County of Los Angeles

Park Design Guidelines

Department of Parks and Recreation
Planning & Development Agency

JUNE 2011

COUNTY OF LOS ANGELES
DEPARTMENT OF PARKS AND RECREATION
"Creating Community Through People, Parks and Programs"
Russ Guiney, Director

June 6, 2011

Department of Parks and Recreation Park Design Guidelines

The County of Los Angeles Department of Parks and Recreation (DPR) would like to thank you for your interest in its Park Design Guidelines. The DPR is honored to oversee the County of Los Angeles (County) parks and recreation system, which includes 69,547 acres of local and regional parks, lakes, trails, golf courses, cultural event facilities, natural areas and botanic gardens.

Our mission at DPR is to create healthy communities through people, parks and programs, by offering family-oriented and culturally informed health, nutrition, exercise programs and educational opportunities, that work together to improve the quality of life for all Los Angeles County residents.

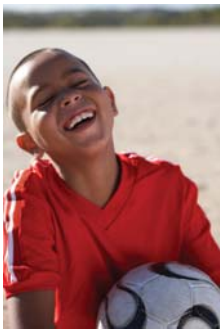
The Park Design Guidelines will provide our partners, design professionals and County staff with the tools necessary to deliver a consistent and high quality park design product.

The preparation of these Park Design Guidelines is a result of Department staff participation, peer review by County Departments and partnering agencies, including non-profits and private development organizations representing a diversity of interests in County park design. DPR will review and revise this manual as necessary over time to embrace evolving park planning objectives and design criteria.

Accordingly, the DPR is pleased to present you with its Park Design Guidelines to continue the legacy of providing quality recreation experiences that are unique to the County of Los Angeles.

Sincerely,

Russ Guiney
Director



The Department of Parks and Recreation's Mission Statement

We will provide the residents and visitors of Los Angeles County with quality recreational opportunities that promote a healthy lifestyle and strengthen the community through diverse physical, educational and cultural programming, and will enhance the community environment by acquiring, developing and maintaining County parks, gardens, golf courses, trails and open space areas.

The Department of Parks and Recreation's Vision

"Our purpose is to improve the quality of life in Los Angeles County by providing responsive, efficient and high-quality public services that promote the self-sufficiency, well being and prosperity of individuals, families, businesses and communities."

We Create Community through People, Parks and Programs.

Acknowledgements

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Special Thanks

The Department wishes to thank the staff of the following organizations for their valued participation and contributions in making this document possible: County of Los Angeles Department of Public Works, Department of Regional Planning, Fire Department, Sheriff's Department, Department of Public Health, Internal Services Department, Community Development Commission, Office of Affirmative Action Compliance, and peer agencies including the Los Angeles Neighborhood Land Trust, Los Angeles Conservation Corps, and the Newhall Land and Farming Company.

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Introduction 1

The County of Los Angeles Department of Parks and Recreation (Department) owns and/or operates 69,547 acres of local and regional parkland. The local park system includes community parks, neighborhood parks, pocket parks, and open space nodes. The regional park system consists of regional parks, community regional parks, and special use facilities including; golf courses, cultural event facilities, nature centers, wildlife sanctuaries, and botanic gardens. In addition to the local and regional parks systems, the Department also develops and maintains multiuse trails.

The Department is comprised of five agencies responsible for planning, development, operations, and maintenance of the parks system. The Department's Planning and Development Agency is responsible for multiple functions related to the planning and design of recreation elements and facilities for the Department. These functions include environmental and regulatory permitting, land acquisition, water conservation and planning, facility planning, trail planning and architecture & design.

The Department's four field agencies are structured to facilitate each region of the County by operating the North County Community Services Agency, South County Community Services Agency, East County Community Services Agency and the Regional Facilities Agency. These Agencies are responsible for recreation programming, maintenance, capital projects, community outreach, construction administration, capital project liaison to the Department of Public Works and all minor capital improvement projects in the County parks.

1.1 Project Goals and Purpose

The goal of the Park Design Guidelines project is to develop a common approach to the design of the County wide park system. The development of a Park Design Guideline manual will:

- Provide a guide for design professionals and field agency staff in the development of new parks and refurbishment projects.
- Provide guidelines for the implementation of sustainable practices.

The Park Design Guidelines will provide information in the following subject areas:

- Spatial Organization
- Site Layