipated to require replacement after 20 years of normal and ordinary use.

# LIGHTING | HISTORIC POLE

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Gadsby historic pole light



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Historic light fixtures (1)

## IMAGE FOOTNOTES

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(1) <http://www.hadco.com>

# LIGHTING | STREET POLE

## PURPOSE

The street pole light shall be used to illuminate portions of the park system, including streets, park roads and trails.

## GENERAL INFORMATION

Light fixtures shall be installed as a street or park road light in areas not guided by historic light fixture requirements or small area plan requirements.

Lighting in POS zoned properties requires a Special Use Permit.

The standard light fixture is Hadco, Inc., R53, or City approved equal.

## MATERIALS AND FINISH

The globe/post top shall be Type V, clear stabilized acrylic with a Victorian style roof.

No cage, band, or finial shall be installed.

The pole and fitter shall be finished with a black UV-resistant catalyzed urethane coating.

Lights shall be mounted on fiberglass, fluted and tapered decorative poles for post top lights.

Light poles/fixtures/luminaires shall be 14 feet total height from finished grade and installed with an anchor base.

The ornamental base cover shall be designed to cover the anchor bolts in one or two pieces, be vandal resistant and finished to match the post.

## FEATURES

Light fixtures that require separate ballast boxes are not permitted.

Post tops shall include full top reflectors and may include a house side shield if warranted by the pole location.

LED options may be installed with the approval of the Director of Recreation, Parks and Cultural Activities, and the Director of Transportation and Environmental Services.

## INSTALLATION

Light poles shall be located so as not to be in conflict with vegetation or plantings.

Lights shall be located a minimum of 3 feet from the edge of all shared-use paths or pedestrian walkways.

Light pole foundations shall be flush to finished grade. Top of footing shall be sloped to shed water.

Connections installed beneath paving shall be sleeved.

Installation work shall be performed in conformity with USBC.

## LIFE CYCLE EXPECTATIONS

A 5 year minimum warranty is required on street pole light fixtures.

A 3 year minimum warranty is required on poles.

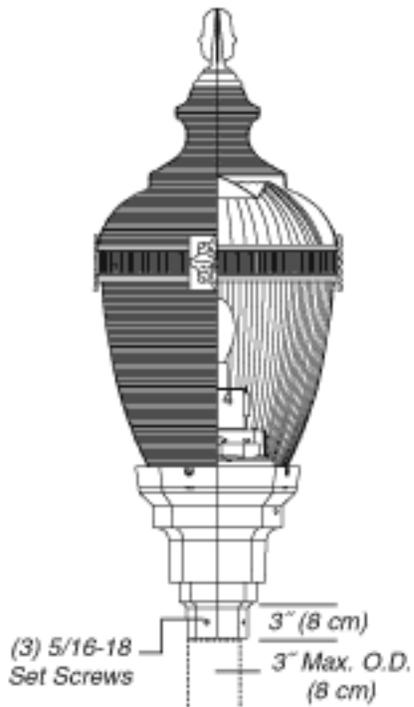
Lights are anticipated to require replacement after 20 years of normal and ordinary use.



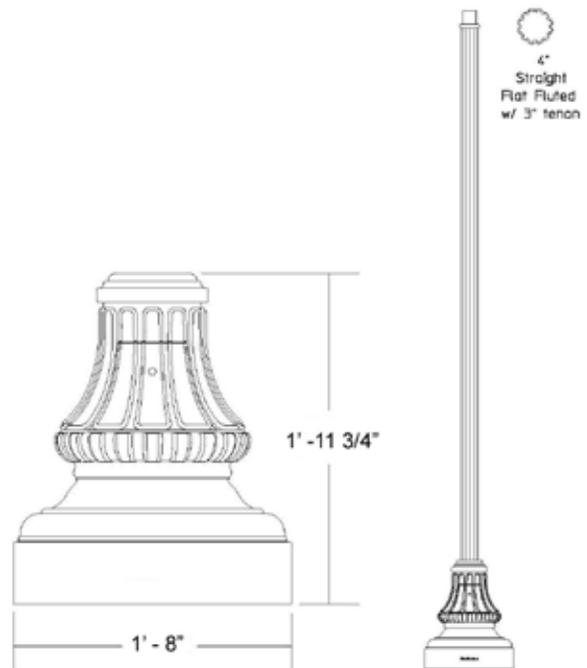
Fiberglass fluted base

# LIGHTING | STREET POLE

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Street light fixture (1)



Virginia Dominion Power - Fiberglass fluted street pole (2)

## IMAGE FOOTNOTES

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(1) <http://www.hadco.com>

(2) <http://www.hadco.com>

# PICNIC TABLE | ADA

CHAPTER 2: SITE FURNISHINGS

## PURPOSE

Accessible picnic tables shall be located in designated areas of parks.

## GENERAL INFORMATION

One wheelchair accessible table is required for every four tables with a minimum of one per picnic area. Table top area shall be a minimum 24 square feet.

The width of accessible seat openings shall be between 2 feet-6 inches and 4 feet. These spaces shall be located on the side or end of the table with the appropriate clearance beneath the table.

The standard ADA compliant table is the Barco, Apollo Picnic Table, model T9EBHDCPPSM, or City approved equal.

## MATERIALS AND FINISH

Tables shall be constructed of a sturdy, durable metal such as galvanized steel or other metals designed for commercial and exterior use.

Metal finishing shall be a high-quality, permanently affixed powder coating, preferably done through a heat-finished process, or a high performance thermoplastic finish.

Tables shall be dark green. Tables in Historic Districts shall be black.

Metal products shall have smooth welds, joints and corners. Joint fasteners shall be imbedded or sealed.

Materials and parts shall contain recycled materials.

## FEATURES

Picnic tables are available in multiple configurations. The standard is rectangular with side benches.

## INSTALLATION

Tables shall be permanently surface mounted with anchor bolts or consistent with the manufactures recommended in-ground method.

Picnic tables shall be accessible by hard surface paths.

The hard surface pad shall have a minimum 1% and 3% maximum cross slope, and provide 3 feet-4 inches minimum clearance on all sides and 5 feet minimum clearance on the ADA accessible side.

Tables shall be located in seasonal shade where possible.

A trash/recycling can shall be located within 15 feet, but 5 feet minimum from the picnic table.

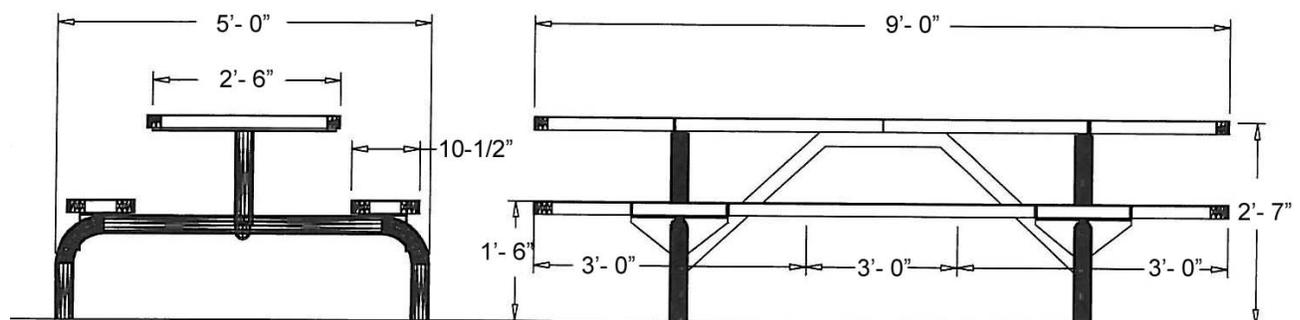
## LIFE CYCLE EXPECTATIONS

A 10 year minimum warranty is required.

Picnic tables are anticipated to require replacement after 15 years of normal and ordinary use.

## IMAGE FOOTNOTES

(1) [http://www.barcoproducts.com/store/item.asp?ITEM\\_ID=1489](http://www.barcoproducts.com/store/item.asp?ITEM_ID=1489)



Accessible picnic table (1)

# PICNIC TABLE | ADA

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Accessible picnic table

# PICNIC TABLE | STANDARD

CHAPTER 2: SITE FURNISHINGS

02

## PURPOSE

Picnic tables shall be located in designated areas of parks.

## GENERAL INFORMATION

Tables shall be tip resistant.

Table design shall permit 'walk through' access.

The standard picnic tables is the Victor Stanley CM-565 or City approved equal.

## MATERIALS AND FINISH

Tables shall be constructed of galvanized steel or other durable metals designed for commercial and exterior use.

Metal finishing shall be a high-quality, permanently affixed powder coating done through a electrostatic process, or high performance thermoplastic finish.

Metal products shall have smooth welds, joints and corners. Joint fasteners shall be imbedded or sealed to avoid corrosion and personal injury.

Frame legs shall be 2 3/8 inch minimum outside diameter, 11 gauge tubular steel welded into a single piece. Cross members shall be 1 7/8 inch minimum outside diameter tubular steel.

Frames shall be green. Tables in historic districts shall be black.

Table tops and seats shall be extruded, UV resistant, recycled high-density polyethylene. Color shall be neutral or wood tone.

## FEATURES

Picnic tables are available in multiple configurations; the standard rectangle with side benches is required.

Benches can be configured as an 8 feet long table with 6 feet long benches for compliance with ADA.

## INSTALLATION

Tables shall be surface mounted permanently with anchor bolts, or consistent with the manufacture's recommended in-ground method.

Picnic tables shall be accessible by hard surface paths.

The hard surface pad shall have a minimum 1% cross slope and provide a minimum of 3 feet-4 inches of clearance on all sides and a minimum of 5 feet on the ADA accessible side.

Tables shall be located in seasonal shade where possible.

A trash/recycling can shall be located within 15 feet, but 5 feet minimum from the picnic table.

## LIFE CYCLE EXPECTATIONS

A 10 year minimum warranty is required.

Picnic tables are anticipated to require replacement after 15 years of normal and ordinary use.



Picnic table (1)

## IMAGE FOOTNOTES

(1) <http://www.victorstanley.com/products/?mode=prodDetail&id=479&catId=2>

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# RECEPTACLE | ASH/COAL

CHAPTER 2: SITE FURNISHINGS

## PURPOSE

Ash/coal receptacles shall be provided at each park grill for the safe and accessible disposal of ashes/ coals.

## GENERAL INFORMATION

Parks allowing the use of grills shall provide one ash/ coal receptacle per grill.

The standard receptacle size is 10 gallon. The top of the receptacle shall be 1 foot-6 inches minimum and 4 feet maximum vertical height.

Each receptacle shall include a lid.

Each lid and can shall be connected by a chain to prevent theft.

Each receptacle shall be clearly marked with red lettering indicating the specific use of the bin.

Related Standards: Grill.

## MATERIALS AND FINISH

The receptacle and lid shall be 25 gauge minimum galvanized steel, or other fire and heat retardant material.

Steel chains shall be  $\frac{3}{16}$  inch welded, hot dipped galvanized.

The receptacle, lids and chains shall be silver/gray in color.

Material shall be of high strength, suitable for heavy public use and exterior exposure.

## FEATURES

Heat-resistant metal scoops shall be provided at each receptacle. Scoops shall be commercial grade and include a chain or other method of securing to the receptacle.

## INSTALLATION

Ash/coal receptacles shall be secured to an in-ground mounted pole with a secure chain. Poles shall be 2  $\frac{1}{2}$  inches outside diameter with a galvanized finish. Poles shall be 3 feet-6 inches, and include a cap and welded handle to accommodate locked chains for the receptacle.

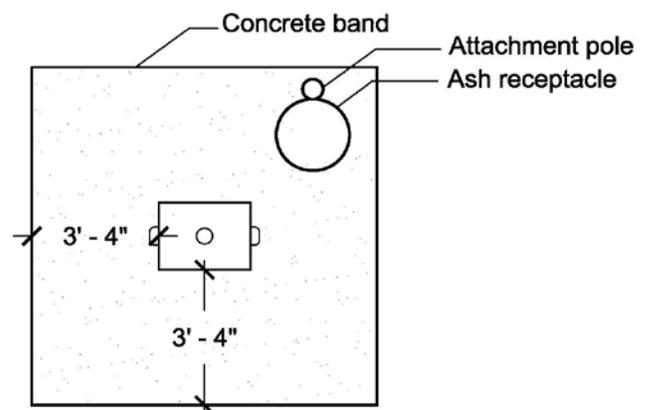
Poles shall be mounted in a 1 foot-6 inches minimum diameter and 2 feet-6 inches minimum vertical depth concrete footer. Top of footing shall be sloped to shed water.

Bins shall be placed on a hardscape pad and accessible by a hard surface path with a 3 feet-4 inches minimum horizontal width on the side adjacent to the solid surface path.

## LIFE CYCLE EXPECTATIONS

A 5 year minimum warranty is required.

Receptacles are anticipated to require replacement after 6 years of normal and ordinary use.



Receptacle location diagram

Not to scale

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# RECEPTACLE | RECYCLING

## PURPOSE

Recycling receptacles shall be located adjacent to activity centers, trail heads and other high-traffic areas within and around parks/open space.

## GENERAL INFORMATION

Recycling is mandated by the City of Alexandria.

The standard recycling receptacle is the Victor Stanley Ironsites model SD-42 (36 gallon) unit with side-door in powder-coated blue steel (RAL5010), or City approved equal.

The top band of recycling bins and lid shall be marked with "Recycling" in white lettering.

Corresponding plastic interior liners shall be used in all receptacles.

Related Standards: Receptacle | Ash/Coal, Receptacle | Trash.

## MATERIALS AND FINISH

Receptacles shall be constructed of sturdy, durable metal such as galvanized steel, ductile cast iron or other metals designed for commercial and exterior use.

Metal finishing shall be of high-quality, permanently affixed powder coating, done through a heat-finished process.

## FEATURES

Metal products shall have smooth welds, joints and corners. Joint fasteners shall be imbedded or sealed.

Hinges, latches and moving parts shall be weather resistant and oiled at the time of purchase.

Receptacles shall contain a minimum of 70% post consumer recycled steel.

## INSTALLATION

Receptacles shall be affixed to hard surfaces consistent with manufacturer recommendations.

A hard surface of 3 feet-4 inches by 3 feet-4 inches minimum accessible area shall be provided adjacent to accessible paths.

Receptacles shall be no taller, or mounted higher, than 4 feet above adjacent grade at the tallest point of the unit.

Placement of the receptacles shall not inhibit the monitoring or emptying of the contents.

The manufacturer's recommendations shall be followed to ensure the receptacles are installed level.

## LIFE CYCLE EXPECTATIONS

A 10 year minimum warranty is required.

Receptacles are anticipated to require replacement after 20 years of normal and ordinary use.



Recycling receptacle

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# RECEPTACLE | TRASH

## PURPOSE

Trash receptacles shall be located adjacent to activity centers, trail heads and other high-traffic areas within and around parks/open space.

## GENERAL INFORMATION

Trash shall be contained in a durable metal, covered receptacle.

The City standard trash receptacles are Victor Stanley Ironsites model SD-42 (36 gallon) unit with side-door in powder-coated black steel (RAL9005), or City approved equal. The 'dome-top' style lid in black is required.

Corresponding plastic interior liners shall be used.

Recycling is mandated by the City of Alexandria. See "Recycling Receptacle" for appropriate container.

Related Standards: Receptacle | Ash/Coal, Receptacle | Recycling.

## MATERIALS AND FINISH

Receptacles shall be constructed of sturdy, durable metal such as galvanized steel, ductile cast iron or other metals designed for commercial and exterior use.

Metal finishing shall be of high-quality, permanently affixed powder coating, done through a heat-finished process.

Black is the required color for trash receptacles.

Metal products shall have smooth welds, joints and corners. Joint fasteners shall be imbedded or sealed.

Hinges, latches and moving parts shall be weather resistant and oiled at the time of purchase.

Receptacles shall contain a minimum of 70% post consumer recycled steel.

## INSTALLATION

Receptacles shall be affixed to hard surfaces consistent with manufacturer recommendations.

A hard surface of 3 feet-4 inches by 3 feet-4 inches minimum accessible area shall be provided adjacent to accessible paths.

Receptacles shall be no taller, or mounted higher, than 4 feet above adjacent grade at the tallest point of the unit.

Placement of the receptacles shall not inhibit the monitoring or emptying of the contents.

The manufacturer's recommendations shall be followed to ensure the receptacles are installed level.

## LIFE CYCLE EXPECTATIONS

A 10 year minimum warranty is required.

Receptacles are anticipated to require replacement after 20 years of normal and ordinary use.



Trash receptacle

Intentionally Blank

# WHEEL STOP

## PURPOSE

Pre-fabricated wheel stops shall be installed at vehicular parking areas located within park facilities. Wheel stops shall be used to define edges of parking spaces and to prevent vehicle encroachment.

## GENERAL INFORMATION

The standard product is Barco Brand Premium Color Plastic Wheel Stop (WHLSTP) yellow color, 6 feet in length and 4 inches minimum vertical height, or City approved equal.

In historic districts or on historic properties, wheel stops shall be pre-fabricated concrete or gray in color.

One wheel stop shall be provided for each designated parking space. Wheel stop shall be located 3 feet minimum horizontal distance from the adjacent walkway/path.

## MATERIALS AND FINISH

Wheel stops shall be made of durable materials such as high density polyethylene, rubber/synthetic composites or precast concrete.

Wheel stops shall contain recycled materials.

## INSTALLATION

Install wheel stops consistent with manufacturer's recommendations.

Wheel stops shall be installed on asphalt or other hard surface.

When installed in parking areas of compacted stone or other loose material, wheel stops shall be mounted on solid leveling pads at finish grade, with rebar spikes secured into subgrade.

Stops shall be secured with a minimum of 3 rebar spikes sunk into pavement and subgrade, consistent with manufacturer recommendations.

Installation of wheel stops shall not impede access of wheelchairs or other mobility devices through parking lots or to pathways.

## LIFE CYCLE EXPECTATIONS

A 5 year minimum warranty is required.

Wheel stops are anticipated to require replacement after 10 years of normal and ordinary use.



Wheel stop

Intentionally Blank

# CHAPTER 3

## FENCES AND WALLS

Fence | Backstop  
Fence | Chain Link  
Fence | Metal  
Fence | Netting System  
Fence | Paddock  
Fence | Post Anchoring Systems  
Fence | Solid Wood Board  
Fence | Temporary Installations  
Wall | Cellular Retaining  
Wall | Segmental Retaining

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## PURPOSE

Backstops shall be used to separate athletic activities and surrounding areas.

## GENERAL INFORMATION

Backstops shall be permanent, hooded, and flared/winged structures installed on diamond fields.

Backstop dimensions include 16 feet minimum horizontal wings (each), 20 feet minimum horizontal center panel, 12 feet minimum vertical height fence at the wings and rear of the hood and 20 feet minimum vertical height clearance at the front of the hood.

Related Standards: Field Diagram | Baseball, Field Diagram | Softball, Track/Warning Track, Infield Mix.

## MATERIALS AND FINISH

Backstop chain link fabric mesh shall have a core wire diameter of 9 gauge for the wings and hood. Fabric mesh shall have a core wire diameter of 6 gauge for the center panels. The diamond mesh shall be 2 inch opening throughout, without knots or ties except as knuckling on the top and bottom of the fabric. Backstops shall include bottom rails.

Fabric shall be matte woodland/dark green in color. Within historic districts fabric shall be matte black in color.

Chain link fabric shall be PVC coated, Class 2b, thermally fused and bonded.

Backstop posts shall be 6 inches outside diameter, Schedule 40. Hood frame rails shall be 2 inches outside diameter.

Fence panels over 6 feet in vertical height shall have a middle rail. Mid-rails/braces shall be 1 5/8 inch outside diameter.

Backstops shall include 'kick boards' on the center panels. Kick boards shall be 1 foot-4 inch vertical height, 3/4 inch thick plywood the length of the center panels. Kick boards shall be primed and painted to match the fence.

## INSTALLATION

Fence posts and supports shall be located outside the field of play for athletic facilities.

Posts shall be permanently mounted in concrete footings. Top of footing shall be sloped to shed water.

Footings shall be installed flush to adjacent finished grade.

Footings and supports shall be designed and sealed by a professional engineer.

Knuckling of fence fabric shall be 1 1/2 to 2 inches vertical height above the surrounding finish grade.

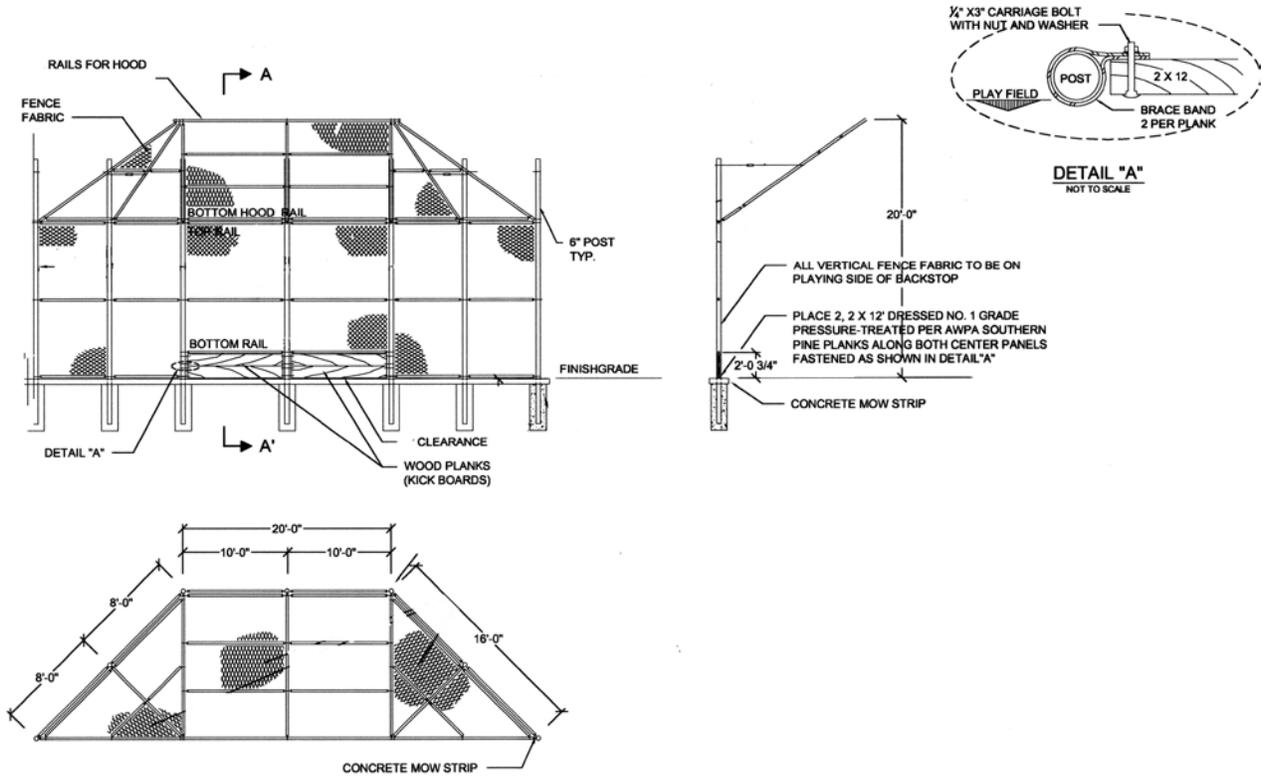
## LIFE CYCLE EXPECTATIONS

A 5 year minimum warranty is required on metal framework.

Kickboards are anticipated to require replacement after 4 years of normal and ordinary use.

Backstop structures are anticipated to require replacement after 15-20 years of normal and ordinary use.

# FENCE | BACKSTOP



Hooded chain link backstop

Not to scale



Hooded chain link backstop

# FENCE | CHAIN LINK

## PURPOSE

Chain link fences shall be used to separate athletic fields, ball courts, playgrounds and active recreation play areas from adjacent uses, and to secure property boundaries.

## GENERAL INFORMATION

Fences shall be 3 feet-6 inches maximum height (playground and use-separation fences), 6 feet (field perimeters), or 12 feet (ball courts). A Special Use Permit is required for fences exceeding 6 feet in height. Additional temporary netting shall be 15 feet maximum vertical height from adjacent grade without a Special Use Permit.

Fenced park areas greater than one half acre shall have two entry points minimum.

Fences shall not prevent movement of wheelchairs and other devices along accessible paths.

Pedestrian entrances shall be 4 feet minimum horizontal width.

## MATERIALS AND FINISH

Chain link fences shall be matte woodland/dark green in color. Within historic districts, chain link fences shall be matte black in color.

Chain link fabric shall be PVC coated, Class 2b, thermally fused and bonded.

Chain link fabric shall have a core wire diameter of 9 gauge. The diamond mesh shall be 2 inches without knots or ties, except as knuckling on the top and bottom of the fabric.

Fence end and corner posts shall be 6 inches outside diameter. Line posts shall be 2 ½ inches outside diameter. Rails/braces shall be 1 ⅝ inch outside diameter.

Chain link fence shall include a top and bottom rail. Fences over 6 feet in vertical height shall include a middle rail.

## FEATURES

Fences surrounding diamond field outfields shall use a "Poly-Cap" system on the top rail.

Gates shall have a lockable fork latch, with a cane rod on double gates. Gates shall include a 2 foot horizontal width threshold the full length of the gate and adjacent posts.

Pedestrian gates shall be single gates 4 feet minimum horizontal width. Gate hinges shall be attached to gate posts via clamps and pins that ensure hinges do not rotate on the post.

Maintenance access gates shall be double gates a total of 16 feet horizontal width. Width variations shall be approved by the Director of Recreation, Parks and Cultural Activities. Gate hinges shall be attached to gate posts via clamps and pins that ensure hinges do not rotate on the post.

Dog parks shall include double entrance gates.

## INSTALLATION

Fence posts and supports shall be located outside the field of play for athletic facilities.

Fences shall be permanently mounted into concrete footings, 1 foot-6 inches minimum diameter, 2 feet-6 inches minimum depth. Top of footing shall be sloped to shed water.

Footings shall be installed flush to adjacent finish grade.

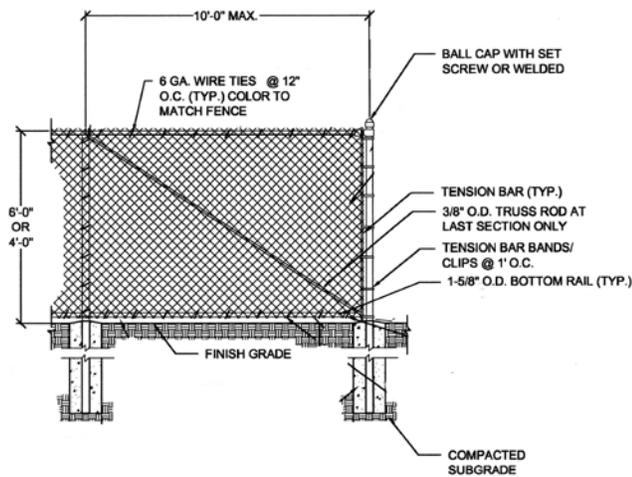
Fence fabric knuckling shall be installed 1 ½ to 2 inches vertical height above surrounding finish grade.

## LIFE CYCLE EXPECTATIONS

A 5 year minimum warranty is required.

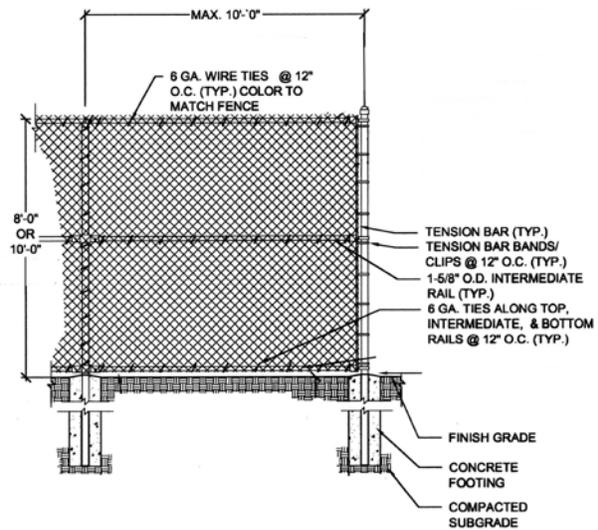
Chain link is anticipated to require replacement after 15-20 years of normal and ordinary use.

# FENCE | CHAIN LINK



Chain link fence 4'

Not to scale

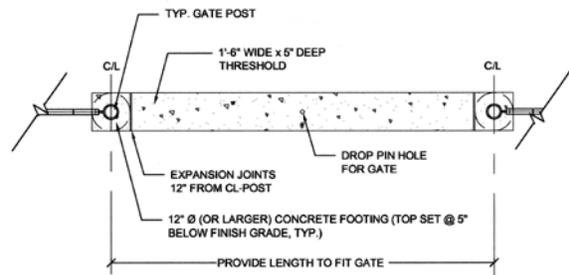


Chain link fence

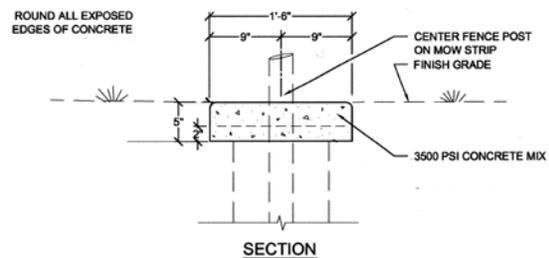
Not to scale



Chain link fence



PLAN



SECTION

NOTE: CONCRETE SURFACE SHALL BE RUBBED FINISH

Concrete threshold

Not to scale

# FENCE | METAL

## PURPOSE

Metal fencing shall be used in historic districts and special conditions of park use.

## GENERAL INFORMATION

Fences shall be 6 feet maximum vertical height. A Special Use Permit is required for fences exceeding 6 feet in height.

Fences shall be 3 feet-6 inches minimum vertical height where installed for use-separation.

Fences shall not prevent movement of wheelchairs and other devices along accessible paths.

Pedestrian entrances shall be 4 feet minimum horizontal width.

## MATERIALS AND FINISH

Metal fences shall be black in color.

Fencing shall consist of 2 ½ inch square line posts with a 14 gauge wall thickness, constructed of steel or other durable metal designed for exterior use.

Picketsets shall be ¾ inch solid bars constructed of steel or other durable metal designed for exterior use.

Corner and terminal posts shall be square steel tubing 3 inches square, with a ⅜ inch wall thickness.

## FEATURES

Decorative post caps shall include a newell post ball cap sized to fit post top.

Fences shall include ornamental steel rings at a dimension of 3 ⅞ inches outside dimension or sized to fit picket spacing.

Access gates shall include a lockable fork latch. Double gates shall include a cane rod. Gates shall include diagonal bracing.

## INSTALLATION

Shop drawings for fabrication are required to be approved by the Director of Recreation, Parks and Cultural Activities.

Fences shall be permanently mounted in concrete footings.

Footings shall be installed flush to adjacent finish grade. Top of footing shall be sloped to shed water.

Bottom of pickets shall be installed 1 ½ to 2 inches vertical height from the surrounding finish grade.

Fence panels shall step panel-to-panel, not slope, with the topography of the site.

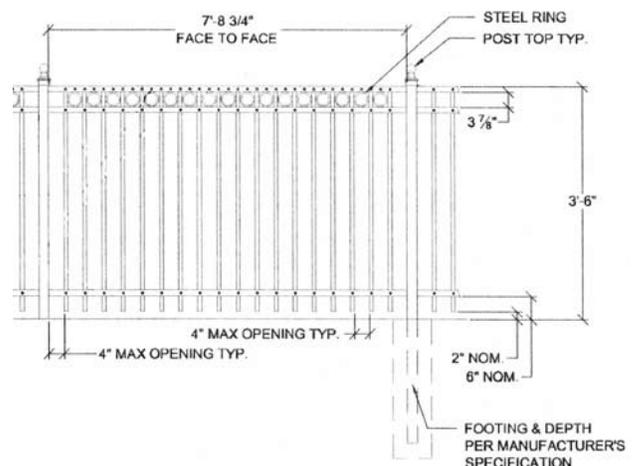
## LIFE CYCLE EXPECTATIONS

A 10 year minimum warranty is required.

Metal fencing is anticipated to require replacement after 20-30 years of normal and ordinary use.



Metal fence



Metal fence

Not to scale

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# FENCE | NETTING SYSTEM

CHAPTER 3: FENCE AND WALLS

## PURPOSE

Stationary field netting systems shall be used as temporary or permanent flexible barriers to enhance separation of athletic fields, ball courts, playgrounds and active recreation play areas from adjacent uses.

## GENERAL INFORMATION

Temporary netting shall be 15 feet maximum vertical height from adjacent grade without a Special Use Permit.

## MATERIALS AND FINISH

Field netting shall be #36 knotted black nylon. Strands shall have a 200 pound minimum breaking strength.

Netting system shall include 4 inch outside diameter posts. Total post height of the netting and fence shall be 15 feet from adjacent finish grade. Posts shall be spaced 20 feet on-center.

Netting system shall include a top cable connected to each pole, and include adjustable turnbuckles on individual cable runs.

Netting fabric shall include grommets attached via metal clips to the cable and fence at intervals of 1 foot-6 inches on-center continuous. The fabric shall be attached to the poles by nylon lacing twine. Strands shall have a 200 pound minimum breaking strength.

## FEATURES

Netting system may be installed in absence of a corresponding metal frame. This system requires provision of a top and bottom cable system. The bottom cable system shall be installed 2 vertical inches above the surrounding finish grade.

## INSTALLATION

Netting system posts shall be permanently mounted into concrete footings. Top of footing shall be sloped to shed water.

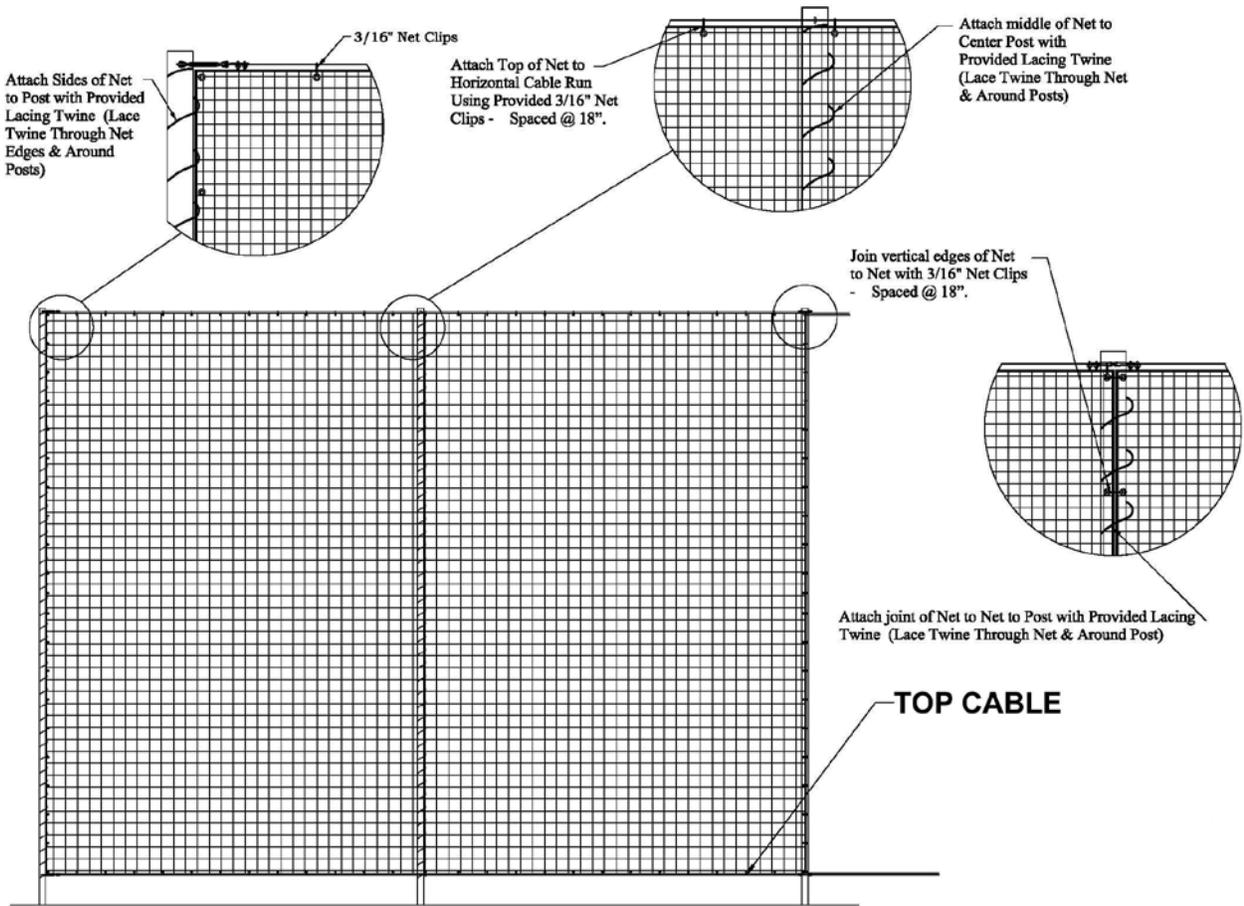
Footings shall be installed flush to surrounding grade.

## LIFE CYCLE EXPECTATIONS

A 3 year minimum warranty is required.

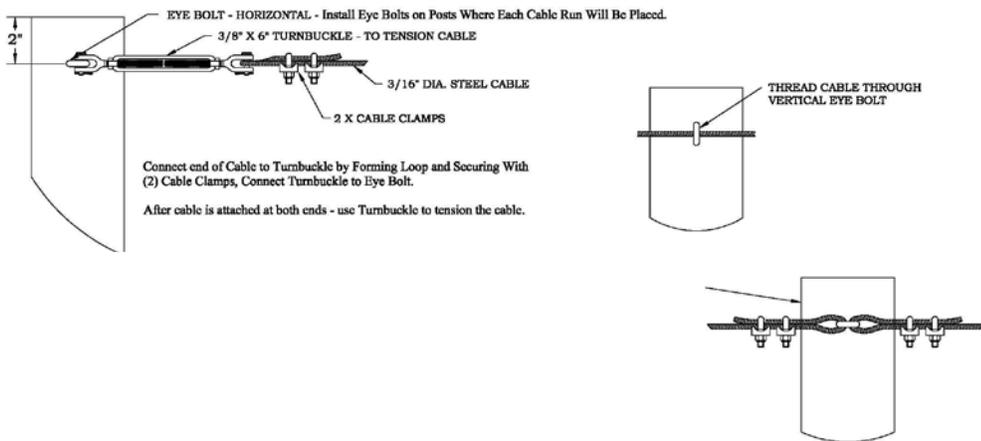
Netting is anticipated to require replacement after 5 years of normal and ordinary wear.

# FENCE | NETTING SYSTEM



Fence netting system

Not to scale



Fence netting system

Not to scale

## IMAGE FOOTNOTES

(1) <http://www.ballfabrics.com/sports-netting/category/sports-netting>

## PURPOSE

Paddock fence shall be used on sites with historic context.

## GENERAL INFORMATION

Paddock fence shall be constructed of vertical posts supporting two horizontal rails.

Paddock fence shall be 3 feet-6 inches maximum vertical height from post top to adjacent finished grade

Fences shall not prevent movement of wheelchairs and other devices along accessible paths.

Pedestrian entrances shall be 4 feet minimum horizontal width.

## MATERIALS AND FINISH

Lumber materials shall be pressure-treated redwood or similar wood.

Pressure-treated lumber shall not be treated with Chromated Copper Arsenate (CCA).

Pressure-treated lumber shall be Alkaline Copper Quaternary (ACQ) or Copper Borate Azole (CA) type.

Where Alkaline Copper Quaternary (ACQ) lumber is used, fasteners shall be galvanized or stainless steel.

Posts shall be 4 inches by 4 inches. Rails shall be 4 inches by 4 inches, taper splits (nominal dimensions).

## INSTALLATION

Fences shall be permanently mounted in concrete footings. Footing shall be 1 foot-6 inches minimum diameter, and 2 feet-6 inches minimum depth.

Footings shall be flush to adjacent finish grade. Top of footing shall be sloped to shed water.

Fences shall permit view of parks and activity centers from the public right-of-way.

Fences shall step, not slope, with the topography of the site.

## LIFE CYCLE EXPECTATIONS

A 5 year minimum warranty is required.

Paddock fence is anticipated to require replacement after 10 years of normal and ordinary wear.



Paddock fence

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# FENCE | POST ANCHORING SYSTEMS

## PURPOSE

A fence post anchoring system shall be used for retaining and landscape walls where a fence or rail is required.

## GENERAL INFORMATION

Walls 2 vertical feet in height from adjacent finish grade require a fence or rail.

The standard post system is the SLEEVE-IT System by Strata Systems, utilizing the cantilever design, or City approved equal.

Related Standards: Walls | Cellular Retaining, Walls | Segmental Retaining , Fence | Chain Link.

## MATERIALS AND FINISH

Cantilever grid system shall be approximately 2 feet wide by 3 feet horizontal distance from the fence post.

Sleeve system shall be plastic, and integrated with the cantilevered mesh.

Sleeve and post footing top shall be flush to finish grade or hidden from view.

## FEATURES

Sleeve lids/covers shall be installed during construction and prior to installation of the fence post and footing.

## INSTALLATION

Install system in coordination with retaining wall or landscape wall construction.

Install system, including fence post and fence post footing, per fence manufacturer's recommendations and as coordinated with wall reinforcing.

Washed stone millings shall be installed between the back of wall cap to 6 inches on the opposite side of the fence fabric. Stone millings shall be 4 inches minimum vertical depth and placed over continuous underlayment of filter fabric.

## LIFE CYCLE EXPECTATIONS

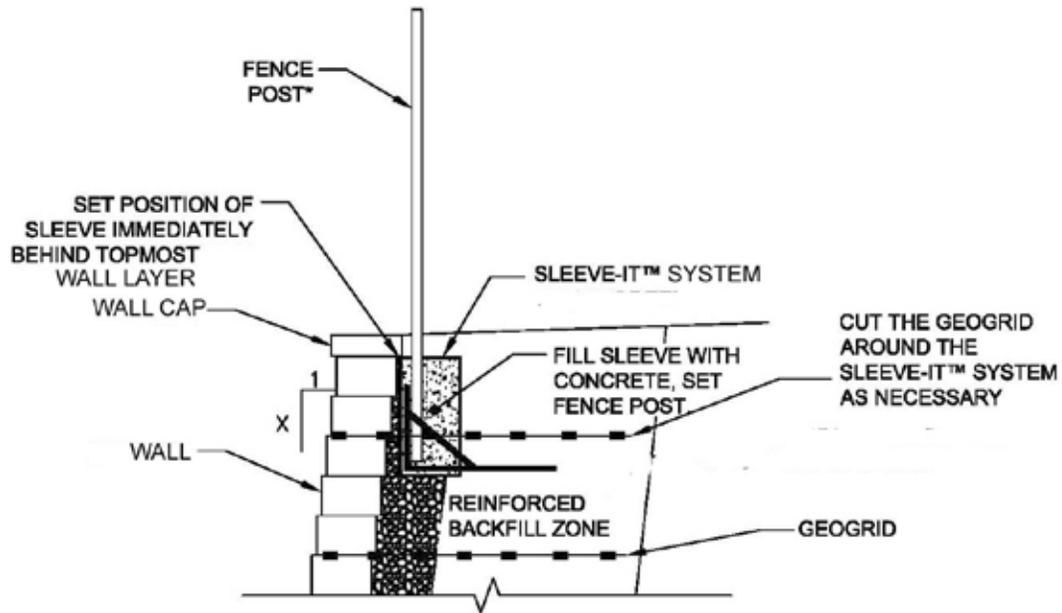
A 5 year minimum warranty is required.

Fence post anchoring systems shall require replacement at the time of wall reconstruction.



Fence post anchoring system for walls

# FENCE | POST ANCHORING SYSTEMS



Fence post anchoring system (1)

Not to scale

## IMAGE FOOTNOTES

(1) <http://www.geogrid.com/sleeve-it.html>

# FENCE | TEMPORARY INSTALLATIONS

## PURPOSE

Temporary fencing shall be used to separate temporary hazardous conditions, control pedestrian traffic flow, identify boundaries, and address other short-term control needs.

## GENERAL INFORMATION

Fence height shall be 2 vertical feet minimum to 6 vertical feet maximum, including above-grade posts and fabric.

The standard temporary fences are Duro Fence manufactured by E.C. Shephard Company, and Deer Fence by Benner's Gardens, or City approved equal.

Fences shall not prevent movement of wheelchairs and other devices along accessible paths.

Fence openings shall be 4 feet minimum horizontal dimension.

## MATERIALS AND FINISH

Fences shall be black in color.

Temporary fencing shall be constructed of welded wire construction or polypropylene plastic mesh.

Wire mesh shall be coated with durable PVC, thermally fused and bonded.

Wire mesh shall be  $\frac{3}{8}$  inch thick with openings 4 inches by 2 inches.

Polypropylene plastic mesh openings shall be 1  $\frac{3}{4}$  inch square.

Polypropylene plastic shall be UV resistant.

Fence components shall be corrosion resistant.

## INSTALLATION

Temporary fencing must be secured according to manufacturer's recommendations, including post installation and attachment.

Fencing shall close on itself or return around an end post to create a finished end suitable for adjacent traffic.

## LIFE CYCLE EXPECTATIONS

A 5 year minimum warranty is required.

Temporary fence is anticipated to be recycled after 10 uses.

# FENCE | TEMPORARY INSTALLATIONS

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Polypropylene mesh temporary fence (1)



Wire mesh temporary fence (2)

## IMAGE FOOTNOTES

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(1) [http://www.ceshepherd.com/wire\\_mesh\\_fence.html](http://www.ceshepherd.com/wire_mesh_fence.html)

(2) <http://www.bennergardens.com/just-fence.asp>

# FENCE | SOLID WOOD BOARD

## PURPOSE

Solid board fences shall be used to create a physical/visual barrier between properties.

## GENERAL INFORMATION

Solid board fences shall be 6 feet maximum vertical height.

Solid board fences shall consist of 4 inch by 1 inch or 6 inch by 1 inch (nominal dimensions) mounted perpendicular to finish grade. Provide horizontal rails continuous; top, middle, and bottom.

Board to board spacing shall not exceed  $\frac{1}{8}$  inch.

Support posts shall be 6 inch by 6 inch (nominal sizes) square posts throughout.

Gates shall not be installed in solid board fencing.

Fences shall not prevent movement of wheelchairs and other mobility devices along accessible paths.

Pedestrian fence openings shall be 4 feet minimum horizontal dimension.

## MATERIALS AND FINISH

Lumber materials shall be pressure-treated redwood or similar wood.

Metal fence fasteners/materials shall be galvanized steel or aluminum treated for exterior, commercial use.

Pressure-treated lumber shall not be treated with Chromated Copper Arsenate (CCA).

Pressure-treated lumber shall be Alkaline Copper Quaternary (ACQ) or Copper Borate Azole (CA) type.

When Alkaline Copper Quaternary (ACQ) lumber is used, fasteners shall be galvanized or stainless steel.

Post tops shall be finished with a metal cap sized to fit the post top.

Fences shall not have decorative lattice or other patterns.

## INSTALLATION

Fences shall be permanently mounted into concrete footings 1 foot-6 inches minimum diameter, 2 feet-6 inches minimum depth. Top of footing shall be sloped to shed water.

Footings shall be flush to surrounding finish grade.

Fences shall not completely obstruct the view of parks and activity centers from the public right-of-way.

Board bottoms shall be at least 1  $\frac{1}{2}$  to 2 inches vertical height from the surrounding finish grade.

Fences shall step, not slope, with the topography of the site.

When used to identify or mark property boundaries, the property lines shall be surveyed and verified prior to installation.

## LIFE CYCLE EXPECTATIONS

A 5 year minimum warranty is required.

Solid board fences are anticipated to require replacement after 10 years of normal and ordinary wear.



Solid wood board fence

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# WALLS | CELLULAR RETAINING

## PURPOSE

Cellular confinement retaining walls shall be used in locations to retain grade where establishment of a vegetated natural slope is desired.

## GENERAL INFORMATION

Retaining walls more than 2 feet vertical height require a City of Alexandria building permit.

## MATERIALS AND FINISH

Cellular confinement system shall consist of a high density polyethylene sheet strip assembly cell which forms a flexible, 3-dimensional system when expanded. Approximate collapsed dimensions shall be 11 inches by 5 inches by 8 inches or 6 inches. Approximate expanded dimensions shall be 8 inches by 20 inches by 8 inches or 6 inches. Individual cell wall thickness shall be 0.047 inches minimum.

Back cells shall be filled with manufacturer approved materials. Front cells shall be filled consistent throughout with growing media and plants. Planting mix and growing media shall be approved by the Director of Recreation, Parks and Cultural Activities.

Reinforcing materials shall be installed per the manufacturer's recommendations.

Polyethylene color shall be tan.

## FEATURES

Walls 2 vertical feet and higher shall be combined with a rail/fence system.

## INSTALLATION

Walls shall be installed on prepared leveling base consistent with manufacturer's recommendations for the base materials and details.

A minimum of two courses of cells shall be installed below finish grade.

Install drainage materials, anchoring and reinforcing as required by the wall design.

Walls shall be inspected by the appropriate permitting authority and certified by the installer.

## LIFE CYCLE EXPECTATIONS

A 10 year minimum warranty is required.

Cellular retaining walls are anticipated to require replacement after 40-50 years or more of normal and ordinary wear.



Cellular retaining wall construction

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# WALLS | SEGMENTAL RETAINING

## PURPOSE

Segmental retaining walls shall be used in locations requiring grade retention.

## GENERAL INFORMATION

Retaining walls greater than 2 feet vertical height require a City of Alexandria building permit.

## MATERIALS AND FINISH

Segmental retaining walls shall be constructed of concrete units, with a secure connection between courses.

Walls shall be graffiti resistant or be finished with a graffiti resistant coating.

## FEATURES

Segmental wall unit faces shall be straight or split.

Walls shall have a cap course of matching finish, color and material.

Unit blocks shall be a neutral color.

Provide finished edges on all exposed sides of corner units.

Walls greater than 2 feet vertical height shall be combined with a rail/fence system.

## INSTALLATION

Walls shall be installed on prepared subgrade, base materials and foundation as recommended by the manufacturer.

A minimum of two courses of block shall be installed below finish grade.

Install drainage materials and reinforcing as required by the wall design and height.

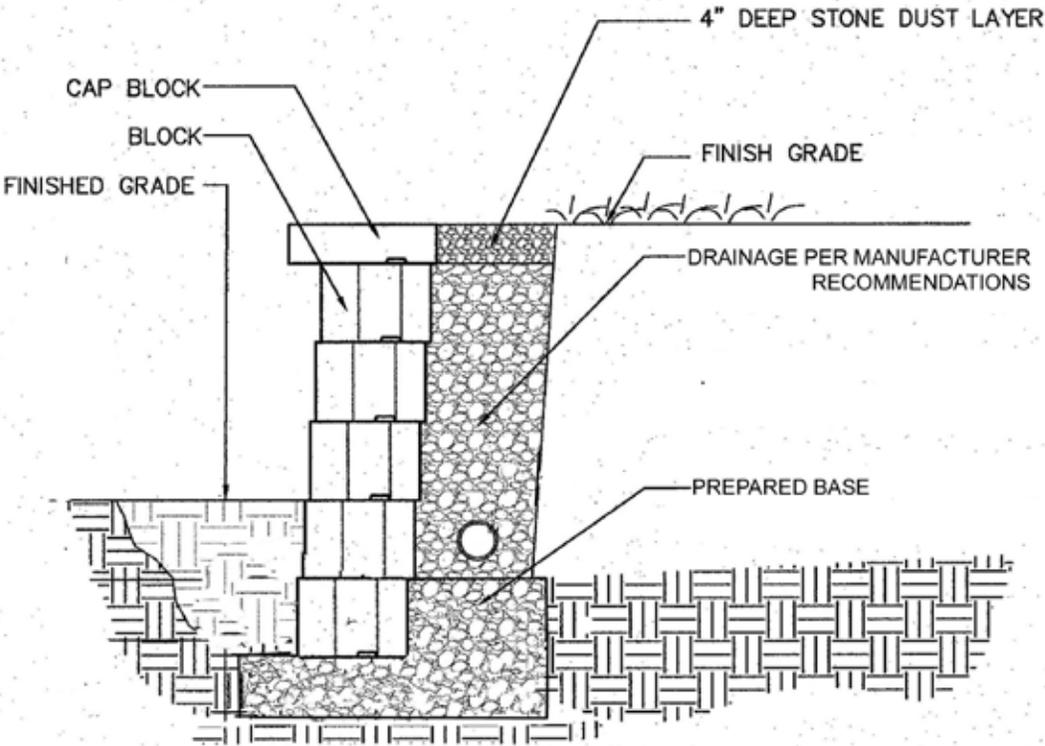
Walls shall be inspected by the City of Alexandria and certified by the installer.

## LIFE CYCLE EXPECTATIONS

A 3 year minimum warranty is required.

Segmental retaining walls are anticipated to require replacement after 40 years or more of normal and ordinary wear.

# WALLS | SEGMENTAL RETAINING



Segmental retaining wall section

Not to scale



Segmental retaining wall

# CHAPTER 4

## SURFACING

Aggregates

Asphalt | Pedestrian

Asphalt | Vehicular

Concrete | Pedestrian

Concrete | Vehicular

Court Surfacing | Color Coat

Infield Mix

Safety Surfacing | Engineered Wood Fiber

Safety Surfacing | Poured in Place Rubber

Safety Surfacing | Rubber Tile System

Sand Mixes | Volleyball

Synthetic Infill Turf System

Track/Warning Track

Unit Pavers

Wood Chips and Mulches

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# AGGREGATES

## PURPOSE

Aggregates shall be used as a porous surface for pedestrian and vehicular use.

## GENERAL INFORMATION

Aggregate shall be tested according to ASTM standards including particle size, standard proctor potential and sieve analysis.

Material shall have a containment edge or border.

## MATERIALS AND FINISH

Materials shall be washed processed aggregate.

Acceptable aggregates include washed gravel fines, such as #10 stone for pedestrian use, and #57 gravel for vehicular use.

Material shall be clean and free of organic materials.

## INSTALLATION

Aggregates shall be installed on non-woven geotextile filter fabric over compacted subgrade.

Prior to installation, subgrade shall be consistent in grade and free of weeds, trash and other debris.

Finer aggregates shall be compacted with a vibrating plate.

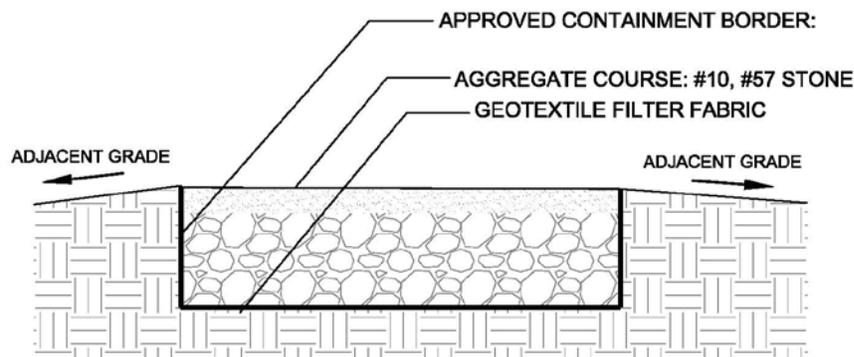
#10 stone shall be installed at 4 inches minimum vertical depth.

## LIFE CYCLE EXPECTATIONS

Aggregates are anticipated to require annual replacement based on normal and ordinary use.



Stone dust trail



Aggregate cross section

Not to scale

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# ASPHALT | PEDESTRIAN

## PURPOSE

Asphalt paving materials shall be provided for non-vehicular circulation where a smooth and a joint free surface is desired.

## GENERAL INFORMATION

Asphalt material shall be dense, hot-laid and plant-mixed.

Materials shall meet ASTM standards for asphalt cement and aggregates.

## MATERIALS AND FINISH

Asphalt paving sections for pedestrian traffic may typically include 2 inches of asphalt on top of 6 inches of crushed stone, over subgrade compacted to 95% proctor density.

Asphalt surface shall be smooth, continuous and free of pulls, tears and deflections.

Paving strips shall be 10 feet horizontal dimension minimum, or full width of the travelway.

Paving shall be flush to adjacent grade.

Design mixes shall be appropriate for project conditions, weather, test results and materials.

## FEATURES

Striping shall meet the requirements of Manual on Uniform Traffic Control Devices (MUTCD) Standards, and shall be retroreflective thermoplastic.

Asphalt paths shall include a 6 inch wide concrete shoring band.

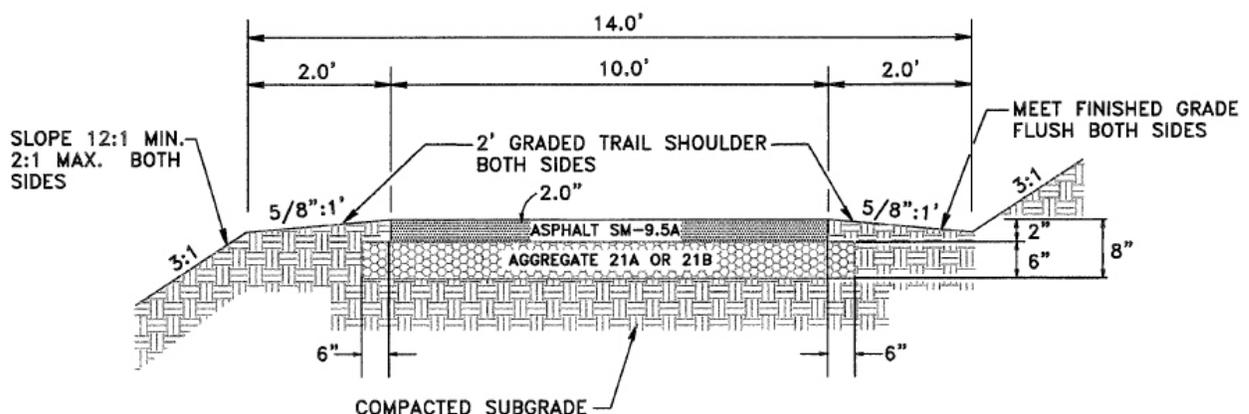
21B material may include an underdrain dependant upon the geotechnical analysis and soil conditions.

Accessible paved areas shall be graded at 1.5% minimum to 4.5% maximum, with a 2% cross slope.

Stamped asphalt patterns shall be approved by the Director of Recreation, Parks and Cultural Activities and the Director of Transportation and Environmental Services.

Pavement surface may be crowned in the middle or sloped to one side. Valley drainage shall not be permitted.

Bicycle and multi-use trails require a 10 feet minimum pavement width. Pedestrian trails require a 6 feet minimum pavement width.



Asphalt cross section

Not to scale

# ASPHALT | PEDESTRIAN

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## INSTALLATION

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Geotechnical analysis is required to establish a pavement section.

## LIFE CYCLE EXPECTATIONS

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Pavement is anticipated to require replacement after 15-20 years of normal maintenance and ordinary use.



Pedestrian use application

# ASPHALT | VEHICULAR

CHAPTER 4: SURFACING

## PURPOSE

Asphalt paving materials shall be provided for exterior vehicular circulation and staging where a smooth and a joint free surface is desired.

## GENERAL INFORMATION

Asphalt material shall be dense, hot-laid and plant mix.

Materials shall meet ASTM standards for asphalt cement and aggregates.

## MATERIALS AND FINISH

Asphalt paving sections shall be designed by a licensed geotechnical/professional engineer.

The thickness of sub-base, base, and wearing course shall be designed using "California Method" as set forth on page 3-76 of the second edition of "Data Book for Civil Engineers, Volume One, Design" by Elwyn E. Seelye.

Values of California Bearing Ratios used in the design shall be determined by field and/or laboratory tests.

Asphalt surface shall be smooth, continuous and free of pulls, tears and deflections.

Paving strips shall be 10 feet horizontal dimension minimum.

Paving shall be flush to adjacent grade.

Design mixes shall be appropriate for project conditions, weather, test results and materials.

## FEATURES

Striping shall meet the requirements of Manual on Uniform Traffic Control Devices (MUTCD) Standards and shall be retroreflective thermoplastic.

Asphalt paving shall include a 6 inch wide concrete shoring band.

Accessible paved areas shall be graded at 1.5% minimum to 4.5% maximum, with a 1.5% cross slope.

Stamped asphalt patterns shall be approved by the Director of Recreation, Parks and Cultural Activities and the Director of Transportation and Environmental Services.

## INSTALLATION

Asphalt shall be installed by trained and certified crews

## LIFE CYCLE EXPECTATIONS

Pavement is anticipated to require replacement after 15-20 years of normal maintenance and ordinary use.



Vehicular use application

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# CONCRETE | PEDESTRIAN

CHAPTER 4: SURFACING

## PURPOSE

Concrete paving materials shall be provided for non vehicular circulation where a rigid system is desired.

## GENERAL INFORMATION

Concrete materials including Portland cement, admixtures, aggregates and reinforcement shall comply with ASTM C-150 standards for Type I concrete.

## MATERIALS AND FINISH

Design mixes shall be appropriate for project conditions, weather, site test results and materials.

Exterior concrete pavement shall be finished with a light broom finish perpendicular to travel direction unless otherwise specified.

Concrete shall be tested for compressive strength, slump and air content.

## FEATURES

Reinforcement shall be included as determined by the design engineer for strength. Reinforcement shall be synthetic fiberglass material.

Concrete pavement may include lamp black pigment per District of Columbia standards.

Concrete pavement may include integral color throughout the entire pavement section or decorative aggregate as determined by the Director of Recreation, Parks and Cultural Activities.

## INSTALLATION

Concrete pavement shall be designed with expansion and troweled or saw-cut control joints.

Control joints on concrete curbs 6 inches wide or less shall be saw cut.

Forms and form release agents shall be appropriate to the concrete mix and finish, and shall not impair subsequent treatment of the concrete surfaces.

Concrete pavement shall be designed with 2% minimum to 4.5% maximum slope, with a 1.5% cross slope.

The temperature of new concrete shall not be allowed to fall below 50 degrees Fahrenheit (10 degrees Celsius) during the curing period.

## LIFE CYCLE EXPECTATIONS

Pavement is anticipated to require replacement after 20-30 years of normal and ordinary use with regular maintenance.



Pedestrian use concrete

Intentionally Blank

# CONCRETE | VEHICULAR

CHAPTER 4: SURFACING

## PURPOSE

Concrete paving materials shall be installed for vehicular circulation and staging where a rigid system is desired.

## GENERAL INFORMATION

Concrete materials including Portland cement, admixtures, aggregates and reinforcement shall comply with ASTM C-150 standards for Type I concrete.

## MATERIALS AND FINISH

Concrete paving sections shall be designed by a licensed geotechnical/professional engineer.

Design mixes shall be appropriate for project conditions, weather, site test results and materials.

Exterior concrete pavement shall be finished with a medium broom finish unless otherwise specified.

Concrete shall be tested for compressive strength, slump and air content.

## FEATURES

Steel reinforcement shall be included as determined by the engineer for strength. Rebar and welded wire fabric shall meet ASTM standards.

Concrete pavement may include lamp black pigment per District of Columbia standards.

Concrete pavement may include integral color throughout the entire pavement section or decorative aggregate as determined by the Director of Recreation, Parks and Cultural Activities.

## INSTALLATION

Concrete pavement shall be designed with expansion or saw-cut control joints per industry standards.

Forms and form release agents shall be appropriate to the concrete mix and finish and shall not impair subsequent treatment of the concrete surfaces.

Concrete pavement shall be designed with 2% minimum to 4.5% maximum slope, with a 1.5% cross slope.

The temperature of new concrete shall not be allowed to fall below 50 degrees Fahrenheit (10 degrees Celsius) during the curing period.

## LIFE CYCLE EXPECTATIONS

Pavement is anticipated to require replacement after 20-30 years of normal and ordinary use with regular maintenance.



Vehicular use concrete

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# COURT SURFACING | COLOR COAT

## PURPOSE

Tennis, basketball and multi-purpose courts shall be finished with textured slip resistant surfacing.

## GENERAL INFORMATION

Surfacing material and lining shall meet United States Tennis Association standards and National Federation of State High School Associations.

Related Standards: Court Diagram | Tennis, Court Diagram | Basketball.

## MATERIALS AND FINISH

Courts shall be installed on a base course consisting of 4 inches minimum vertical depth VDOT 21b stone, compacted to 95% proctor density.

Surfacing shall be a hot mix asphalt with 9.5mm aggregate size.

Surfacing shall be full depth asphalt with 3 inches minimum vertical depth.

Paving strips shall be 10 feet minimum horizontal width.

Primers or resurfacers shall be used to fill and seal the asphalt. Air pockets, holes, cracks, seams, depressions and other blemishes are not acceptable.

Color coating shall consist of a mix of 100% acrylic resins, water, sand and Portland cement.

Color coating shall be a minimum of two coats.

Lines shall have solid, consistent, sharp edges and corners.

## FEATURES

The standard colors are US Green and Dark Green, with white lines.

Tennis courts shall be lined for both singles and doubles play.

## INSTALLATION

Court surfacing shall be installed by trained and certified crews. Color coating shall be performed by professionals with 5 years minimum experience installing color coating.

Courts shall be installed to drain end-to-end at a 1% slope.

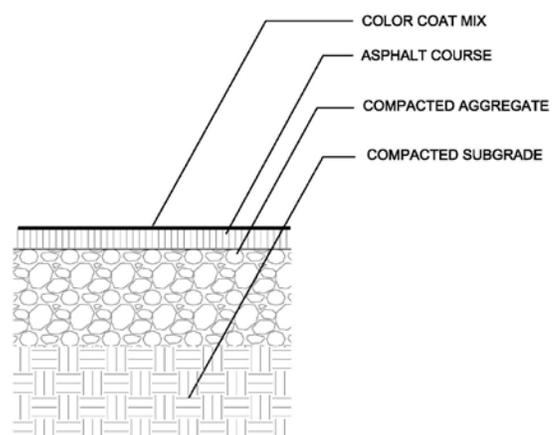
Surfacing shall not pond or hold water.

## LIFE CYCLE EXPECTATIONS

Color coating is anticipated to require re-application after 5 years of normal and ordinary use.



Ball court color coating



Ball court lining

Not to scale

Intentionally Blank

## PURPOSE

Infield mix shall be provided for safe athletic play at diamond ball fields.

## GENERAL INFORMATION

Mix shall be tested according to ASTM standards including particle size, standard proctor and sieve analysis.

Mix shall comply with the National Federation of State High Schools or other governing authority.

Soil stabilizers or other additives shall be approved by the Director of Recreation, Parks and Cultural Activities.

Mix shall be free of organic matter.

Related Standards: Field Diagrams | Baseball, Field Diagrams | Softball, Fence| Backstop, Fence | Chain Link.

## MATERIALS AND FINISH

The soil classification range shall be: Sand (2.0-0.05mm) 65-70%, Silt (0.05-0.002mm) 15-20%, and Clay (less than 0.002) 10-15%.

USDA soil classification shall be Sandy Loam.

Moisture Rate shall be between 14-17%.

Mix shall be installed at least 4 inches in depth.

Color shall be Red/Brown.

## FEATURES

Mix may include a calcified clay conditioner. Preferred: one metric or unit ton of calcified clay conditioner per 20-25 tons of infield mix.

## INSTALLATION

Prior to installation, existing subgrade shall be consistent in grade and free of weeds, trash and other debris.

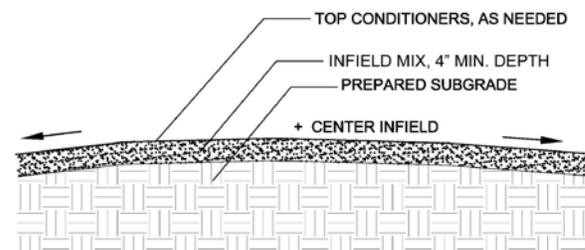
Infield shall be crowned from the middle equally on all sides.

## LIFE CYCLE EXPECTATIONS

Infield mix is anticipated to require replacement annually based on normal and ordinary use.



Infield mix



Cross section

Not to scale

Intentionally Blank

# ENGINEERED WOOD FIBER

## PURPOSE

Engineered wood fiber shall be used on a limited basis with approval by the Director of Recreation, Parks and Cultural Activities. This material shall be used in outdoor playgrounds and areas where an impact absorbing surface is desired at current facilities. Surface is not recommended for new facilities.

## GENERAL INFORMATION

Safety surfacing shall meet or exceed the most current ASTM and CPSC safety standards for public playgrounds.

Surfaces shall be International Playground Equipment Manufacturers Association certified or equivalent.

Surfacing shall be ADA compliant.

Safety surfacing shall be installed with a subsurface drainage system.

## MATERIALS AND FINISH

Wood fiber pieces shall be comprised of Virginia softwood or hardwoods that do not exceed 1 ½ inches in length.

Material shall be non-toxic. Chemicals, additives, recycled wood products, wood pallets or waste wood are not permitted.

Material shall be free of soil, leaves, bark and twigs.

## INSTALLATION

Prior to installation, existing subgrade shall be consistent in grade and free of weeds, trash, and other debris.

Install material according to depths specified by the manufacturer and CPSC guidelines.

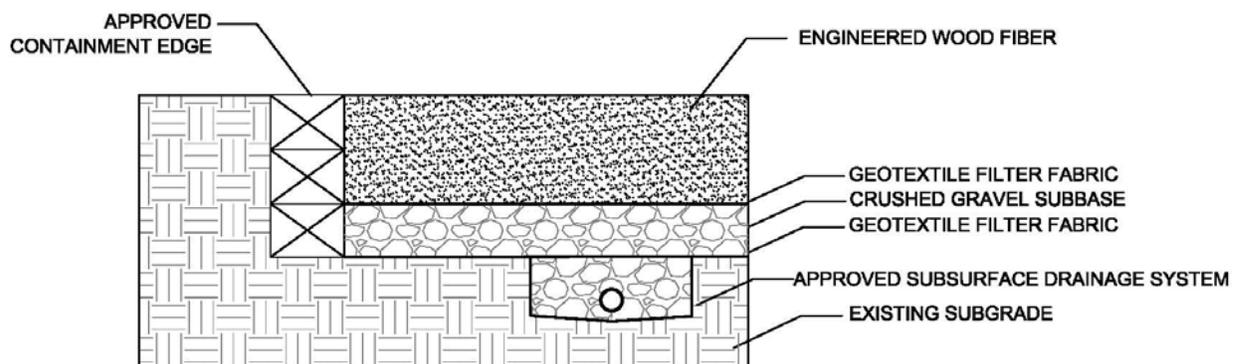
## LIFE CYCLE EXPECTATIONS

A 10 year limited warranty is required.

Engineered wood fiber is anticipated to require replenishment annually based on normal and ordinary use.



Engineered wood fiber



Cross section

Not to scale

Intentionally Blank

# POURED IN PLACE RUBBER

## PURPOSE

Poured in place rubber shall be used in outdoor playgrounds and areas where an impact absorbing surface is desired.

## GENERAL INFORMATION

Safety surfacing shall meet or exceed the most current ASTM and CPSC safety standards for public playgrounds.

Surfaces shall be International Playground Equipment Manufacturers Association certified or equivalent.

Surfacing shall be ADA compliant.

## MATERIALS AND FINISH

Surface materials shall be manufactured from recycled tires and rubber materials.

Binders shall be 'aliphatic' 100% polyurethane with UV stabilizers.

Safety surfacing shall have a containment border constructed from concrete, wood timbers, or other approved material. Containment borders shall be wide enough to protect surfacing from mowing and other maintenance equipment.

Compacted gravel is the preferred sub-base material. Concrete or asphalt shall be used for poor or unstable soils. Gravel shall be 8 inches minimum vertical depth.

Minimize use of light or bright colors. Colors ratios should incorporate between 40%-60% black ethylene propylene diene monomer (EPDM).

Surfacing shall be a two layer system consisting of EPDM and styrene butadiene rubber (SBR).

EPDM shall have ¼ inch minimum vertical depth.

SBR shall have a 3 inch minimum vertical depth or greater in compliance with CPSC and ASTM fall heights for adjacent equipment.

## INSTALLATION

Coordinate installation with play equipment.

Ensure subgrades are properly draining.

Safety surfacing shall be installed with an adequate subsurface drainage system.

Installation shall be performed by qualified professional with 5 years minimum experience installing poured in place rubber.

After installation, surfacing shall be Gmax tested according to ASTM standards by a qualified third party.

## LIFE CYCLE EXPECTATIONS

A 5 year limited warranty is required.

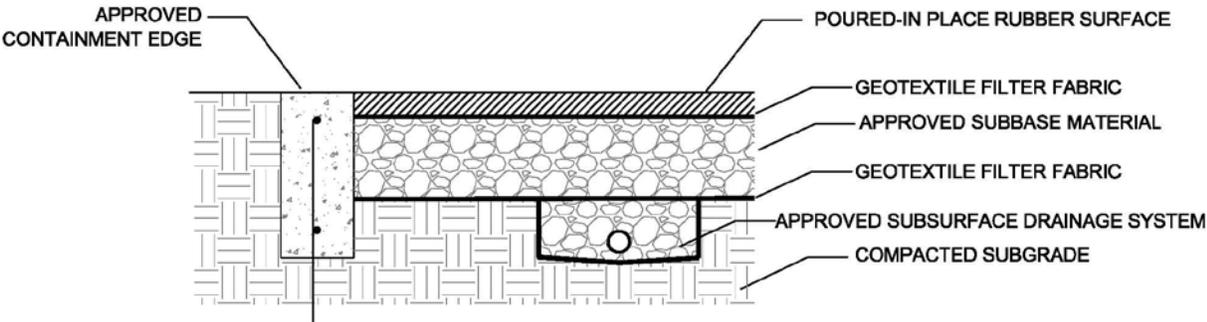
Poured in place rubber is anticipated to require replacement after 10 years based on normal and ordinary use.



Poured in place rubber surfacing

# POURED IN PLACE RUBBER

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Cross section

Not to scale

# RUBBER TILE SYSTEM

## PURPOSE

Rubber tiles shall be used for outdoor playgrounds and areas where an impact absorbing surface is needed.

## GENERAL INFORMATION

Safety surfacing shall meet or exceed the most current ASTM and CPSC safety standards for public playgrounds.

Surfaces shall be International Playground Equipment Manufacturers Association certified or equivalent.

Surfacing shall be ADA compliant.

Safety surfacing shall be installed with an adequate subsurface drainage system.

The standard interlocking tile system is " SofTILE KrosLOCK" manufactured by SofSurfaces, Inc., or City approved equal.

## MATERIALS AND FINISH

Tile thickness shall be 3 inches minimum, or greater in compliance with CPSC and ASTM standard.

Tile weight shall be 25.85 pounds minimum, based on tile dimensions of 2 feet by 2 feet.

Tiles shall have a concrete containment border.

Tiles shall be installed on concrete or asphalt.

Minimize use of light or bright colors. Colors ratios should incorporate between 40%-60% black ethylene propylene diene monomer.

## INSTALLATION

Follow manufacturer installation recommendations.

Installation shall be performed by qualified professional with 5 years minimum experience installing rubber safety tiles.

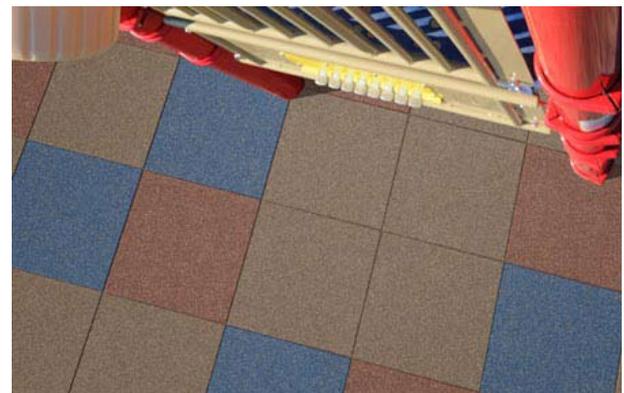
Install material according to manufacturer recommended depths and CPSC guidelines.

After installation, surfacing shall be Gmax tested according to ASTM standards by a qualified third party.

## LIFE CYCLE EXPECTATIONS

An 8 year minimum warranty is required.

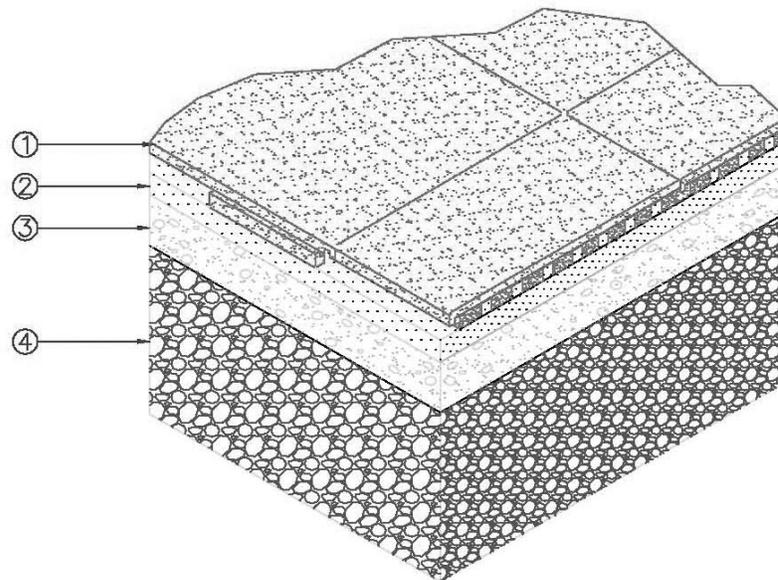
Rubber tile systems are anticipated to require replacement after 15 years based on normal and ordinary use.



Rubber tile system

# RUBBER TILE SYSTEM

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## LEGEND:

- ① SoftTILE®
- ② Concrete Depth and Strength to Specifications
- ③ Compacted Granular A (Type I) To 95% S.P.D.
- ④ Compacted Subgrade.

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Diagram (1)

Not to scale

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## IMAGE FOOTNOTES

(1) <http://www.sofsurfaces.com/>

# SAND MIXES | VOLLEYBALL

## PURPOSE

Sand mixes shall be provided for safe athletic play at outdoor volleyball facilities.

## GENERAL INFORMATION

Volleyball sand shall be contained with a concrete border or other containment system approved by the Director of Recreation, Parks and Cultural Activities.

A subsurface drainage system shall be provided.

USDA soil classification analysis shall be provided.

## MATERIALS AND FINISH

Volleyball sand shall be high quality sand, fast draining, free of shells, rocks and other debris. Sand shall have low clay content.

Volleyball sand shall be 1 foot minimum continuous vertical depth.

## INSTALLATION

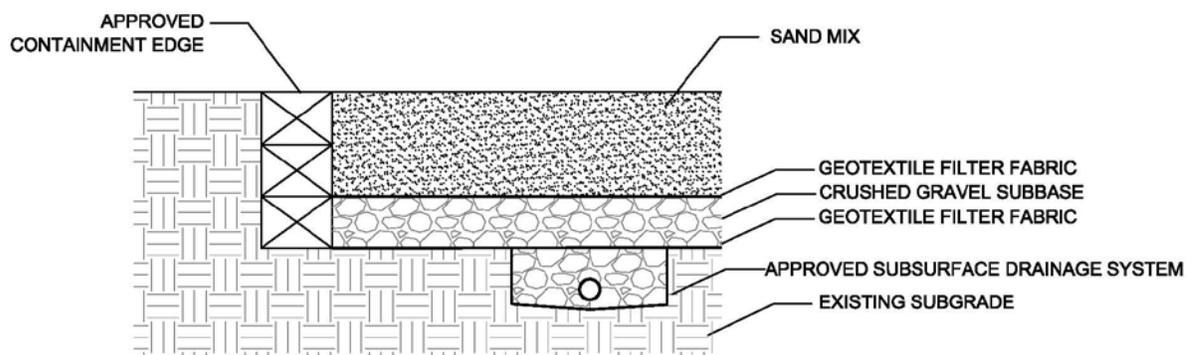
Prior to installation, existing subgrade shall be consistent in grade and free of weeds, trash and other debris.

## LIFE CYCLE EXPECTATIONS

Sand is anticipated to require replacement annually based on normal and ordinary use.



Outdoor volleyball court



Cross section

Not to scale

Intentionally Blank

# SYNTHETIC INFILL TURF SYSTEM

## PURPOSE

Synthetic infill turf systems shall be provided where all weather facilities are desired.

## GENERAL INFORMATION

Synthetic infill turf systems shall comply with all ASTM rules and regulations for play surfaces.

Vendors/manufacturers and products approved on the most current City prequalified synthetic infill turf system field list shall be considered for use.

## MATERIALS AND FINISH

Synthetic infill turf shall be extruded monofilament polyethylene fiber.

Fiber pile weight shall be 36 ounces/square yard minimum, and pile height shall be 2 ¼ inches minimum vertical height.

Infill system shall consist of resilient styrene butadiene rubber (SBR) or ethylene propylene dien polimerisat (EPDM) crumb rubber granules. Infill systems shall be 100% rubber. Sand mixes are not permitted.

Rubber shall be black in color, clean, and particles shall be consistent in shape and size.

## FEATURES

Turf markings shall conform the current National Federation of State High School regulations.

Adhesives used in bonding the system shall be resistant to moisture, bacteria and fungus.

## INSTALLATION

Systems shall be installed by personnel certified in installation for the turf system selected.

Systems shall be installed over an engineered base of stone or stone plus impact board.

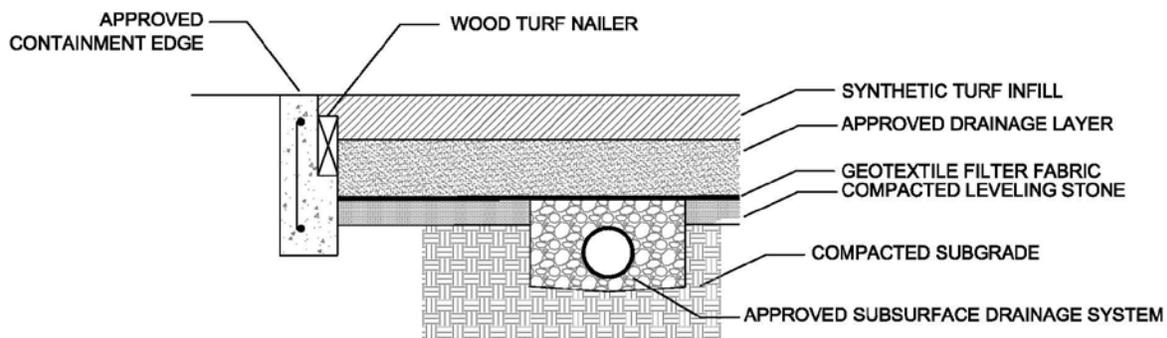
## LIFE CYCLE EXPECTATIONS

An 8 year minimum warranty is required. The warranty shall cover all repairs to the turf through its duration.

Synthetic infill turf systems are anticipated to require carpet replacement after 8-10 years based on normal and ordinary use.



Synthetic infill turf athletic field



Synthetic infill turf section

Not to scale

Intentionally Blank

# TRACK/WARNING TRACK

## PURPOSE

Aggregates shall be used for track surfacing and in fields to provide a tactile transition from turf to the fence.

## GENERAL INFORMATION

Aggregate shall be tested according to ASTM standards including particle size, standard proctor and sieve analysis.

Related Standards: Field Diagram | Baseball, Field Diagram| Softball.

## MATERIALS AND FINISH

Materials shall be washed processed aggregate.

Acceptable aggregates include washed gravel fines, such as stone dust and #10 stone.

Material shall be clean and free of organic materials.

## INSTALLATION

Aggregates shall be installed on top of nonwoven geotextile filter fabric over compacted subgrade.

Prior to installation, subgrade shall be consistent in grade and free of weeds, trash and other debris.

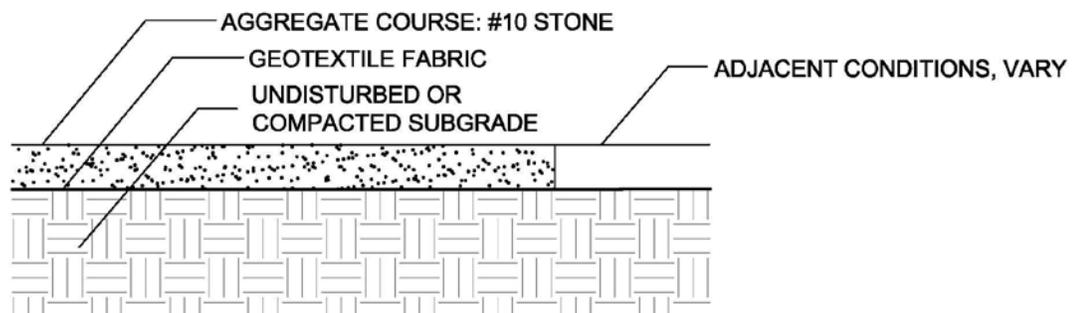
#10 stone shall be installed at 4 inches minimum vertical depth.

## LIFE CYCLE EXPECTATIONS

Materials are anticipated to require annual replacement based on normal and ordinary use.



Warning track



Cross section

Not to scale

Intentionally Blank

## PURPOSE

Unit pavers shall be designed and installed for pedestrian, bicycle and light vehicle traffic.

## GENERAL INFORMATION

Unit pavers include brick, asphalt, concrete and stone pavers. Paver systems shall meet ASTM standards.

The standard brick paver shall be the Old Virginia #24 Brick or the #237 Cambridge by Redland Brick, or City approved equal.

Clay, concrete, stone and asphalt pavers shall be approved by the Director of Recreation, Parks and Cultural Activities.

## MATERIALS AND FINISH

Pavers for use in exterior areas shall include a slip resistant finish.

Paving patterns shall be approved by the Director of Recreation, Parks and Cultural Activities.

## INSTALLATION

Unit pavers may be installed over flexible setting bed for pedestrian traffic. Flexible paving systems shall be installed with sand swept, hand tight joints.

Unit pavers shall be installed over asphalt or concrete base for pavement designed for vehicular traffic. Paving systems shall be installed with sand swept, hand tight joints.

## LIFE CYCLE EXPECTATIONS

A 5 year minimum warranty is required.

Pavers are anticipated to be replaced after 40 years based on normal and ordinary use.



#237 Cambridge Modular Paver by Redland Brick

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# WOOD CHIPS AND MULCHES

## PURPOSE

Loose wood chips and mulch materials shall be used for trail/path surfacing, erosion control and weed suppression.

## GENERAL INFORMATION

The standard materials are double shredded hardwood and 1 inch-2 ½ inch sized wood chips.

Material shall have a containment edge or border when adjacent to manicured planted areas.

City supplied materials shall be acceptable based on the Standards requirements.

## MATERIALS AND FINISH

Wood shall be comprised of softwood or hardwoods.

Material shall be non-toxic. Chemicals, additives, recycled wood products, wood pallets or waste wood materials are not permitted.

Material shall be free of weed seeds, soil, leaves, bark, twigs, plastic, glass, metal, rock, or paper.

Color enhanced mulch shall not be acceptable.

Material created from recycled mulch shall not be acceptable.

## INSTALLATION

Mulch shall be applied over non-woven geotextile filter fabric.

Prior to installation, existing subgrade shall be consistent in grade and free of weeds, trash and other debris.

Install mulch at 3 inches minimum continuous vertical loose depth.

## LIFE CYCLE EXPECTATIONS

Mulch is anticipated to require replenishment annually based on normal and ordinary wear.



Wood chips

Intentionally Blank

# CHAPTER 5

## PARK STRUCTURES

Bridges

Decks and Boardwalks

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### **PURPOSE**

Bridges shall facilitate safe access across bodies of water, unstable ground conditions, elevation changes, or other site conditions.

### **GENERAL INFORMATION**

Bridges and abutments shall be designed per industry standard engineering practices and principles. Bridges and abutments shall be certified by a structural engineer licensed to practice in the Commonwealth of Virginia.

Bridges traversing water courses or deep culverts subject to periodic flooding shall be designed to accommodate wet weather events.

Bridges located within the 100-year FEMA/FIRM floodplain shall comply with design and/or performance requirements required for floodplains.

Subsurface and hydrologic investigation shall be required.

Bridges shall be ADA compliant and subject to local building codes and ordinances.

Handrails and/or railings shall be ADA compliant and meet minimum loads per state building codes.

Bridges shall meet the static and dynamic design loads specified for each project. Loads include but are not limited to dead load, live load, concentrated load, vehicle load, wind load and snow load.

Bridges shall be designed to accommodate lightweight construction equipment and vehicles.

Bridges shall have 6 feet minimum clear horizontal width. For remote trails, 4 feet minimum clear width shall be provided for pedestrian only use.

Bridges located on designated multi-modal trail routes shall comply with the most current Alexandria Bicycle Transportation and Multi-Use Trail Master Plan, AASHTO and VDOT trail specifications.

The standard shall be a pre-fabricated weathering steel truss bridge.

### **MATERIALS AND FINISH**

Structural members shall be marine grade weathering steel.

Decking shall be concrete or composite resin or silicate-impregnated wood.

Wood materials shall be used on a limited basis. Wood materials shall be installed crown side up. Exterior high grade hardwoods shall be used as decking material with approval by the Department of Recreation, Parks and Cultural Activities.

Paint shall be industrial grade and epoxy based.

Paint finishes and coatings shall be approved by the Director of Recreation, Parks and Cultural Activities.

Bridge deck surface shall be of a material and/or finish which inhibits slipping.

Bridge surfaces shall be sloped to shed water.

### **FEATURES**

In remote, difficult to reach locations, bridges shall be assembled on-site.

Utility conduits shall be located within the bridge structure and be hidden from view.

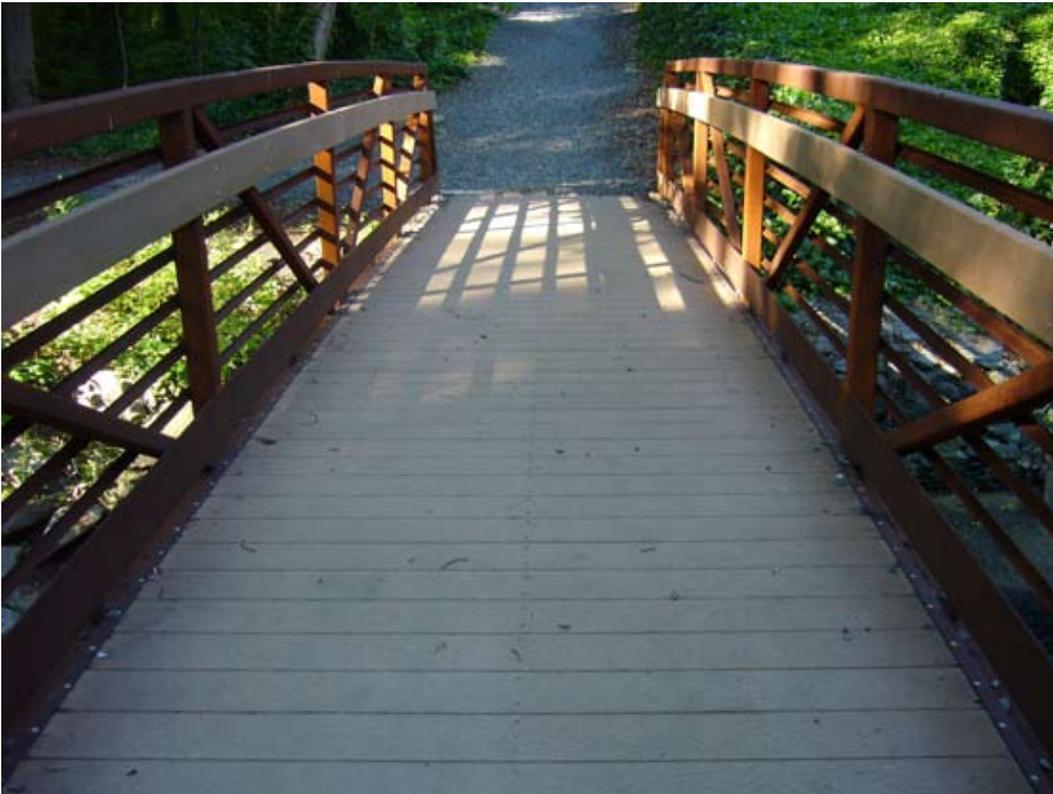
### **LIFE CYCLE EXPECTATIONS**

A 10 year minimum warranty for structural components and systems is required.

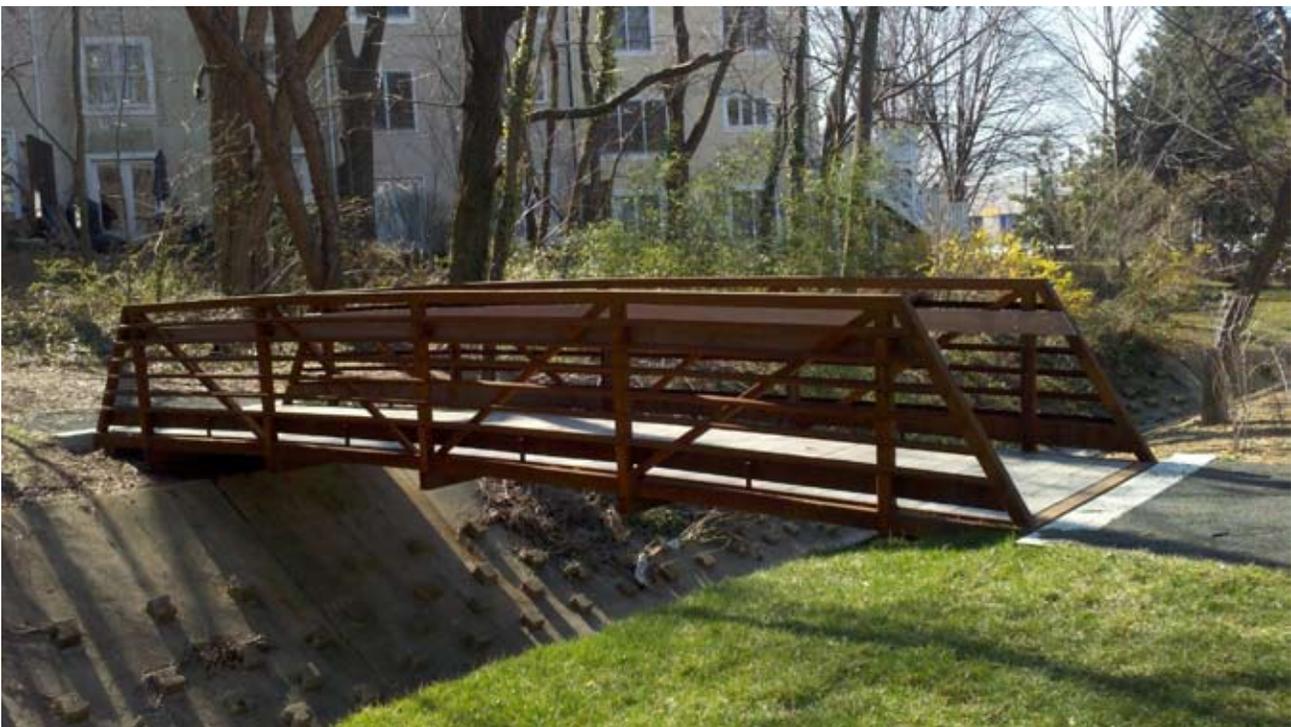
Bridges are anticipated to require replacement after 30 years based on normal and ordinary use.

# BRIDGES

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Composite resin bridge decking



Pre-fabricated steel truss bridge

# DECKS AND BOARDWALKS

## PURPOSE

Elevated structures, such as decks and boardwalks, shall be provided where water bodies, unstable ground conditions, elevation changes, or other site conditions impede access, or for elevated pathways over protected natural scenic areas.

## GENERAL INFORMATION

Structures and foundations shall be designed with industry standard engineering practices and principles. Structures shall be certified by a structural engineer registered and licensed to practice in the Commonwealth of Virginia.

Subsurface and hydrologic investigation shall be required. Engineers shall utilize these reports in design of footings and foundations.

Elevated structures shall be ADA compliant, including railings and handrails, per local building codes.

Bridges located within the 100-year FEMA/FIRM floodplain shall comply with design and/or performance requirements required for floodplains.

Elevated structures shall meet the static and dynamic design loads specified for each project. Loads include but are not limited to dead load, live load, concentrated load, vehicle load, wind load and snow load. Structures shall be designed to accommodate lightweight construction equipment and vehicles.

Structures located on designated multi-modal trail routes shall comply with the most current Alexandria Bicycle Transportation and Multi-Use Trail Master Plan and VDOT trail specifications.

## FEATURES

Structures shall have 6 feet minimum horizontal clear width.

## MATERIALS AND FINISH

Structural members shall be marine grade weathering steel, fiberglass, composite resin, concrete or silicate impregnated lumber.

Decking shall be concrete, silicate impregnated lumber or composite resin, and slip resistant.

Wood materials shall be used on a limited basis. Wood materials shall be installed crown side up. High exterior grade hardwoods or silicate impregnated lumber shall be approved by the Director of Recreation, Parks and Cultural Activities.

Piling foundations shall be concrete. Foundations shall slope to shed water.

Hardware shall be aluminum, stainless-steel, or hot-dipped galvanized steel.

Surfaces shall slope to shed water.

## INSTALLATION

Structures shall be located along existing trails and paths when possible.

Approaches shall have a smooth transition and comply with current ADA standards.

Transitions shall not exceed ½ inch vertical dimension without a ramp.

## LIFE CYCLE EXPECTATIONS

A 10 year minimum warranty is required.

Decking is anticipated to require replacement after 8 years based on normal and ordinary use.

# DECKS AND BOARDWALKS

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Observation deck



Composite boardwalk

# CHAPTER 6

## PLAYGROUNDS

Playground Site Considerations

Play Equipment

Play Equipment | Modular Structures

Play Equipment | Swings

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# PLAYGROUND SITE CONSIDERATIONS

## PURPOSE

Playground sites shall provide a safe, clean and comfortable environment for children and adults. Playgrounds generally serve children 2-12 years of age.

## GENERAL INFORMATION

Playground sites shall be designed to comply with the most current CPSC and ASTM safety standards and guidelines.

Site layout and landscape elements shall comply with the most current ADA/ADAAG standards and guidelines.

Water bodies (of any depth), pools, drainage systems, athletic fields, parking lots, streets with heavy traffic, and grill stations may conflict with playground uses. Fence or other approved physical separation barriers shall be provided.

Trees located within the playground area shall have an appropriate root zone barrier and shall be located outside of use-zone areas. Height clearances from play equipment shall be maintained as specified by CPSC and ASTM standards and guidelines.

Playground areas shall receive a moderate amount of seasonal shade throughout the day.

Play equipment shall be located and oriented to provide clear site lines from within the playground and surrounding areas.

Age-separated playground areas are recommended, however multi-age equipment within one playground area is acceptable provided that the playground has been designed and/or reviewed by a Certified Playground Safety Inspector (CPSI).

Each playground shall have a permanent park playground sign posted at the playground entrance or other high visibility location.

Playgrounds shall have appropriate safety surfacing.

## FEATURES

Related Standards: Fences | Chain Link, Fences | Metal, Receptacle | Trash, Picnic Table | Standard, Picnic Table | ADA, Bench | Park, Signs, Play Equipment, Playground Safety Surfacing.

Equipment and amenities shall be located together, within one designated area.

Careful consideration shall be taken to maximize play value within the designated playground area.

The minimum size of a playground shall be 1,200 square feet. Playground minimum size is based on one tot swing set and one or two small play features, each intended for children 2-5 years in age.

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# PLAY EQUIPMENT

## PURPOSE

Playground equipment shall maximize play value and safety, while minimizing long-term maintenance.

## GENERAL INFORMATION

Playground equipment shall be designed and manufactured to comply with the most current CPSC and ASTM safety standards and guidelines.

Components shall be International Playground Equipment Manufacturers Association certified or equivalent.

Playground equipment shall meet the most current ADA/ADAAG standards and guidelines.

Playground equipment shall be reviewed and approved by the Director of Recreation, Parks and Cultural Activities.

Play equipment shall have an approved safety surface.

Equipment shall reflect context and aesthetics. Equipment shall coordinate with other park and playground site furnishings.

Play equipment shall be designed for children 2-12 years of age. Typical age ranges include pre-school (2-5), school (5-12), and general (2-12) years of age.

Related Standards: Playground Site Considerations, Play Equipment | Modular Structures, Play Equipment | Swings, Safety Surfacing.

## MATERIALS AND FINISH

Play equipment shall be constructed of durable materials designed for frequent exterior use and high resistance to varied climates and vandalism.

Wood and wood products shall not be used as materials.

Products containing recycled materials shall be used.

Play equipment surfaces shall be slip resistant and drain efficiently.

Main structural components shall be one-piece construction, with a minimum of bolts and fasteners. Structures with excessive joints, rough welded corners, pinch points, or other sharp edges or points shall not be used.

Use of light or bright colors shall be minimized on components subject to frequent wear or contact.

Hardware and fasteners shall be stainless steel or treated with a rust proof finish.

Maintenance kits shall be provided for each play apparatus.

Manufacturer and/or identification number shall be clearly displayed on each apparatus.

Labels indicating the intended user age group shall be displayed on each play apparatus. Labels shall be located at transfer stations or other well visible areas. Large play structures may require multiple labels.

## FEATURES

In addition to play equipment that has been recalled or not recommended by the Consumer Product Safety Commission, the following equipment shall not be used in park playgrounds: clear bubble window panels, activity panels with small loose moving parts, roller slides, and log rolls.

The use of the following items shall be minimized: cables, ropes, HDPE panels and PVC coated components.

Crawl tubes, tube slides and enclosed play features shall have clear openings for viewing, and be no greater than 4 feet in length.

PVC or other plastic coatings shall not be used on flexible components such as chains and cables.

Components with S-hook hardware shall not be used unless approved by the Director of Recreation, Parks and Cultural Activities.

# PLAY EQUIPMENT

---

Sand boxes and toys not anchored to the ground are prohibited.

The Director of Recreation, Parks and Cultural Activities shall prohibit use of any additional equipment determined incompatible with these standards.

## INSTALLATION

Install equipment consistent with manufacturer recommendations and industry safety specifications.

Equipment shall be permanently ground anchored, or surface mounted to an approved surface.

Equipment footings shall be installed within the existing subgrade. Top of footings shall not be exposed above the approved safety surfacing.

## LIFE CYCLE EXPECTATIONS

Replacement parts shall be readily available for the life of the play equipment.

A warranty of 10 years minimum is required.

Play structures are anticipated to require replacement after 15-20 years based on normal and ordinary use.



Activity panel



Freestanding equipment



Themed playground

# PLAY EQUIPMENT | MODULAR STRUCTURES

## PURPOSE

Modular structures consist of several play components that are structurally linked or physically connected to each other.

## GENERAL INFORMATION

Modular structures shall comply with the most current CPSC and ASTM safety standards and guidelines.

Components shall be International Playground Equipment Manufacturers Association certified or equivalent.

Playground equipment shall meet the most current ADA/ADAAG standards and guidelines.

Fully concealed areas are prohibited.

Deck dimensions and layouts shall not promote loitering or unintended use.

Related Standards: Playground Site Considerations, Play Equipment, Play Equipment | Swings.

## MATERIALS AND FINISH

Support posts shall be 3 ½ inch minimum diameter for preschool (2-5 years) age structures, and 5 inch minimum diameter for school (5-12 year) age structures.

Posts shall be structural steel or aluminum with double powder coated finish.

Deck clamp and play component connections to support posts shall be factory pre-drilled.

Clamp assemblies shall be one piece and rust resistant.

## FEATURES

Equipment decks shall be 6 feet maximum vertical height measured from the top of safety surfacing, unless approved by the Director of Recreation, Parks and Cultural Activities.

Roofs may be provided for shade and visual articulation. Roofs shall be powder coated perforated steel or other approved weather resistant material.

Inclusive play features shall be incorporated to the maximum possible extent.

## INSTALLATION

Equipment shall be installed according to the manufacturers' recommendations and industry safety specifications.

Equipment shall be permanently ground anchored or surface mounted.

Equipment footings shall be installed within the existing subgrade. Top of footings shall not become exposed above the approved safety surfacing.

## LIFE CYCLE EXPECTATIONS

Replacement parts shall be readily available for the life of the play equipment.

A warranty of 10 years minimum is required.

Modular structures are anticipated to require replacement after 15-20 years based on normal and ordinary use.

Individual play features are anticipated to require replacement after 10 years based on normal and ordinary use.

# PLAY EQUIPMENT | MODULAR STRUCTURES

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Modular play structure



Modular play structure



Modular play structure

# PLAY EQUIPMENT | SWINGS

CHAPTER 6: PLAYGROUNDS

## PURPOSE

Swing sets shall conform to this section.

## GENERAL INFORMATION

Swing sets shall be designed and manufactured to comply with the most current CPSC and ASTM safety standards and guidelines.

Components shall be International Playground Equipment Manufacturers Association certified or equivalent.

Playground equipment shall meet the most current ADA/ADAAG standards and guidelines.

The standard swing is an arch-style frame. The standard height is 8 feet. Freestanding preschool-age swings shall be 7 feet vertical height.

There shall be at least one swing bay with one accessible seat.

Swing bays shall be continuous as space allows.

Swings shall be located to minimize circulation conflicts and the probability of conflicts with moving swings.

T-frame swings shall be used where space is limited in preschool-age only play areas. T-frame swings shall have two enclosed infant seats.

Related Standards: Playground Site Considerations, Play Equipment, Play Equipment | Modular Structures, Play Equipment | Swings, and Safety Surfacing.

## MATERIALS AND FINISH

Posts and beams shall be 3 ½ inch minimum diameter with a powder coat finish.

Surfaces shall be sloped to shed water.

## FEATURES

Accessible seats shall include easily lockable non-flexible harness, or other rigid restraining device approved by the Director of Recreation, Parks and Cultural Activities.

Swing hangers shall be anti-wrap design to prevent chains from becoming entangled.

Enclosed infant seats shall have a solid handhold extending from the top of seat.

Chains shall be welded with galvanized or other corrosion resistant finish. Chain grade shall be #80 or have openings no more than 3/16 inch.

Seat and chain connections shall be a horseshoe type bolt link.

Swings seats shall be constructed of black ethylene propylene diene monomer (EPDM) to resist cracking.

## INSTALLATION

Swings shall be installed according to the manufacturer's recommendations and industry safety specifications.

Equipment shall be permanently anchored.

Equipment footings shall be installed within the existing subgrade. Top of footings shall not be exposed above the approved safety surfacing.

## LIFE CYCLE EXPECTATIONS

Replacement parts shall be readily available for the life of the play equipment.

A product warranty of 10 years minimum is required.

Structures are anticipated to require replacement after 15-20 years based on normal and ordinary use.

Swings and chains are anticipated to require replacement after 8 years based on normal and ordinary use.

# PLAY EQUIPMENT | SWINGS

---



Enclosed infant seat with solid handholds



Bolt through clevis



Anti-Wrap hangar



Belt Seat

# PLAY EQUIPMENT | SWINGS



T-Frame Swing; Use only with enclosed infant seats



Two-bay swing set, arch frame; Shown with accessible seat, enclosed infant seat and two belt seats

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# CHAPTER 7

## BALL COURTS AND ATHLETIC FIELDS

### Ball Courts

Court Diagram | Basketball

Court Diagram | Tennis

Court Diagram | Volleyball

### Fields

Field Diagram | Baseball

Field Diagram | Field Hockey

Field Diagram | Football

Field Diagram | Lacrosse Boys

Field Diagram | Lacrosse Girls

Field Diagram | Rugby

Field Diagram | Soccer

Field Diagram | Softball

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# BALL COURTS

## CHAPTER 7: BALL COURTS AND ATHLETIC FIELDS

### PURPOSE

Outdoor ball courts shall serve the recreation needs of the community.

### GENERAL INFORMATION

Ball courts shall comply with the most current National Federation of State High School Associations (NFSH) standards or other governing bodies as appropriate.

Ball courts shall have positive drainage.

Ball courts shall be accessible by pedestrian pathways.

Ball courts shall be optimally oriented north-south on the long axis, 11 degrees off axis.

Ball courts may be designed to serve multiple sports.

Related Standards: Fence | Chain Link, Court Surfacing | Color Coat, Bench | Player, Signs.



Tennis court



Basketball court

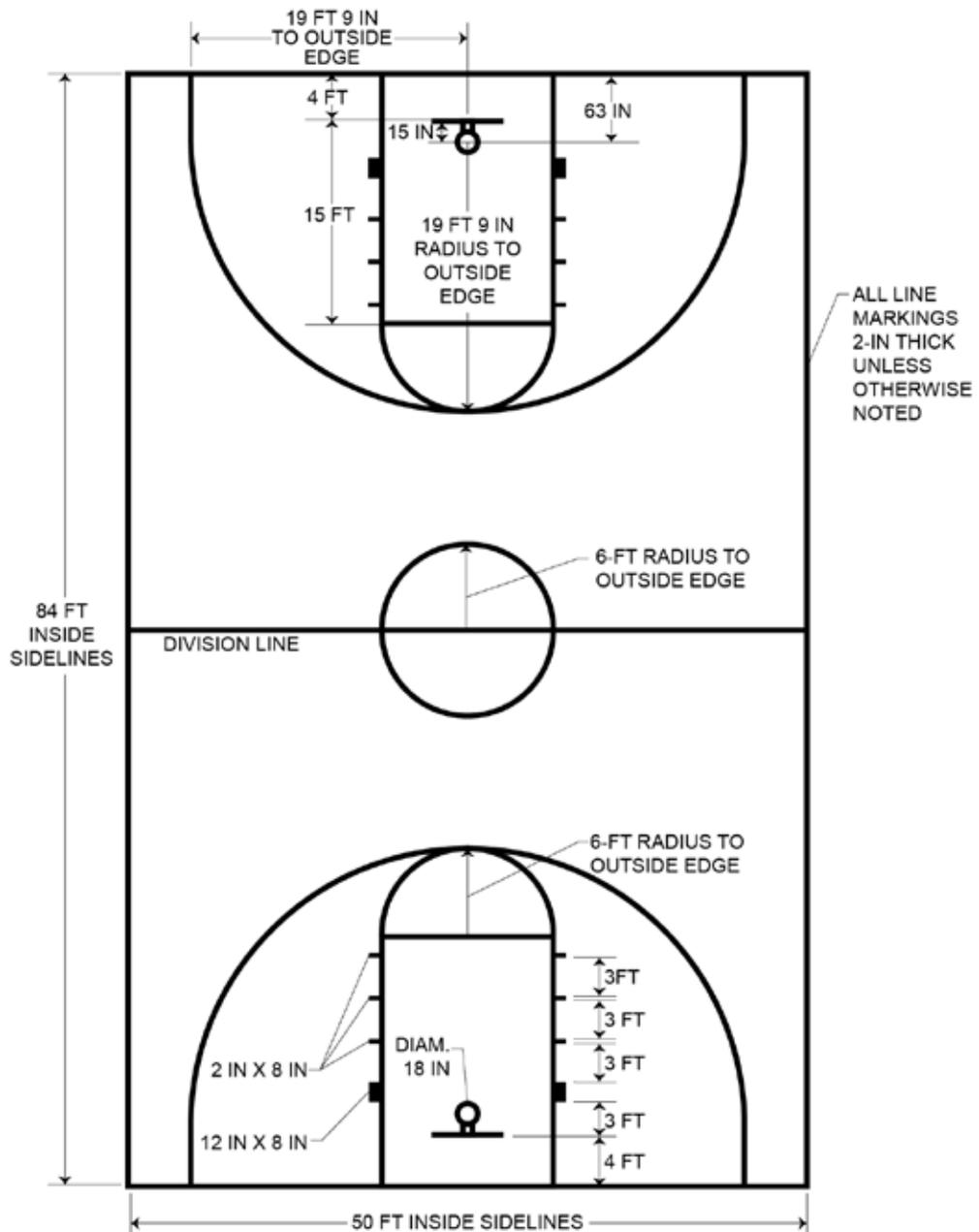
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# COURT DIAGRAM | BASKETBALL

## GENERAL INFORMATION

Court layouts shall conform to the most current National Federation of State High School Associations (NFHS) standards or other governing bodies as appropriate.

Related Standards: Ball Courts, Fence | Chain Link, Site Furnishings Section, Court Surfacing | Color Coat, Bench | Player, Signs.



Court diagram

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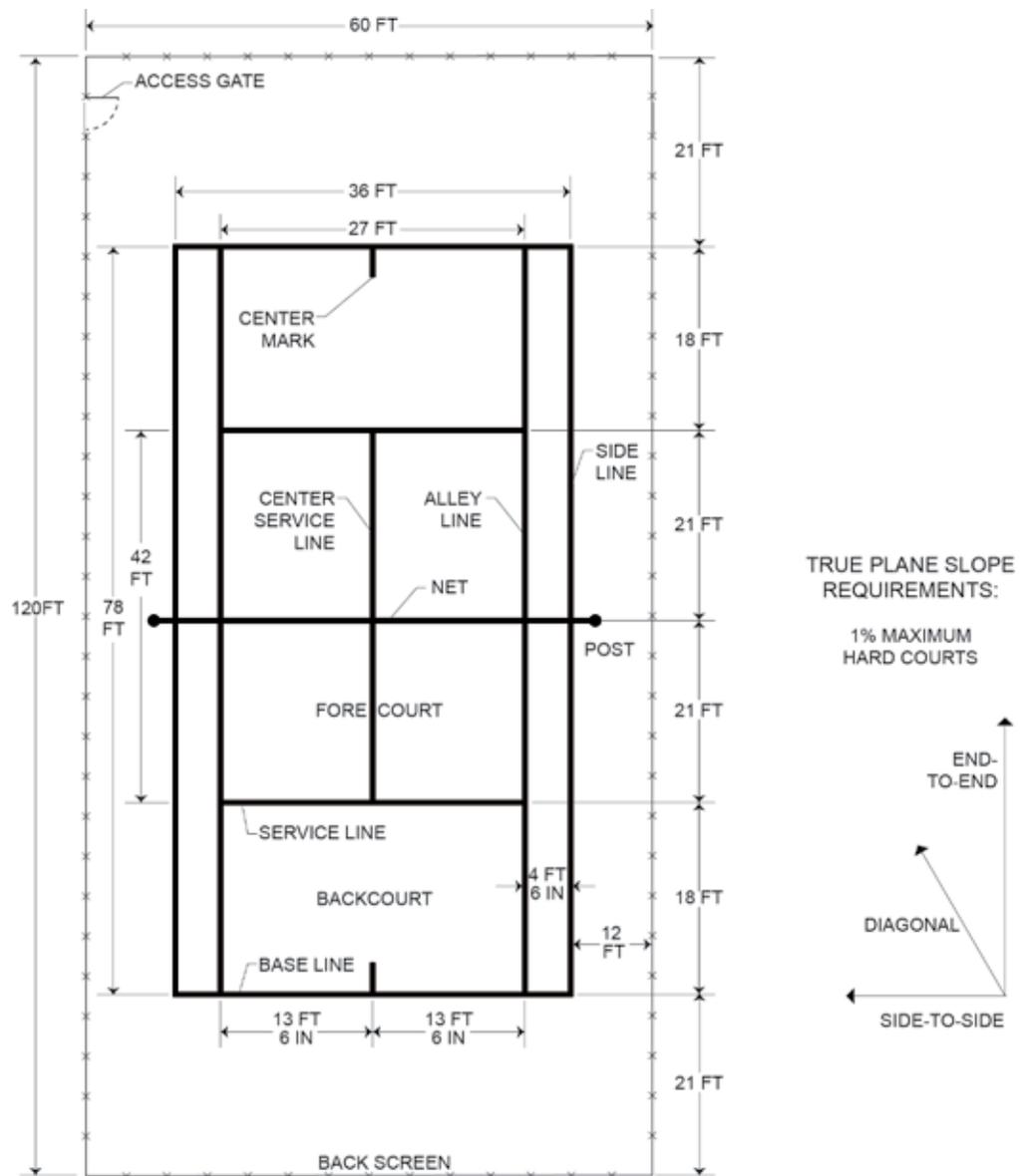
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# COURT DIAGRAM | TENNIS

## GENERAL INFORMATION

Court layouts shall conform to the most current National Federation of State High School Associations (NFHS) standards or other governing bodies as appropriate.

Related Standards: Ball Courts, Fence | Chain Link, Site Furnishings Section, Court Surfacing | Color Coat, Bench | Player, Signs, Tennis Net Systems.



Court diagram

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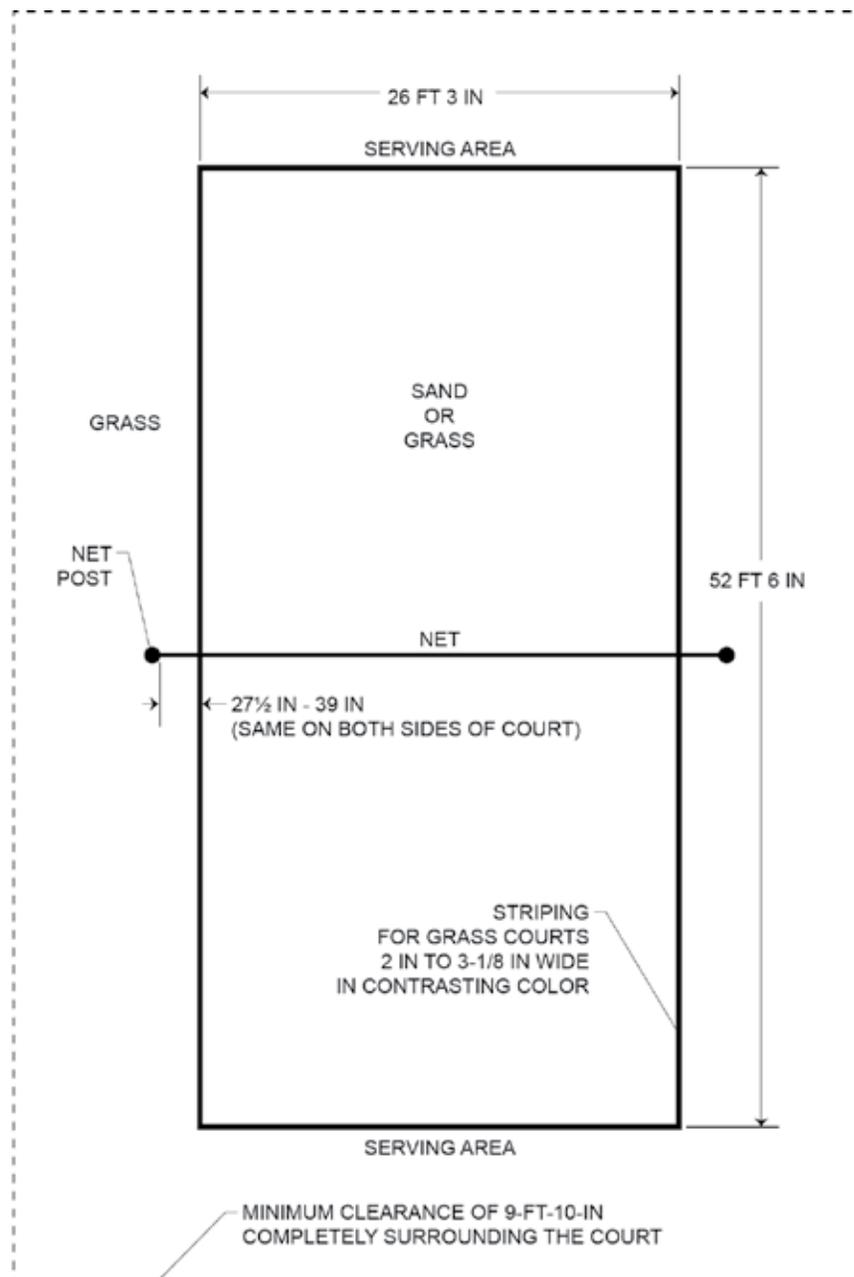
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# COURT DIAGRAM | VOLLEYBALL

## GENERAL INFORMATION

Court layouts shall conform to the most current standards of the International Federation of Volleyball or other governing bodies as appropriate.

Related Standards: Ball Courts, Fence | Chain Link, Site Furnishings Section, Bench | Player, Signs, Volleyball Net Systems.



Court diagram

Not to scale

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### PURPOSE

Outdoor athletic fields shall serve the recreation needs of the community.

### GENERAL INFORMATION

Fields shall comply with the most current National Federation of State High School Associations (NFSH) standards or other governing bodies as appropriate.

Fields shall have positive drainage and shall be sloped to drain.

Fields shall be accessible by pedestrian pathways.

Rectangular fields shall generally be oriented in a north-south direction. Diamond fields shall be generally oriented in a north-northeast direction.

Related Standards: Fence | Backstop, Fence| Chain Link, Site Furnishings Section, Infield Mix, Track/ Warning Track Surfacing.

Fields may be designed to serve multiple sports.



Rectangular field



Diamond field

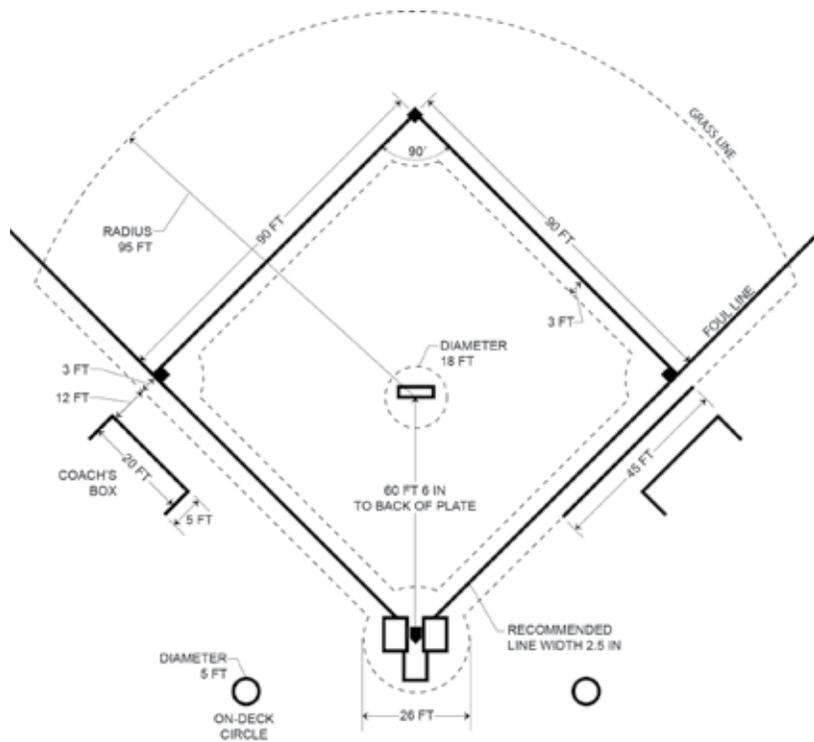
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# FIELD DIAGRAM | BASEBALL

## GENERAL INFORMATION

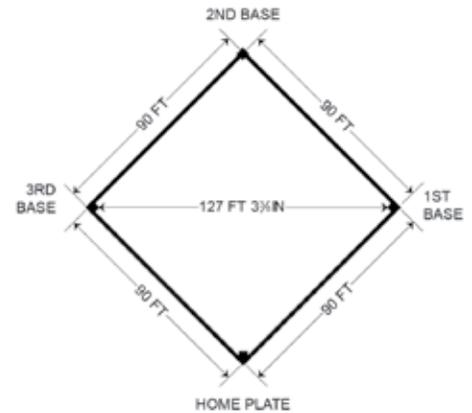
Field layouts shall conform to the most current National Federation of State High School Associations (NFHS) standards or other governing bodies as appropriate.

Related Standards: Fields, Fence | Backstop, Fence | Chain Link, Site Furnishings Section, Infield Mix, Track/Warning Track Surfacing.



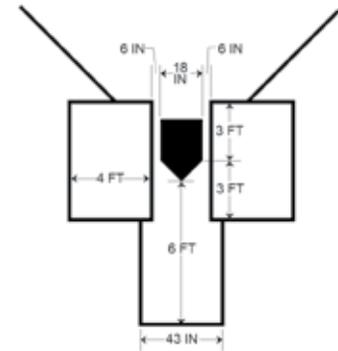
Field diagram

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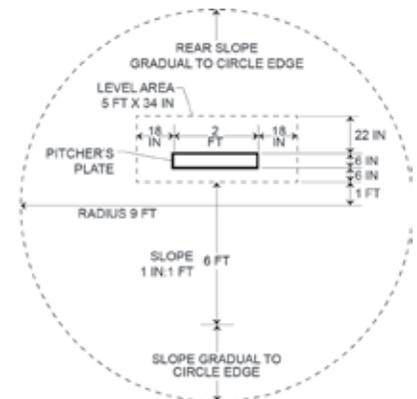
Base plates

Not to scale



Homeplate

Not to scale



Pitchers mound

Not to scale

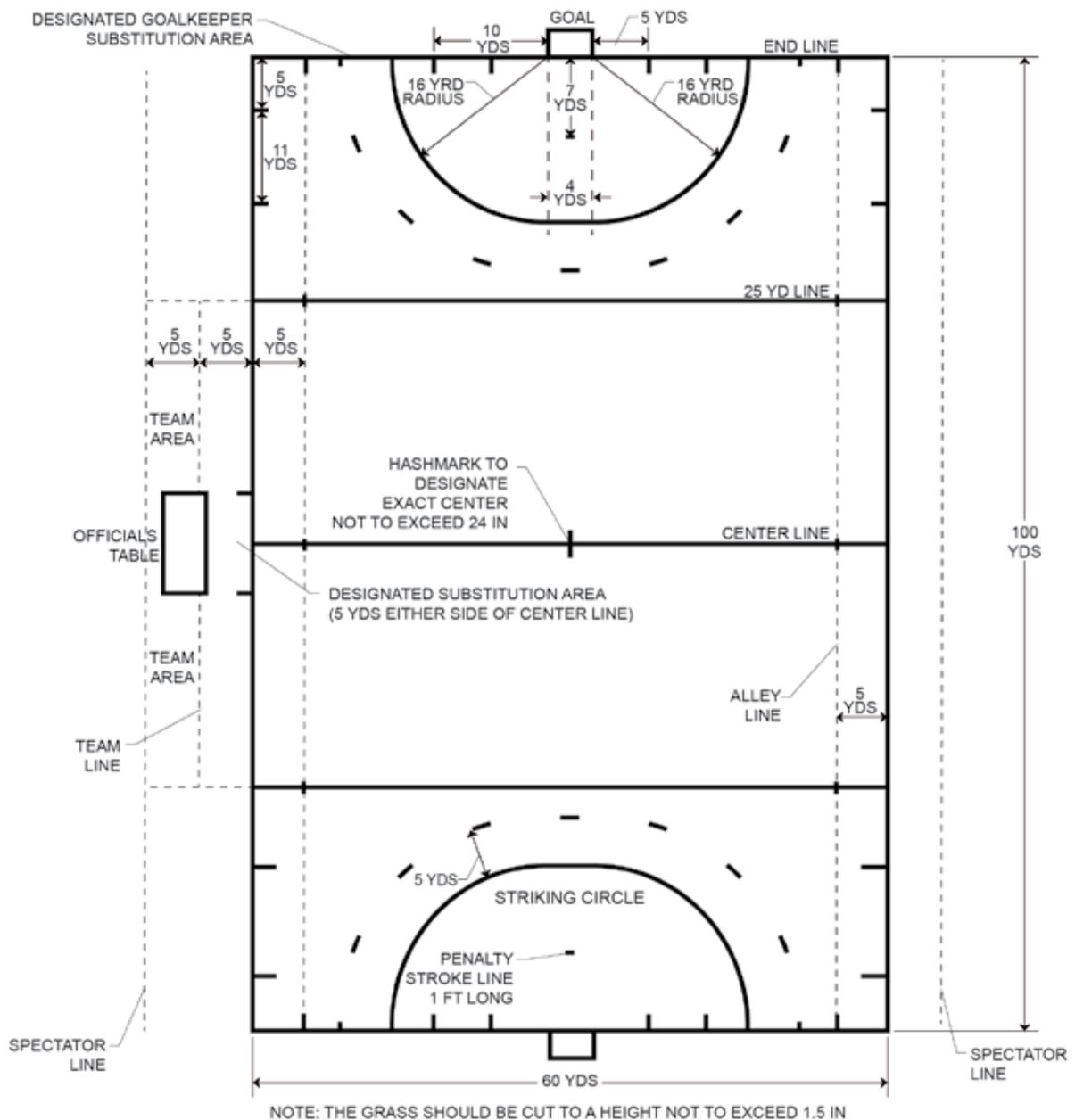
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# FIELD DIAGRAM | FIELD HOCKEY

## GENERAL INFORMATION

Field layouts shall conform to the most current National Federation of State High School Associations (NFHS) standards or other governing body.

Related Standards: Fields, Fence | Chain Link, Site Furnishings Section, Signs.



Field diagram

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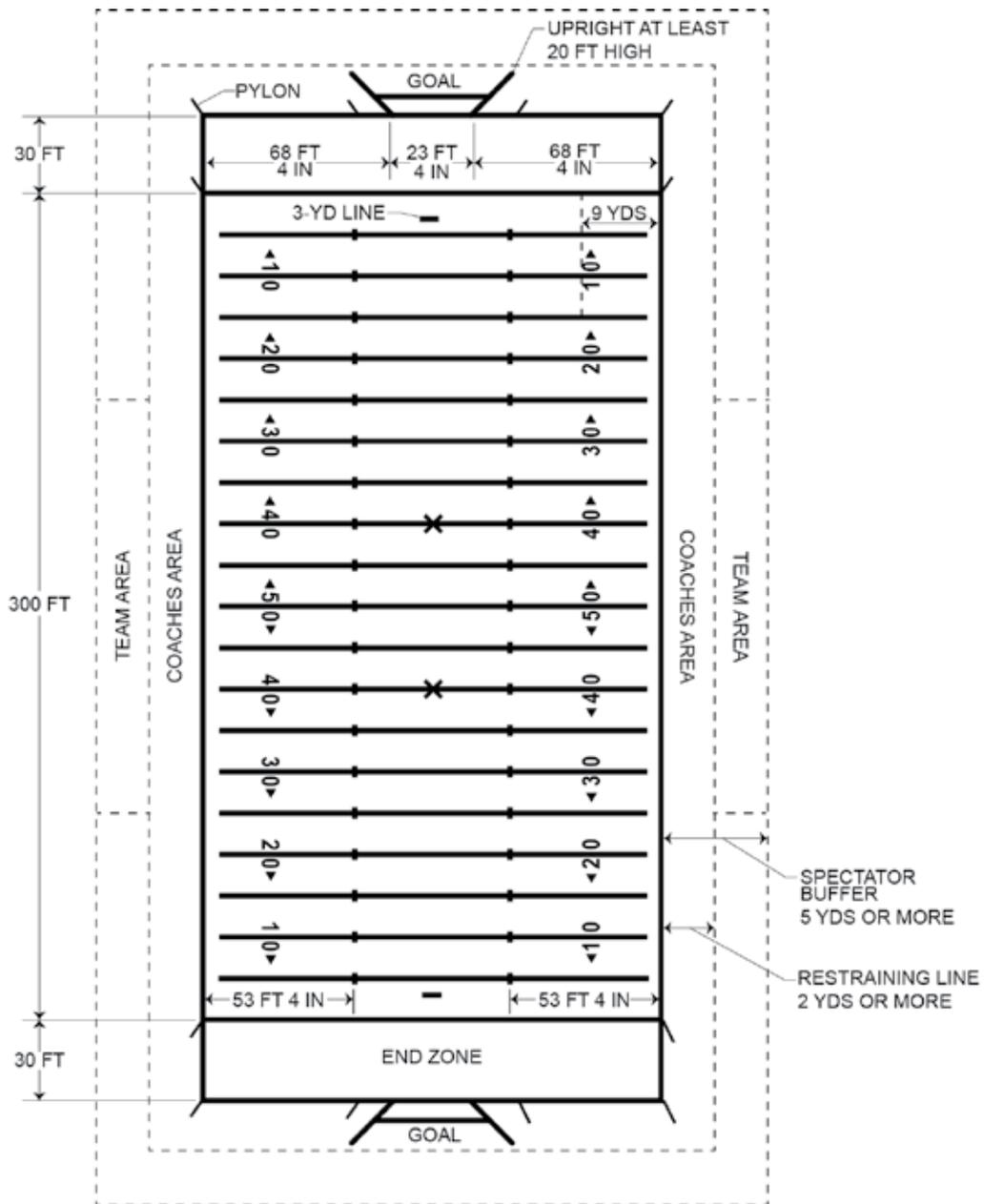
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# FIELD DIAGRAM | FOOTBALL

## GENERAL INFORMATION

Field layouts shall conform to the most current National Federation of State High School Associations (NFHS) standards or other governing bodies as appropriate.

Related Standards: Fields, Fence | Chain Link, Site Furnishings Section, Signs, Fences, Utility Systems.

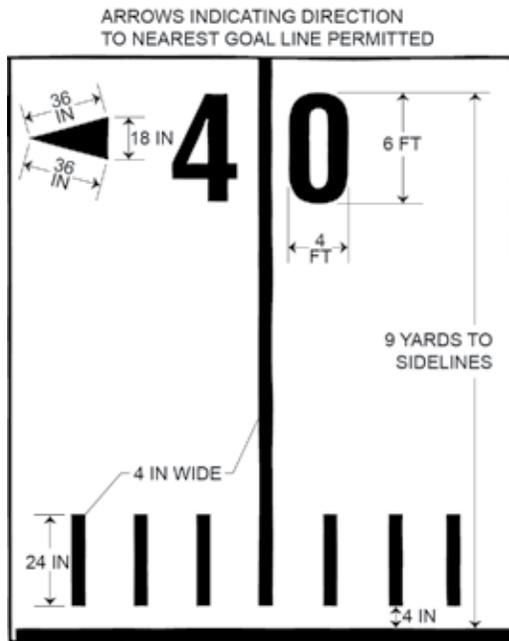


Field diagram

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# FIELD DIAGRAM | FOOTBALL

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Field markings

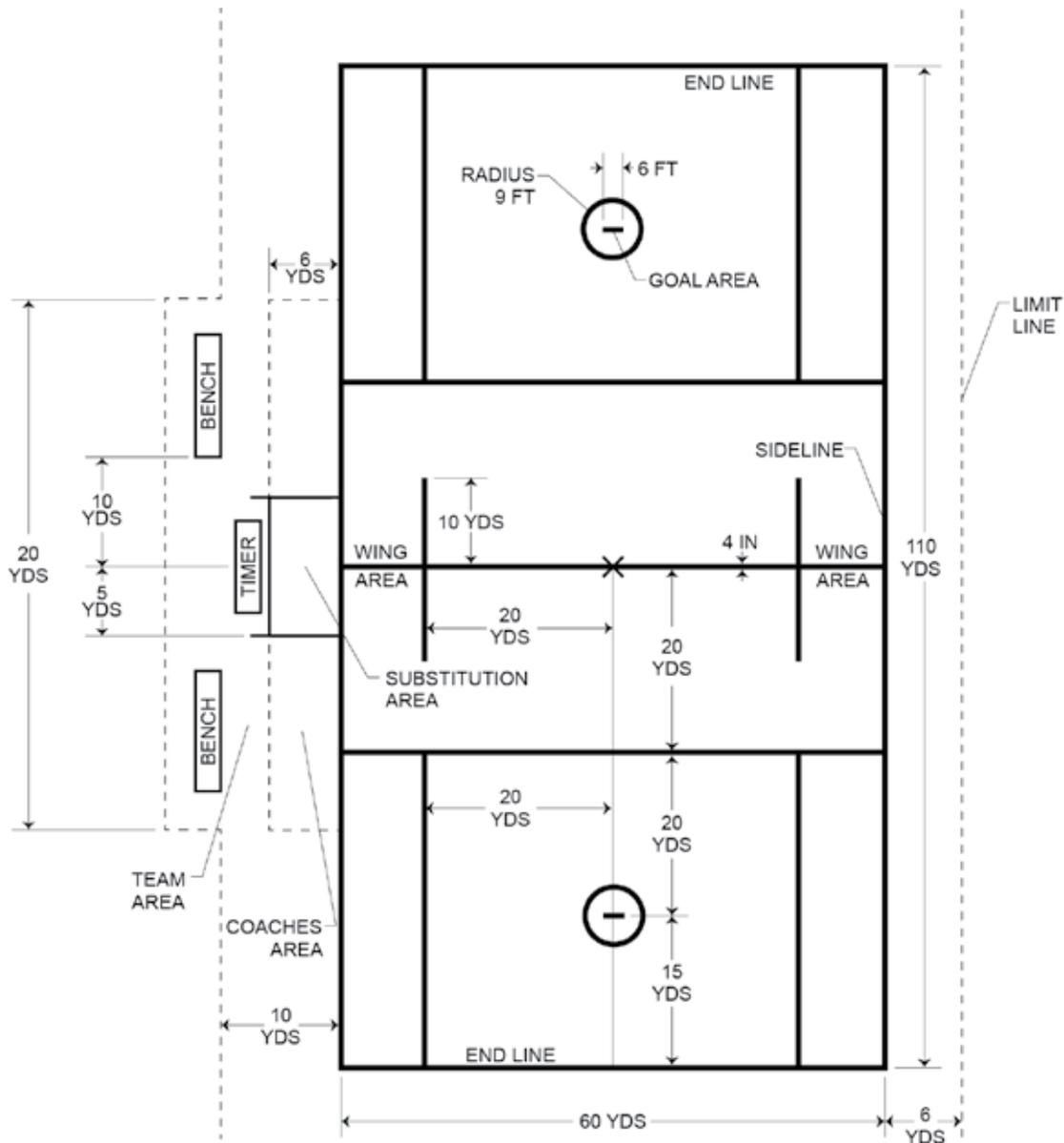
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# FIELD DIAGRAM | LACROSSE BOYS

## GENERAL INFORMATION

Field layouts shall conform to the most current National Federation of State High School Associations (NFHS) standards or other governing bodies as appropriate.

Related Standards: Fields, Fence | Chain Link, Site Furnishings Section, Signs, Utility Systems.



Field diagram

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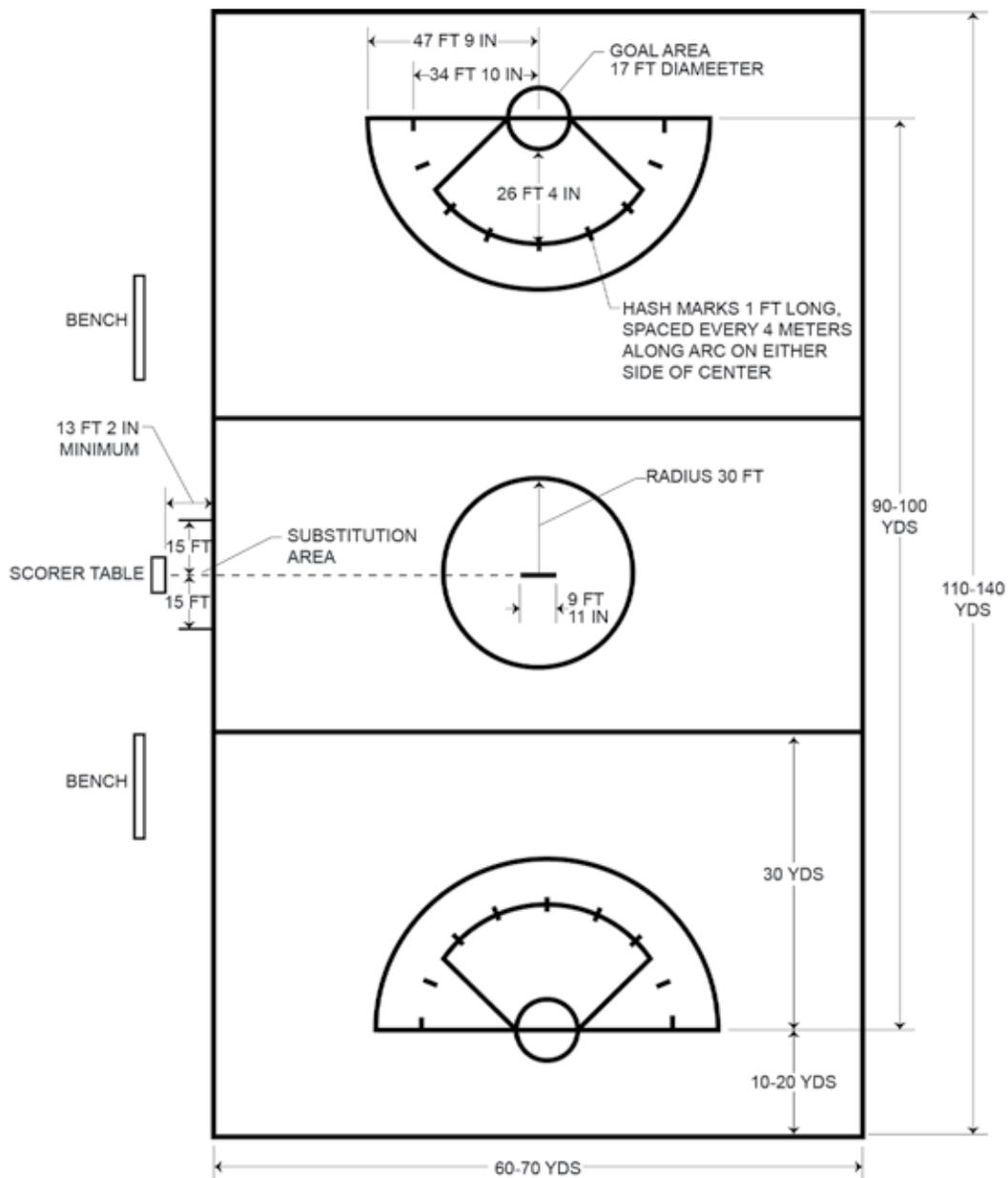
# FIELD DIAGRAM | LACROSSE GIRLS

CHAPTER 7: BALL COURTS AND ATHLETIC FIELDS

## GENERAL INFORMATION

Field layouts shall conform to the most current National Federation of State High Schools (NFHS) standards or other governing body.

Related Standards: Fields, Fence | Chain Link, Site Furnishings Section, Signs, Utility Systems.



Field diagram

Not to scale

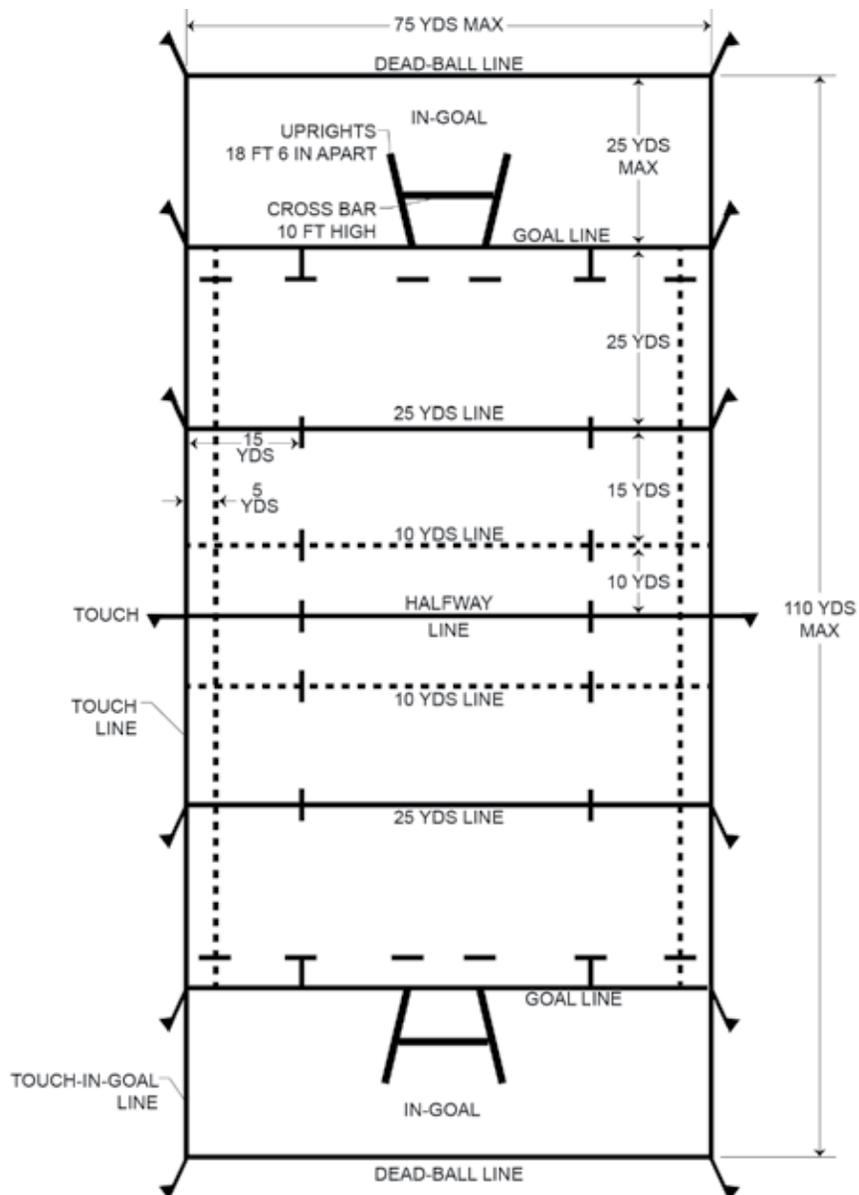
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# FIELD DIAGRAM | RUGBY

## GENERAL INFORMATION

Field layouts shall conform to the most current National Federation of State High School Associations (NFHS) standards or other governing bodies as appropriate.

Related Standards: Fields, Fence | Chain Link, Site Furnishings Section, Signs, Utility Systems.



Field diagram

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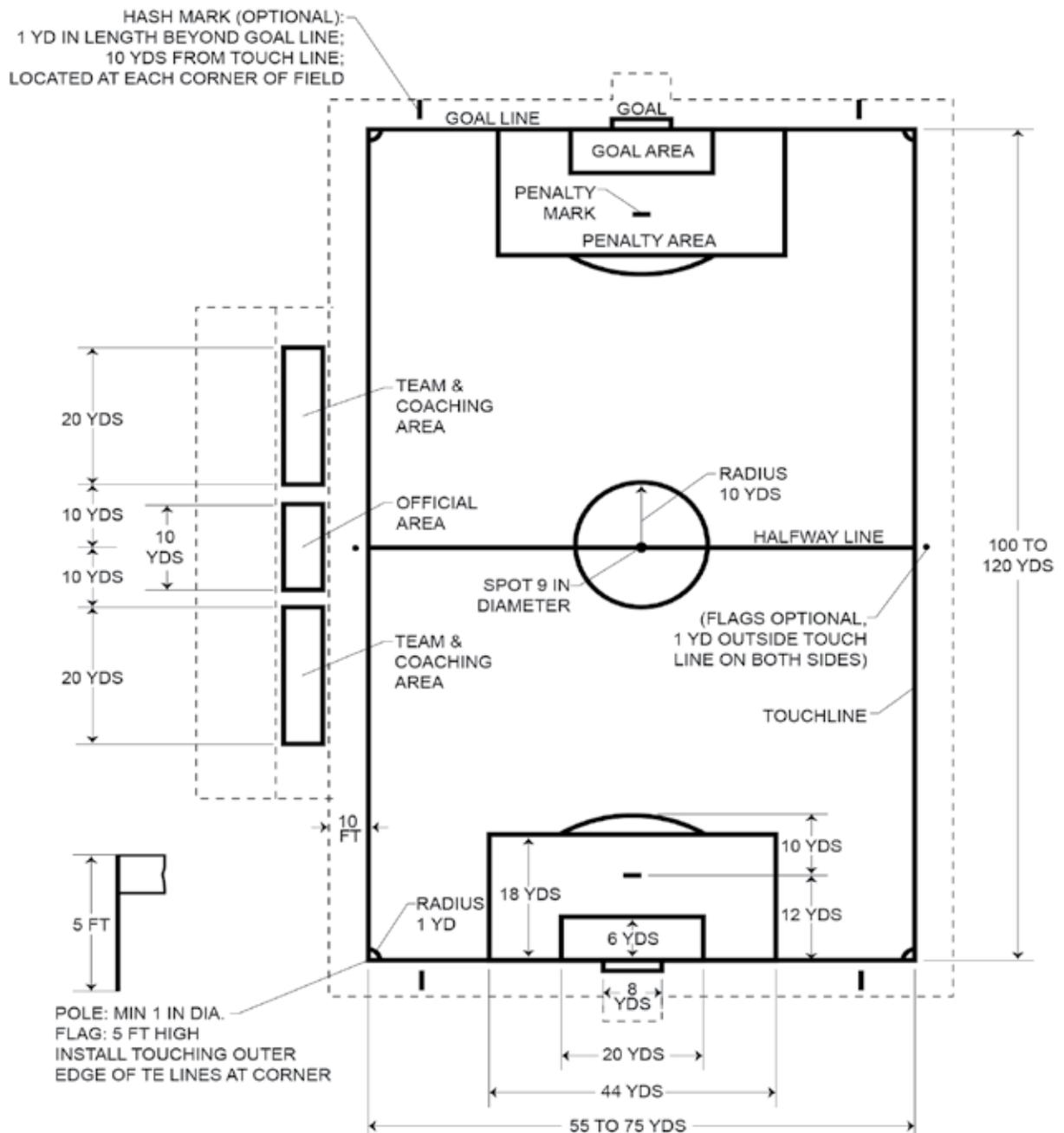
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# FIELD DIAGRAM | SOCCER

## GENERAL INFORMATION

Field layouts shall conform to the most current National Federation of State High School Associations (NFHS) standards or other governing bodies as appropriate.

Related Standards: Fields, Fence | Chain Link, Site Furnishings Section, Signs.



Field diagram

Not to scale

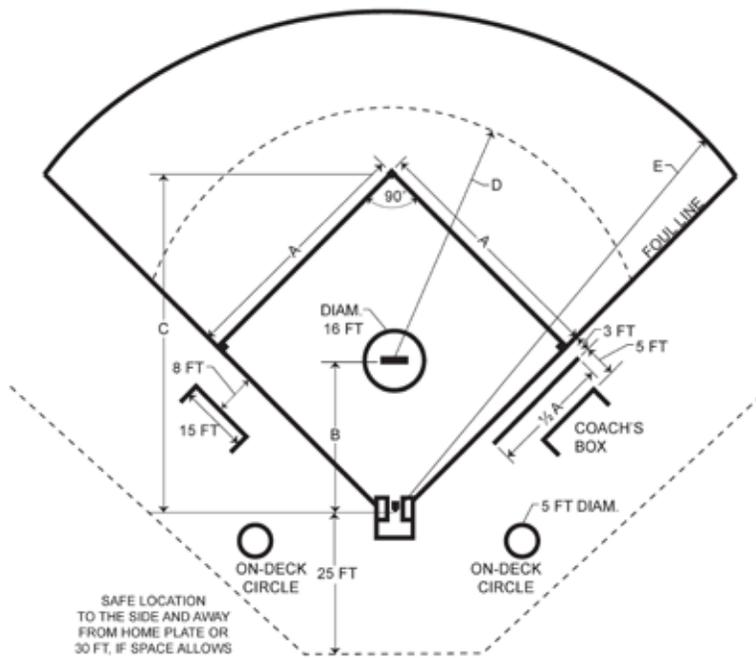
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# FIELD DIAGRAM | SOFTBALL

## GENERAL INFORMATION

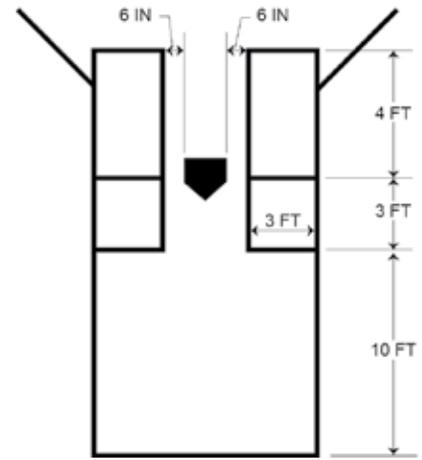
Field layouts shall conform to the most current standards of the appropriate body as specified in the table below.

Related Standards: Fields, Fence | Backstop, Fence | Chain Link, Site Furnishings Section, Infield Mix, Track/Warning Track Surfacing.



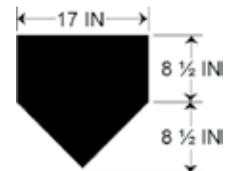
Field diagram

Not to scale



Batters box layout

Not to scale



Homeplate

Not to scale



Pitchers rubber

Not to scale

Game	Division	Bases (A)	Pitching (B)	Diamond Width (C)	Infield Radius (D)	Outfield Fence (E)
ADULT (per Amateur Softball Association of America)						
Fast Pitch	Women	60 ft	43 ft	84 ft 10 ¼ in	60 ft	200-250 ft
	Men	60 ft	46 ft	84 ft 10 ¼ in	60 ft	225-275 ft
Slow Pitch	Women	70 ft	50 ft	99 ft	70 ft	265-300 ft
	Men	70 ft	50 ft	99 ft	70 ft	300-315 ft
	Coed	70 ft	50 ft	99 ft	70 ft	275-300 ft
HIGH SCHOOL (per National Federation of High Schools)						
Fast Pitch	Female	60 ft	40 ft	84 ft 10 ¼ in	60 ft	185-235 ft
	Male	60 ft	46 ft	84 ft 10 ¼ in	60 ft	185-235 ft
Slow Pitch 12"	Female	60 ft	46 ft	84 ft 10 ¼ in	60 ft	250-275 ft
	Male	60 ft	46 ft	84 ft 10 ¼ in	60 ft	275-300 ft
Slow Pitch 11"	Female	65 ft	50 ft	91 ft 11 in	60 ft	250-275 ft

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# CHAPTER 8

## UTILITY SYSTEMS

Electrical Systems

Irrigation/Water Management Systems

Water Connections

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# ELECTRICAL SYSTEMS

## PURPOSE

Provide the necessary power systems for park facilities.

## GENERAL INFORMATION

Systems shall be compliant with the NEC and Virginia Electrical Code.

Electrical power will be provided through Dominion Virginia Power.

## MATERIALS AND FINISH

Electrical service enclosures shall be NEMA-3 standard enclosures, powder coated dark green.

Electrical components shall be UL labeled.

Conductors shall be THW or THWN copper.

## FEATURES

New electrical service shall be 240 volt 3-phase power where feasible.

## INSTALLATION

New electrical connections shall be installed underground in compliance with City of Alexandria Standards.

Transformers and electrical service enclosures shall be located outside of property setbacks. Selected locations shall be inconspicuous and outside of major use areas. Locations shall be selected to limit quantity of electrical conduit.

Electrical connections beneath paving shall be installed in industry standard sleeves.

Ballasts shall be located underground.

Screening for service enclosures and transformers shall comply with City of Alexandria Code.



NEMA-3 rated electrical enclosure

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# IRRIGATION/WATER MANAGEMENT SYSTEMS

## PURPOSE

Irrigation and water management systems shall be implemented to provide supplementary water for plantings and turf areas during periods of drought.

## GENERAL INFORMATION

Irrigation systems shall be compatible with the City's Maxicom Central Control Irrigation System.

Standard irrigation components shall be manufactured by Hunter, Rainbird, Toro, or City approved equal.

## MATERIALS AND FINISH

Irrigation installations shall include communication devices to coordinate with the central controller including the following as applicable: cluster control unit, site satellite or radio antenna, flow sensor, and rain sensor. Small sites may be exempt at the determination of the Director of Recreation, Parks and Cultural Activities.

Valve boxes shall be heavy duty, H-20 loaded, Carson boxes with black covers. Boxes shall include 3 inches minimum vertical depth of gravel at the base.

## FEATURES

New irrigation installations shall include an accurate, complete, data report of all components installed, precipitation rates and water pressure/flow rates.

Irrigation systems may include drip, spray-head and turf rotors as applicable for site specific needs.

## INSTALLATION

Irrigation components shall be installed in compliance with plans designed by a professional irrigator licensed in the Commonwealth of Virginia.

Irrigation installations shall be documented with as-built drawings detailing component type and information, location and connections.

Irrigation systems shall provide head-to-head coverage.

Installation documentation shall include field verified precipitation rates for input in the City's Maxicom central control system.

## LIFE CYCLE EXPECTATIONS

Communication components shall be warranted for a minimum of 5 years.

Irrigation components shall be warranted for a minimum of 1 year.



Athletic field irrigation

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# WATER CONNECTIONS

## PURPOSE

Water connections shall be installed in parks and public open space for drinking fountains, ornamental fountains, irrigation systems and maintenance use.

## GENERAL INFORMATION

Water connections shall be installed by a certified professional licensed in the Commonwealth of Virginia.

Water service will be provided through Virginia American Water.

Connections shall be compliant with USBC Plumbing Code and other applicable plumbing and health codes.

## MATERIALS AND FINISH

Below grade enclosures shall be heavy duty, H-20 loaded, Carson irrigation boxes with black covers or City approved equal. In-ground valve boxes shall include 3 inches minimum vertical depth of pea gravel at the base.

Above grade backflow preventer and booster pump enclosures shall be marine grade aluminum. Color shall be stainless steel or dark green.

## FEATURES

Water meters are the property of Virginia American Water.

Connections shall have backflow preventers.

## INSTALLATION

Water connections shall be installed beneath the frost line.

Water connections beneath pavement shall be installed as sleeved connections.

Water meters locations shall be inconspicuous and outside of major use areas.



Above grade irrigation backflow preventer enclosure

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# CHAPTER 9

## SIGNS

Field Closure Sign

Information Kiosk

Park Regulatory Sign

Park Regulatory Sign Text

Wayfinding Park Sign System

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# FIELD CLOSURE SIGN

## PURPOSE

The field closure sign is a weather and vandal resistant flip sign for communicating the use status of athletic fields.

## GENERAL INFORMATION

Signs shall be aluminum and include a backboard with one flip panel.

## MATERIALS AND FINISH

Sign backboards shall be 2 feet vertical dimension x 2 feet horizontal dimension.

Sign flip panels shall be 1 foot vertical dimension x 2 feet horizontal dimension.

Sign backboard and flip panel shall have bright white reflective backgrounds.

Sign backboard text shall read 'Field Closed' in red letters. Red shall be PMS 485 C.

Sign flip panel text shall read 'Field Open' in green letters. Green shall be PMS 370 C.

## INSTALLATION

Signs shall be mounted on the field perimeter fence at the central/prominent access gate. Signs shall be attached using 9 gauge wire or screen clamps, coated to match the fence fabric.

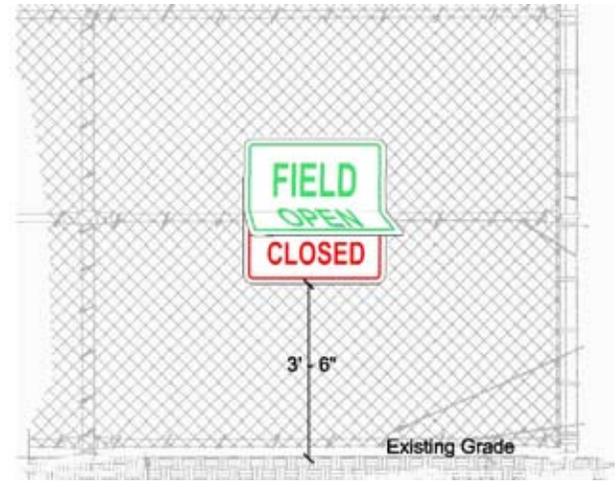
Signs shall be mounted on the fence 3 feet-6 inches vertical distance from the bottom of the sign to adjacent finish grade and level.

Flip panel shall be lockable to secure the panel to the fence.

## LIFE CYCLE EXPECTATIONS

A 1 year minimum warranty is required.

Signs are anticipated to require replacement after 10 years based on normal and ordinary use.



Field closure sign

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# INFORMATION KIOSK

## PURPOSE

The information kiosk is a weather and vandal resistant location for the posting of temporary and seasonal programming, rule changes and safety information.

## GENERAL INFORMATION

Information kiosks shall be comprised of a message board, vandal-proof glass or acrylic display panel, and a small roof to protect the contents from the weather.

The standard information kiosk is the Barco, Medium Message Center, model KMC2145 in black, or City approved equal.

## MATERIALS AND FINISH

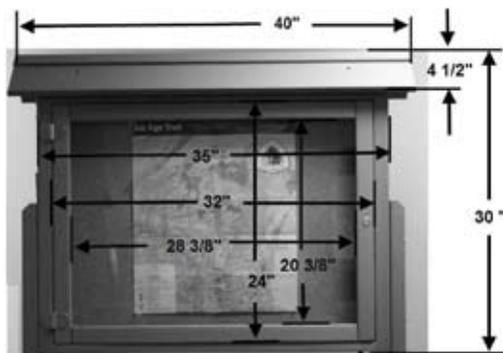
Information kiosks shall be constructed of weather resistant recycled plastic, resin or composite resin composed of 50% wood fiber and 50% polyethylene or fiberglass.

Free-standing kiosks shall be supported by 4 inch by 4 inch posts (nominal dimensions).

Free-standing kiosks shall be double sided.

The interior display panel shall have a water and weather tight seal.

Interior display panels shall have a lock mechanism.



Kiosk elevation

## FEATURES

Low energy, LED lighting is available.

Colored, recycled rubber mounting board or cork panels are available for the message board.

## INSTALLATION

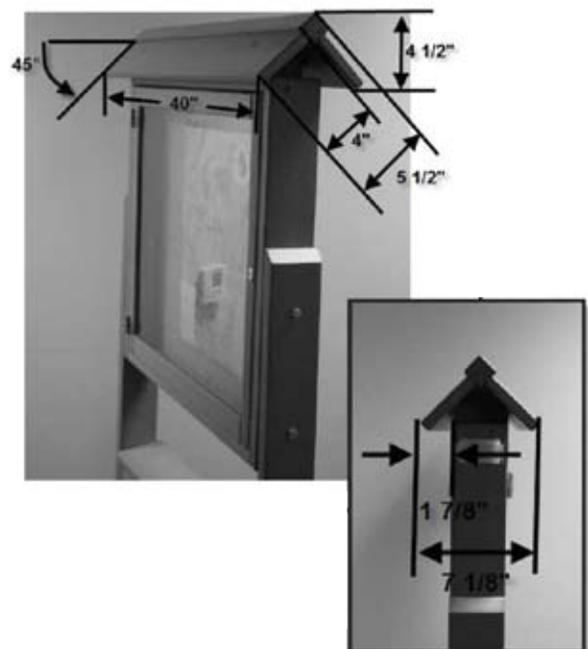
Information kiosks must be installed permanently through a surface bolt or in-ground system, consistent with the manufacturer's recommendation.

Kiosks shall be installed adjacent to pathways and parallel to the direction of travel. Kiosks installed perpendicular to the pathway shall include a concrete viewing pad parallel to the kiosk of equal width.

## LIFE CYCLE EXPECTATIONS

A 10 year minimum warranty is required.

Structures are anticipated to require replacement after 15-20 years based on normal and ordinary wear.



Kiosk section

Intentionally Blank

# PARK REGULATORY SIGN

## PURPOSE

Permanent regulatory information such as park hours, rules, regulations, emergency contact information and non-seasonal programming shall be posted at all parks.

## GENERAL INFORMATION

Signs shall clearly state the name of the park, the City of Alexandria as the park operator, and a contact number to report safety issues.

Signs shall be posted in unobstructed viewsheds near activity centers or park entrances.

Consistent with the Code of Alexandria, new language shall be approved by the City Manager.

## MATERIALS AND FINISH

Materials shall be durable, reflective, weather resistant, UV resistant and low-glare.

Sign graphics, colors and fonts shall coordinate with the City of Alexandria Wayfinding Program.

Sign shall be 1/16 inch thick aluminum.

## INSTALLATION

Signs shall be permanently affixed to fences or attached to a standard post per the methods identified in the City of Alexandria Wayfinding Program Manual.

Signs shall not be posted at a height greater than 4 feet from finish grade to the center of the sign board.

At time of installation, outdated or repetitive signage shall be removed.

## FEATURES

Signs shall not vary from the template provided by the Director of Parks, Recreation and Cultural Activities.

Signs shall use Forest Green (Pantone 560) in the frame.

Sign frame font shall be FF Unit Medium.

Sign information font shall be Whitney Medium.

Signs shall be the following sizes as determined by location, size of park, and visibility: 18 x 24, 24 x 24, 24 x 36, or 36 x 48 inches.

QR codes shall be provided for Dog Park signs.

Signs shall be oriented in a portrait direction.

Authorized signs are approved for the following special areas:

- Fields/Active Recreation Sites
- Natural Areas
- Picnic Areas
- Playgrounds
- Ponds
- Residential Neighborhoods
- Waterfront, including Marina
- Dog Parks

## LIFE CYCLE EXPECTATIONS

Signs shall have a UV and vandal resistant protective coating.

Signs are anticipated to require replacement after 10 years based on normal and ordinary wear.

# PARK REGULATORY SIGN

---

Welcome to  
**Park Name Here**  
Park Address Here

- Park hours are from sunrise to sunset, except by permitted use
- Dogs must be on a leash and handlers must clean up after their pet
- Use trash cans to dispose of all waste
- No amplified sound, except by permitted use
- No alcoholic beverages

For non-emergency police assistance, call 703-838-4444.  
For general recreation information, call 703-746-4343 or  
visit [www.alexandriava.gov/recreation](http://www.alexandriava.gov/recreation).

Use of this park is subject to the Alexandria City Code,  
including, but not limited, to sections 6-1-8.

  Department of Recreation, Parks, and  
Cultural Activities

Park regulatory sign for all parks

# PARK REGULATORY SIGN TEXT

## PURPOSE

Park regulatory signs shall use the following text.

### ALL PARK AREAS

*(except user specific, such as dog parks, Waterfront parks, athletic fields/synthetic turf, etc.)*

- Park hours are from sunrise to sunset, except by permitted use
- Dogs must be on a leash and handlers must clean up after their pet
- Use trash cans to dispose of all waste
- No amplified sound, except by permitted use
- No alcoholic beverages

*For non-emergency police assistance, call 703-838-4444. For General recreation information, call 703-746-4343 or visit [www.alexandriava.gov/recreation](http://www.alexandriava.gov/recreation). Use of this park is subject to the Alexandria City Code, including, but not limited to section 6-1-8.*

### NATURAL AREAS

- Park hours are from sunrise to sunset, except by permitted use
- Dogs must be on a leash and handlers must clean up after their pet
- Use trash cans to dispose of all waste
- No amplified sound
- No alcoholic beverages
- Stay on trails to protect native plants and to avoid poison ivy
- Disturbing park wildlife or plants is prohibited

## FIELDS/ACTIVE RECREATION SITES

- Park hours are from sunrise to sunset, except by permitted use
- Dogs must be on a leash and handlers must clean up after their pet
- Use trash cans to dispose of all waste
- No amplified sound, except by permitted use
- No alcoholic beverages
- No dogs allowed on field
- Field use by permit only
- No golfing
- Vehicles in designated areas only; the City of Alexandria is not responsible for damage to vehicles in this lot
- No vehicle maintenance allowed on site
- Add for diamond fields: No hitting balls into fence

### PICNIC AREAS

- Park hours are from sunrise to sunset, except by permitted use
- Dogs must be on a leash and handlers must clean up after their pet
- Use trash cans to dispose of all waste
- No amplified sound, except by permitted use
- No alcoholic beverages
- No organized sports allowed in picnic areas
- Fires are permitted in park grills only
- Picnic areas available by reservation April-October; to reserve please call 703-746-4343

# PARK REGULATORY SIGN TEXT

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## PONDS

- Park hours are from sunrise to sunset, except by permitted use
- Dogs must be on a leash and handlers must clean up after their pet
- Use trash cans to dispose of all waste
- No amplified sound, except by permitted use
- No alcoholic beverages
- Do not feed the wildlife
- Do not allow your pet in the pond
- No fishing in the pond
- No entering the water

## PLAYGROUNDS

- Park hours are from sunrise to sunset, except by permitted use
- No dogs allowed in playground area
- Use trash cans to dispose of all waste
- No amplified sound, except by permitted use
- No glass or other breakable objects permitted
- Bicycles, skateboards or roller skates are prohibited in the playground area
- Keep play equipment and its perimeters free of obstructions and loose objects
- No alcoholic beverages
- Children should be accompanied by an adult
- Children should use age-appropriate equipment
- Avoid use of equipment when surfaces are wet or hot
- Proper footwear required

## RESIDENTIAL NEIGHBORHOODS

- This is a residential neighborhood. Please be kind to your neighbors
- Dogs must be on a leash and handlers must clean up after their pet
- Use trash cans to dispose of all waste
- No amplified sound, except by permitted use
- No alcoholic beverages

## WATERFRONT (INCLUDING MARINA)

- Park hours are from 5 a.m. to 10 p.m., except by permitted use
- Dogs must be on a leash and handlers must clean up after their pet
- Use trash cans to dispose of all waste
- No amplified sound, except by permitted use
- No alcoholic beverages
- No roller skates, rollerblades, or skateboards
- No commercial activity allowed, except by permitted use
- No ball playing or thrown objects
- No fishing in the marina area

# PARK REGULATORY SIGN TEXT

Welcome to

## Nannie J. Lee Fields

1108 Jefferson Street

- Park hours are from sunrise to sunset, except by permitted use
- Dogs must be on a leash and handlers must clean up after their pet
- Use trash cans to dispose of all waste
- No amplified sound, except by permitted use
- No alcoholic beverages
- No dogs allowed on field
- Field use by permit only
- No golfing
- No vehicle maintenance allowed on site
- Vehicles in designated areas only; the City of Alexandria is not responsible for damage to vehicles in this area

Use of this park is subject to the Alexandria City Code, including, but not limited to section 6-1-8. For non-emergency police assistance, call 703-838-4444. For general recreation information, call 703-746-4343 or visit [www.alexandriava.gov/recreation](http://www.alexandriava.gov/recreation).



Department of Recreation, Parks, and Cultural Activities

Park sign for fields/active recreation sites

Welcome to

## E. Del Ray Avenue Park Playground

1 & 7 East Del Ray Avenue

- Park hours are from sunrise to sunset, except by permitted use
- No dogs allowed in playground area
- Use trash cans to dispose of all waste
- No amplified sound, except by permitted use
- No glass or other breakable objects permitted
- Bicycles, skateboards or roller skates are prohibited in the playground area
- Keep play equipment and its perimeters free of obstructions and loose objects
- No alcoholic beverages
- Children should be accompanied by an adult
- Children should use age-appropriate equipment
- Avoid use of equipment when surfaces are wet or hot
- Proper footwear required

For non-emergency police assistance, call 703-838-4444. For general recreation information, call 703-746-4343 or visit [www.alexandriava.gov/recreation](http://www.alexandriava.gov/recreation).



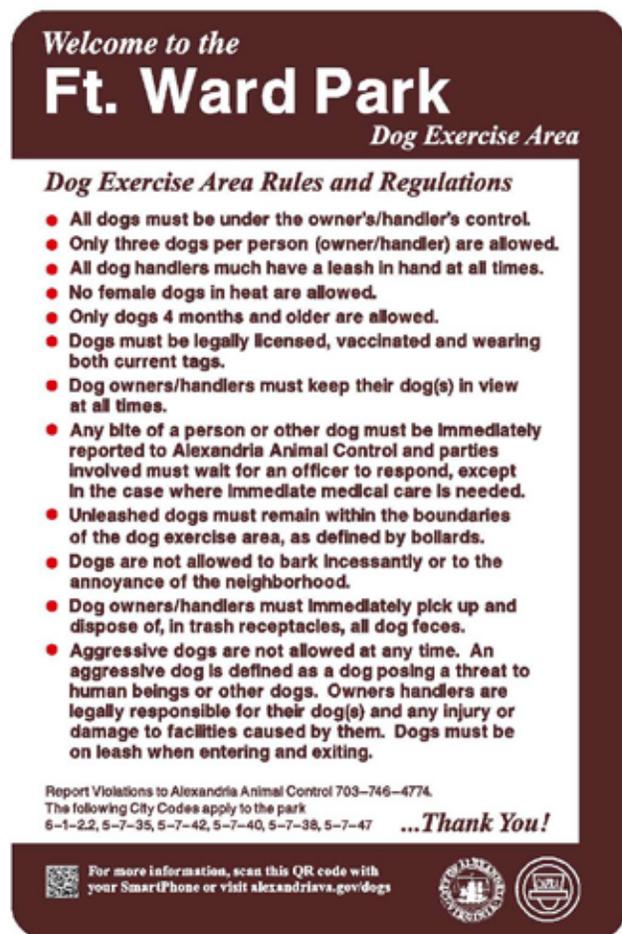
Department of Recreation, Parks and Cultural Activities

Park sign for playgrounds

# PARK REGULATORY SIGN TEXT

## UNFENCED DOG EXERCISE AREAS

- All dogs must be under the owner's/handler's control.
- Only three dogs per person (owner/handler) are allowed.
- All dog handlers must have a leash in hand at all times.
- No female dogs in heat are allowed.
- Only dogs 4 months and older are allowed.
- Dogs must be legally licensed, vaccinated and wearing both current tags.
- Dog owners/handlers must keep their dog(s) in view at all times.
- Any bite of a person or other dog must be immediately reported to Alexandria Animal Control and parties involved must wait for an officer to respond, except in the case where immediate medical care is needed.
- Dogs are not allowed to bark incessantly or to the annoyance of the neighborhood.
- Dog owners/handlers must immediately pick up and dispose of, in trash receptacles, all dog feces.
- Aggressive dogs are not allowed at any time. An aggressive dog is defined as a dog posing a threat to human beings or other dogs. Owner/handlers are legally responsible for their dog(s) and any injury or damage to facilities caused by them. Dogs must be on leash when entering and exiting.
- Report violations to Alexandria Animal Control 703-746-4774.
- The following City Codes apply to the park 6-1-2.2, 5-7-35, 5-7-42, 5-7-40, 5-7-38, 5-7-47



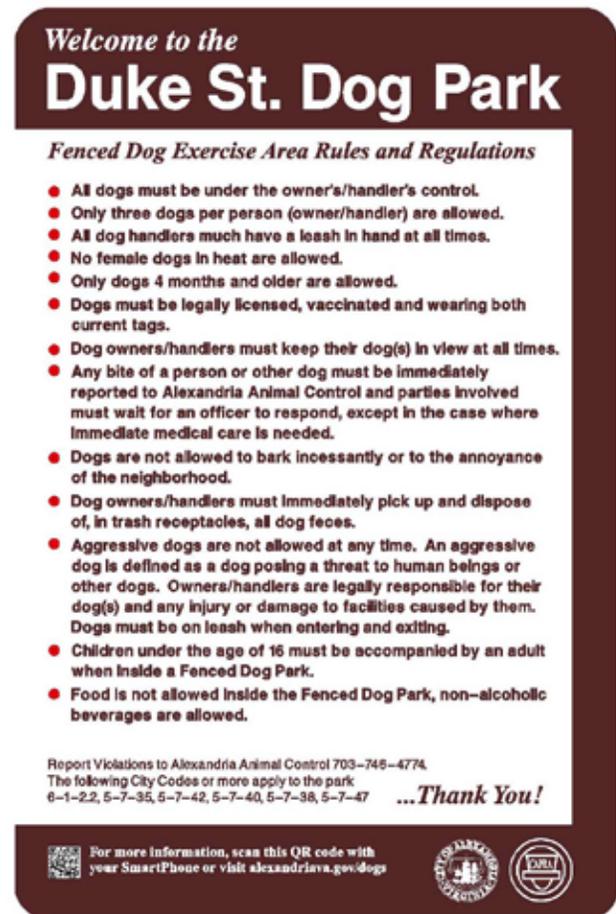
Park sign for unfenced dog exercise areas

# PARK REGULATORY SIGN TEXT

## FENCED DOG EXERCISE AREAS

- All dogs must be under the owner's/handler's control.
- Only three dogs per person (owner/handler) are allowed.
- All dog handlers must have a leash in hand at all times.
- No female dogs in heat are allowed.
- Only dogs 4 months and older are allowed.
- Dogs must be legally licensed, vaccinated and wearing both current tags.
- Dog owners/handlers must keep their dog(s) in view at all times.
- Any bite of a person or other dog must be immediately reported to Alexandria Animal Control and parties involved must wait for an officer to respond, except in the case where immediate medical care is needed.
- Dogs are not allowed to bark incessantly or to the annoyance of the neighborhood.
- Dog owners/handlers must immediately pick up and dispose of, in trash receptacles, all dog feces.
- Aggressive dogs are not allowed at any time. An aggressive dog is defined as a dog posing a threat to human beings or other dogs. Owner/handlers are legally responsible for their dog(s) and any injury or damage to facilities caused by them. Dogs must be on leash when entering and exiting.
- Children under the age of 16 must be accompanied by an adult when inside a Fenced Dog Park.
- Food is not allowed inside the Fenced Dog Park, non-alcoholic beverages are allowed.

- Report violations to Alexandria Animal Control 703-746-4774.
- The following City Codes or more apply to the park 6-1-2.2, 5-7-35, 5-7-42, 5-7-40, 5-7-38, 5-7-47



Park sign for fenced dog exercise areas

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# WAYFINDING PARK SIGN SYSTEM

## PURPOSE

The City of Alexandria Wayfinding sign package shall be used for all park identification. Implementation shall be coordinated with the Department of Transportation and Environmental Services (T&ES) and the City of Alexandria Wayfinding Design Guidelines Manual and the Wayfinding Technical Manual.

## GENERAL INFORMATION

The following signs shall be consistent with the guidelines identified by the Wayfinding Plan including park entrance and identification, interpretive panels, automotive trail blazing and pedestrian/bike trail signs.

Signs may require City of Alexandria sign and building permits.

## MATERIALS AND FINISH

Park identification signs shall be the DI.2 Single Post Large Destination Identification sign, the DI.2a Single Post Small Destination Identification Sign, or the DI.3 Double Post Destination Identification sign.

## INSTALLATION

Duplicate/old signs shall be removed from parks.

Signs shall be installed close to trail heads, entrance drives and pedestrian trails. Signage shall not hang into pathways or impede mobility devices.

## LIFE CYCLE EXPECTATIONS

A workmanship warranty of 5 years minimum is required.

Signs are anticipated to require replacement after 15-20 years based on normal and ordinary use.



Park sign

# WAYFINDING PARK SIGN SYSTEM

## COLORS AND FINISHES

Colors and finishes have been selected from a range of high-quality, industry-standard sources and are readily available to fabricators and end-users alike. The color swatches shown in these standards are for illustrative purposes only and should not be used for color proofing - all color matching should be done with physical samples, in the form of color chips and vinyl sample sheets.

Color specifications are indicated in the following hierarchy:

Color Name (Color Reference for Text)

Paint (P#)

Opaque Vinyl (OV#)

Reflective Vinyl (RV#)

Translucent Vinyl (TV#)

Hi-Intensity Vinyl (HV#)

High Resolution Digital Printing (D#)

Not all colors require the full range of film (vinyl) and paint equivalents.

Paint and vinyl have been sourced from the following manufacturers:

Paints:

Map (Matthews Paint Company)

[www.matthewspaint.com](http://www.matthewspaint.com)

Akzo Nobel Sign Finishes

[www.signfinishes.com](http://www.signfinishes.com)

Vinyl Films:

3M

[www.3M.com/graphics](http://www.3M.com/graphics)

Avery Graphics

[www.averygraphics.com](http://www.averygraphics.com)

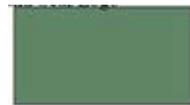
Arlon

[www.arlong.com](http://www.arlong.com)



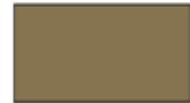
Forrest Green  
P15: MP13508

D15: Pantone 560



Sage Green  
F14: MP13544

D14: Pantone 5565C



Buckskin  
P27: MP07645  
OV27: Avery A9270-D

D27: Pantone DS 41-6 C



Dark Taupe  
F3: Akzo-Nobel 425D1  
OV3: Avery A9252-D

D3: Pantone 466C



Signal Jet Black  
P2: MAP 41306  
OV2: 3M 7725-12

TV2: 3M 3630-22



Rose  
P6: MP07276

D16: Pantone 696C

Sign color palette

# WAYFINDING PARK SIGN SYSTEM

## TYPE STANDARDS

The palette of fonts developed for the sign standards respond to the varying needs of legibility and aesthetics, and can be grouped into the following broad categories:

### Wayfinding and Legibility

- FHWA Series 2000 (TF1)
- FF Unit Medium (TF2)

### Secondary Text

- Aviano Sans Regular (used for Alexandria logotype)
- Electra Family (used for interpretive text) (TF5, TF5A, TF4B)
- Whitney Family (used for interpretive text) (TF4, TF4A, TF4B, TF4C, TF4D, TF4E, TF4G, TF4H)

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
1234567890:.,()!?

TF1 | FHWA Series 2000 C | www.fhwa.org | 866.833.7933

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
1234567890:.,()!?

TF2 | FF Unit Medium | www.fontfont.com | 888.333.6687

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
ABCDEFGHIJKLMNOPQRSTUVWXYZ  
1234567890:.,()!?

TF3 | Aviano Sans Regular | www.insignedesign.com | 865.730.0677

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
ABCDEFGHIJKLMNOPQRSTUVWXYZ  
1234567890:.,()!?

TF4 | Whitney Light Small Caps | www.typography.com | 212.777.6640

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
1234567890:.,()!?

TF4A | Whitney Light Italic | www.typography.com | 212.777.6640

Type standards

# WAYFINDING PARK SIGN SYSTEM

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ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
1234567890:.,()!?

TF4B | Whitney Book Italic | www.typography.com | 212.777.6640

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
1234567890:.,()!?

TF4C | Whitney Medium | www.typography.com | 212.777.6640

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
ABCDEFGHIJKLMNOPQRSTUVWXYZ  
1234567890:.,()!?

TF4D | Whitney Medium Small Caps | www.typography.com | 212.777.6640

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
ABCDEFGHIJKLMNOPQRSTUVWXYZ  
1234567890:.,()!?

TF4E | Whitney Semi Bold Small Caps | www.typography.com | 212.777.6640

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
1234567890:.,()!?

TF4F | Whitney Semi Bold Italic | www.typography.com | 212.777.6640

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
1234567890:.,()!?

TF4G | Whitney Bold | www.typography.com | 212.777.6640

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
1234567890:.,()!?

TF4H | Whitney Black | www.typography.com | 212.777.6640

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
1234567890:.,()!?

TF5 | Electra LT Std Regular | www.linotype.com | +49 (0) 6172 484-418

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
1234567890:.,()!?

TF5A | Electra LT Std Bold | www.linotype.com | +49 (0) 6172 484-418

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
1234567890:.,()!?

TF5B | Electra LT Std Cursive | www.linotype.com | +49 (0) 6172 484-418

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Type standards

# WAYFINDING PARK SIGN SYSTEM



Primary City Logotype



Trail Logomarks



Icon standards

# WAYFINDING PARK SIGN SYSTEM

## SMALL SINGLE POST DETAILS

**Finial:** Fabricated aluminum finial tapers from 4 inches at bottom to 2 inches at top across 6 5/8 inch length P2 mechanically fastened to reveal plate.

**Reveal:** 3/8 inch exposed plate inset 3/4 inch from outside of post painted D15, attached to post with plug welds, ground smooth.

**Cross Bar:** 1 inch thick by 2 1/2 inch wide aluminum flat bar or aluminum rectangular tube P2 welded to post.

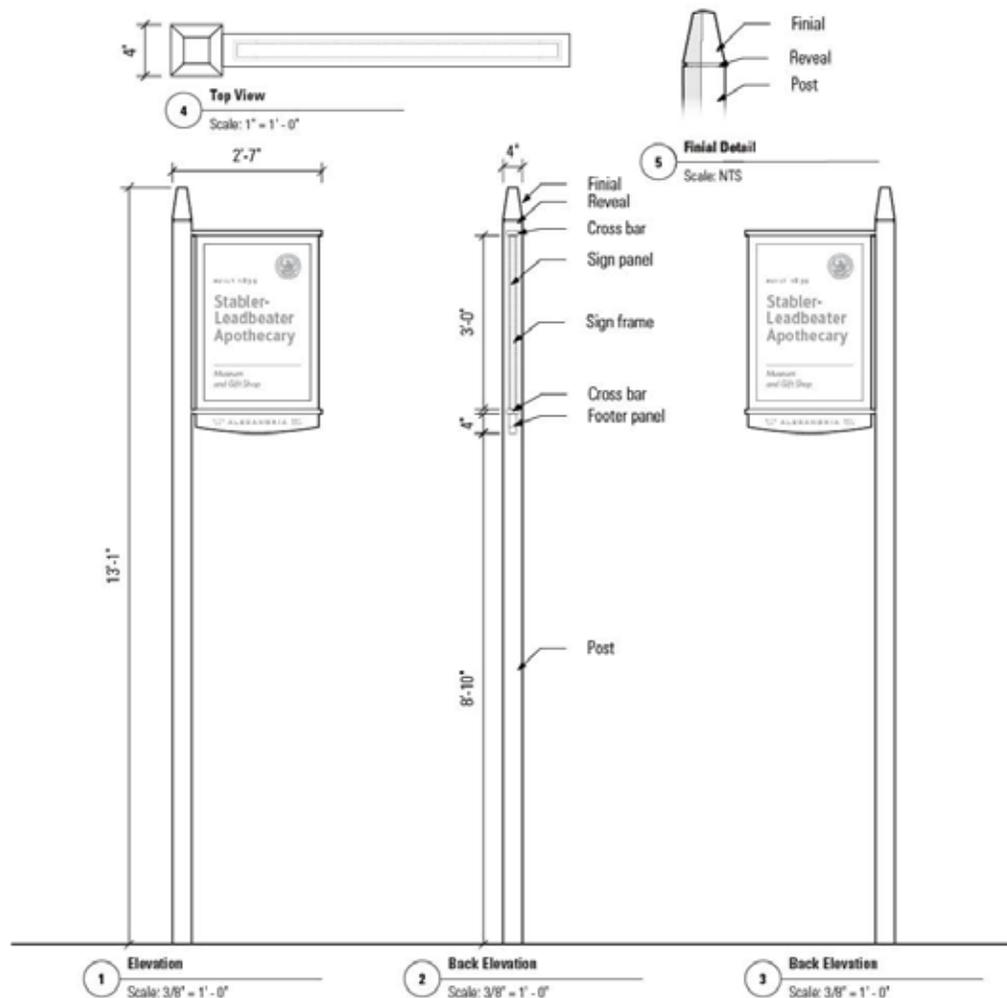
**Sign Panels:** Two 1/8 inch thick aluminum panels inserted into fram from the side. Color D15 with applied vinyl graphics.

**Frame:** 1 1/2 inch deep by 1 3/4 inch wide by 1/4 inch thick square corner angle painted P14, with inside frame return painted P16. Internal structure as required to support two sign panels that slide in from the outside edge.

**Footer Panel:** 1 1/2 inch deep fabricated aluminum panel painted P2, with P3 "Alexandria" and P27 "City of & Est. 1749".

**Post:** 4 inch square aluminum post painted P2.

**Baseplate/Footing:** Below-grade baseplate with stainless steel anchor bolts set into poured in place concrete footing.



Park sign - single post - small

# WAYFINDING PARK SIGN SYSTEM

## SMALL SINGLE POST DETAILS

**Frame:** 1 3/4 inch painted aluminum frame, color P14. Inside frame return painted as accent color, P16.

**Seal/Logo Field:** 5 1/4 inch by 5 1/4 inch square field for seal/logo artwork as supplied by entity. Seal/logo masked and sprayed color D14. Located 2 inches from top and right of visible sign panel aligned to top right of box.

**Supplemental Text A:** Color OV3, 3/4 inch cap height TF4D set in lower case (height based on lowercase E) optically spaced and tracked +180 em in Adobe Illustrator. Located 3/4 inch below seal.

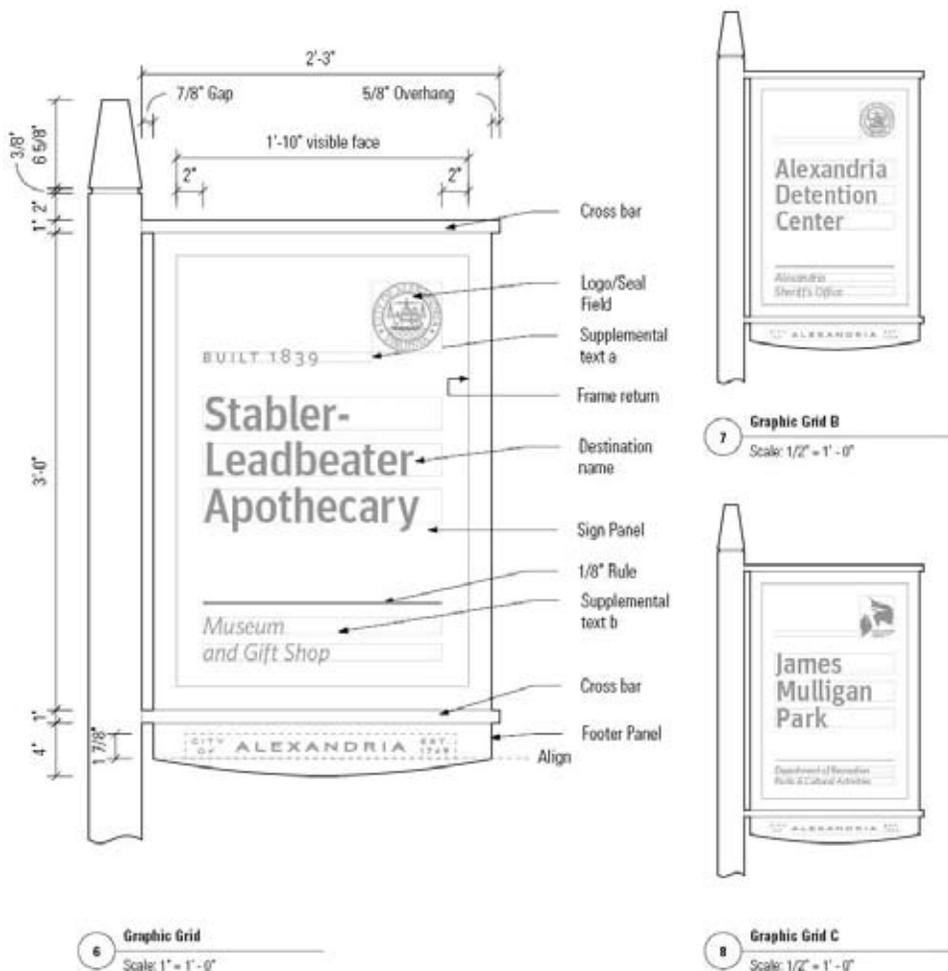
**Destination Name Grid A:** Color OV1 2 1/2 inch cap height, TF2 optically spaced and tracked -25 em in Adobe Illustrator set on 3 1/2 inch line spacing.

**Destination Name Grid B:** Color OV1 2 3/4 inch cap height, TF2 optically spaced and tracked -25 em in Adobe Illustrator set on 3 7/8 inch line spacing.

**Destination Name Grid C:** Color OV1 3 inch cap height, TF2 optically spaced and tracked -25 em in Adobe Illustrator set on 4 1/8 inch line spacing.

**Supplemental Text B Grid A/B:** Color OV3 1 1/4 inch cap height on 2 1/6 line spacing TF4B optically spaced and tracked +10 em in Adobe Illustrator. Set 1 inch below OV3, 1/4 inch rule.

**Supplemental Text B Grid C:** Color OV3 1 inch cap height on 1 5/8 line spacing TF4B optically spaced and tracked +10 em in Adobe Illustrator. Set 1 inch below OV3, 1/4 inch rule.



Park sign - single post - small

# WAYFINDING PARK SIGN SYSTEM

## LARGE SINGLE POST DETAILS

**Finial:** Fabricated aluminum finial tapers from 4 inches at bottom to 2 inches at top across 6 5/8 inch length P2 mechanically fastened to reveal plate.

**Reveal:** 3/8 inch exposed plate inset 3/4 inch from outside of post painted D15, attached to post with plug welds, ground smooth.

**Cross Bar:** 1 inch thick by 2 1/2 inch wide aluminum flat bar or aluminum rectangular tube P2 welded to post.

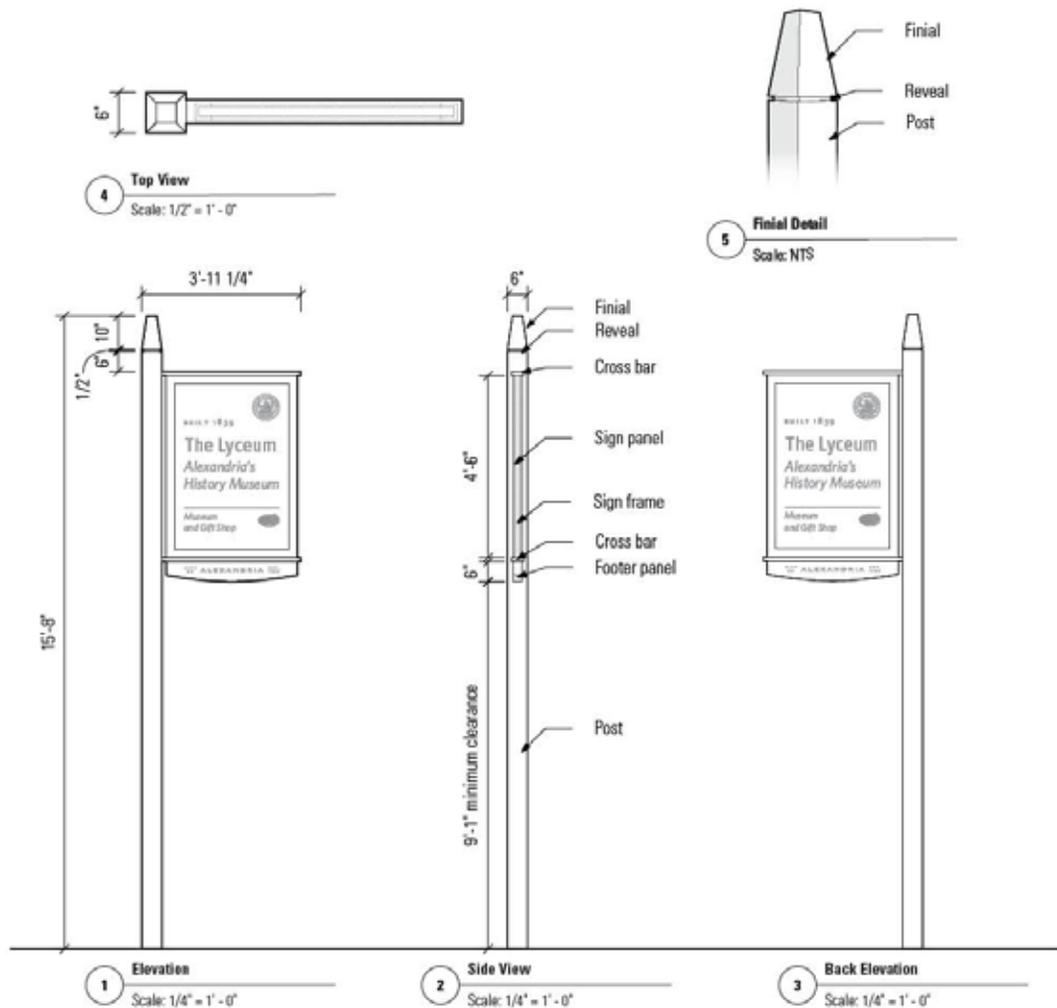
**Sign Panels:** Two 1/8 inch thick aluminum panels inserted into fram from the side. Color D15 with applied vinyl graphics.

**Frame:** 1 1/2 inch deep by 1 3/4 inch wide by 1/4 inch thick square corner angle painted P14, with inside frame return painted P16. Internal structure as required to support two sign panels that slide in from the outside edge.

**Footer Panel:** 1 1/2 inch deep fabricated aluminum panel painted P2, with P3 "Alexandria" and P27 "City of & Est. 1749".

**Post:** 4 inch square aluminum post painted P2.

**Baseplate/Footing:** Below-grade baseplate with stainless steel anchor bolts set into poured in place concrete footing.



Park sign - single post - large

# WAYFINDING PARK SIGN SYSTEM

## LARGE SINGLE POST DETAILS

**Frame:** 2 ½ inch painted aluminum frame, color P14. Inside frame return painted as accent color, P16.

**Seal/Logo Field:** 8 inch by 8 inch square field for seal/logo artwork as supplied by City. Seal/logo masked and sprayed color D14. Located 1 ½ inches from top and right of visible sign panel aligned to top right of box.

**Supplemental Text A:** Color OV3, 1 ¼ inch cap height TF4D set in lower case (height based on lowercase E) optically spaced and tracked +180 em in Adobe Illustrator. Located 1 ¼ inch below seal.

**Destination Name Grid A:** Color OV1 4 inch cap height, TF2 optically spaced and tracked -25 em in Adobe Illustrator set on 5 ½ inch line spacing.

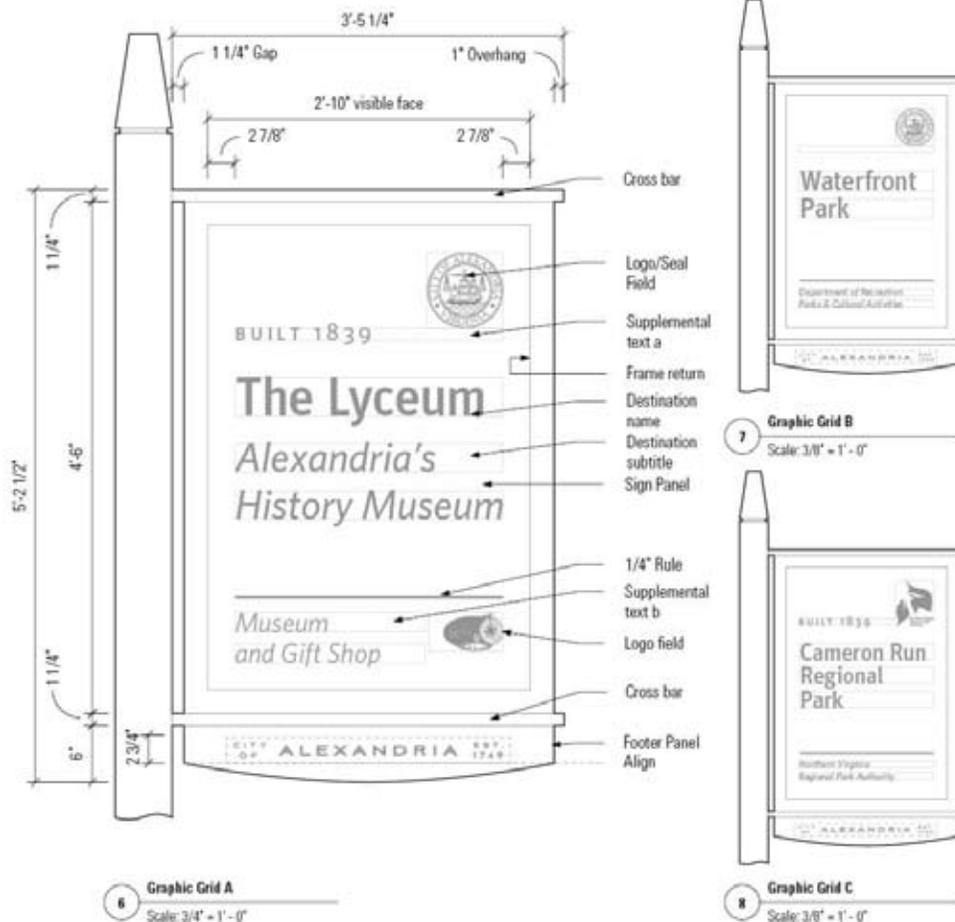
**Destination Name Grid B:** Color OV1 4 inch cap height, TF2 optically spaced and tracked -25 em in Adobe Illustrator set on 5 ¾ inch line spacing.

**Destination Name Grid C:** Color OV1 3 ½ inch cap height, TF2 optically spaced and tracked -25 em in Adobe Illustrator set on 5 inch line spacing.

**Destination Subtitle:** Color OV1 3 inch, TF4B optically spaced and tracked +10 em in Adobe Illustrator.

**Supplemental Text B Grid A/B:** Color OV3 1 ¼ inch cap height on 3 ¼ line spacing TF4B optically spaced and tracked +10 em in Adobe Illustrator. Set 1 inch below Color OV3, ¼ inch rule.

**Supplemental Text B Grid C:** Color OV3 1 ¼ inch cap height on 2 ½ line spacing TF4B optically spaced and tracked +10 em in Adobe Illustrator. Set 1 ½ inch below Color OV3, ¼ inch rule.



Park sign - single post - large

# WAYFINDING PARK SIGN SYSTEM

## DOUBLE POST DETAILS

**Post Cap:** 5 ½ inch square by 1 inch aluminum plate welded to post, all welds ground smooth.

**Cross Bar:** 1 ½ inch thick by 3 inch wide aluminum flat bar or aluminum rectangular tube P2 welded to post.

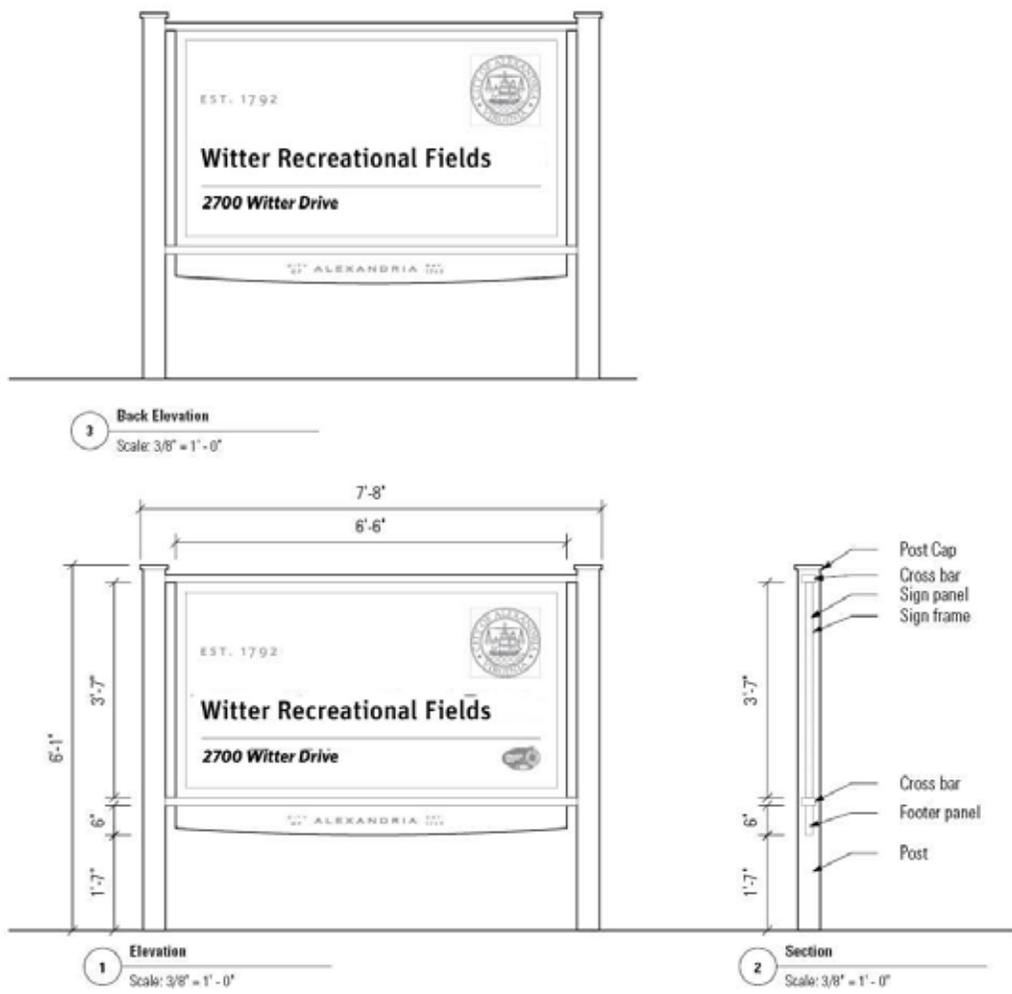
**Sign Panels:** Two ¼ inch thick aluminum panels inserted into frame from the top. Color D15 with applied vinyl graphics.

**Frame:** 1 ½ inch deep by 1 ½ inch wide by ½ inch thick square corner angle painted P14, with inside frame return painted P16. Internal structure as required to support two sign panels that slide in from the top.

**Footer Panel:** 1 ½ inch deep fabricated aluminum panel painted P2, with P3 "Alexandria" and P27 "City of & Est. 1749".

**Post:** 4 ½ inch square aluminum post painted P2.

**Baseplate/Footing:** Below-grade baseplate with stainless steel anchor bolts set into poured in place concrete footing.



Park sign - double post

# WAYFINDING PARK SIGN SYSTEM

## DOUBLE POST DETAILS

**Frame:** 1 ½ inch painted aluminum frame, color P14. Inside frame return painted as accent color, P16.

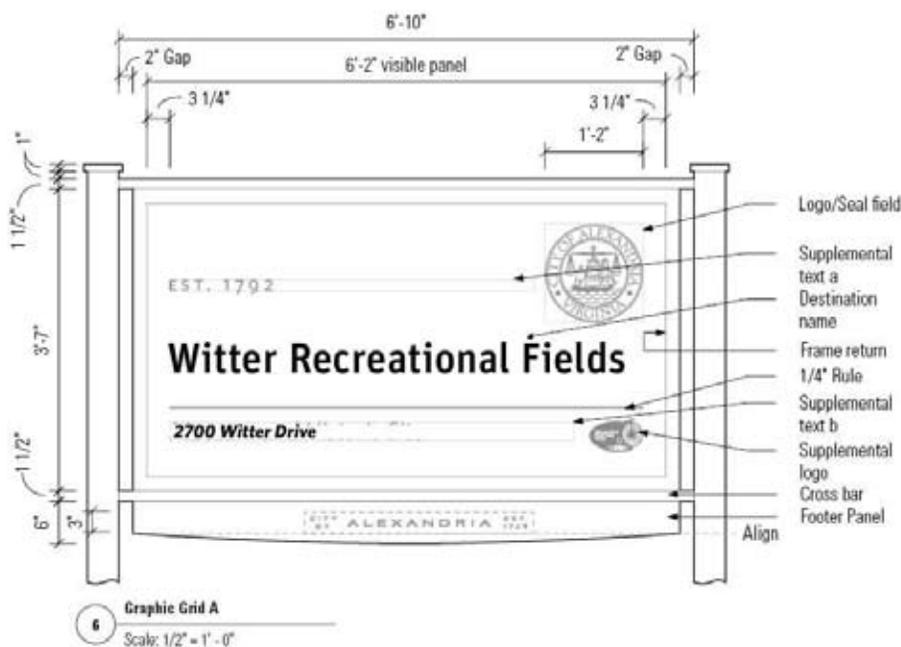
**Seal/Logo Field:** 1 inch to 2 inches by 1 inch to 2 inches square field for seal/logo artwork as supplied by City. Seal/logo masked and sprayed color D14. Located 3 inches from top and right of visible sign panel aligned to top right of box.

**Supplemental Text A:** Color OV3, 1 ½ inch cap height TF4D set in lower case (height based on lowercase E) optically spaced and tracked +180 em in Adobe Illustrator. Located 4 ½ inch below seal.

**Destination Name Grid A:** Color OV1 6 inch cap height, TF2 optically spaced and tracked -25 em in Adobe Illustrator.

**Destination Name Grid B/C:** Color OV1 5 inch cap height, TF2 optically spaced and tracked -25 em in Adobe Illustrator set on 7 ¼ inch line spacing.

**Supplemental Text B Grid A/B/C:** Color OV3 5 inch cap height TF4B optically spaced and tracked +10 em in Adobe Illustrator. Set 2 inch below Color OV3, ¼ inch rule.



Park sign - double post

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# CHAPTER 10

## MARINA

Marina Facilities  
Maritime Lighting  
Pilings  
Pump Out Station

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# MARINA FACILITIES

## PURPOSE

Marina facilities shall be safe, efficient, and inviting to visiting boaters, tourists and citizens while minimizing environmental impact to the Potomac River and Chesapeake Bay watersheds.

## GENERAL INFORMATION

Facilities shall be designed and constructed by personnel specializing in marine/waterway design and construction.

Layout and design shall generally conform to the California Department of Boating and Waterways Layout and Design Guidelines for Marina Berthing Facilities, July 2005.

Designs shall allow for individual fixtures and accessory items to be readily replaced.

Restrooms and sanitary components shall comply with the Commonwealth of Virginia Sanitary Regulations for Marinas and Boat Moorings, as administered by the Virginia Department of Health.

Marinas shall incorporate best practices as detailed in the Virginia Clean Marina Guidebook.

Marinas shall comply with local and state permits regulating use and activity in Virginia Waterways, including but not limited to the Army Corps of Engineers, Virginia Marine Resources Commission, Virginia Department of Conservation and Recreation.

Marina facilities shall be ADA compliant.

Fire protection systems shall be provided.

Water safety systems shall be provided.

Construction may require the approval of the Alexandria Board of Architectural Review.

Related Standards: Park Structures, Site Furnishings, Surfacing, Signs, Utilities Systems.

## MATERIALS AND FINISH

Electrical components and devices shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

Electrical systems shall conform to NFPA 303 Fire Protection Standards for Marinas and Boatyards.

Safety materials shall be durable, easy to maintain and resistant to vandalism.

Metal components shall be rust and corrosion resistant. Electrolytic corrosion resulting from dissimilar materials, metals and finishes shall be avoided.

Signs shall be readable, durable and prominently displayed.



City Marina

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# MARITIME LIGHTING

CHAPTER 10: MARINA

## PURPOSE

Maritime lighting shall be provided for navigational marking, dock lighting and hazard marking. Lights include: Two Mile Lights, Blue Lights, One Mile Lights, and Pier Lights.

## GENERAL INFORMATION

Electrical components and devices shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

Lights shall meet IALA-AISM guidelines and standards on marine lights and flash patterns.

Lighting systems shall include emergency lighting system and nightlight connections.

Lighting options shall include lens color, lamp color, and flash patterns.

The standard light fixture is manufactured by Carmanah, Model M502 or Model M650.

Light performance shall be visible at 2 nautical miles maximum.

Related sections: Lighting | Street Pole

## MATERIALS AND FINISH

Maritime lighting shall be waterproof, vibration proof and vandal proof.

Lights shall be solar powered LED lighting or energy saver rated. Lens shall be UV stabilized.

Lights shall include a function for battery operation.

Casing materials shall be UV-resistant and constructed from impact resistant polycarbonate.

Top of fixture shall be domed with self cleaning solar panels.

Bird deterrants shall be provided as needed.

## INSTALLATION

Install lights according to manufacturer's recommendations.

## LIFE CYCLE EXPECTATIONS

A product warranty of 5 years minimum is required.

Batteries are anticipated to require replacement after 5 years based on normal and ordinary use.

Bulbs and fixtures are anticipated to require replacement after 7 years based on normal and ordinary use.



Marina solar light

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## PURPOSE

Pilings shall secure docks and vessels.

## GENERAL INFORMATION

Piling shall be designed consistent with industry standard practices.

Piling locations shall not obstruct navigation waters.

Pilings shall follow the rules for Use of Submerged Lands-Permitting, Dredging, and Construction, Subaqueous Guideline, VA Constitution Article XI.

## MATERIALS AND FINISH

Pile diameters shall be round, 1 foot minimum outside diameter. Wall thickness shall be .0375 inches minimum.

Piling shall be open (hollow). Piling material shall be fiberglass composite. Piling finish shall be a PPT thermoplastic finish with UV inhibitors.

Piling color shall be brown or neutral color.

Piles shall have caps made of fiberglass or polyethylene, secured by galvanized or stainless steel hardware.

Piling shall be impact resistant.

## INSTALLATION

Driving equipment shall minimize disturbance to submerged aquatic vegetation and animals.

Required permits shall be obtained prior to installation.

Cut-off elevation of piles shall be determined by application, local conditions, design high water, design low water, weather data, and flood data. Generally piles shall extend 4 feet minimum above docks and walkways.

## LIFE CYCLE EXPECTATIONS

A product warranty of 10 years minimum is required.

Piles are anticipated to require replacement after 10 years based on normal and ordinary use.



Marina pilings

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# PUMP OUT STATION

## PURPOSE

Pump out stations shall be provided to remove sewage from on-board marine sanitation devices.

## GENERAL INFORMATION

Pump out stations shall meet Chapter 570 Commonwealth of Virginia Sanitary Regulations for Marinas and Boat Moorings, Section 270.

The standard vacuum pump out station is manufactured by Edson International, Model 210-2210 Series.

The pump out station shall have a 10 gpm minimum capacity.

Pump type shall be diaphragm or centrifugal power.

Motor shall be electric.

Suction and discharge opening size shall be regulated.

Pump out facilities shall include equipment for rinsing boat holding tanks. Backflow preventers shall be installed on the water service line when potable water is used.

## INSTALLATION

Pump locations shall be connected to approved discharge lines.

Pump out locations shall be fixed and not portable.

Locations shall be convenient to boat slips.

## LIFE CYCLE EXPECTATIONS

A product warranty of 2 years minimum is required.

Diaphragms and valves are anticipated to require replacement after 5 years based on normal and ordinary use.

Pump out stations are anticipated to require replacement after 10 years based on normal and ordinary use.



Pump out station

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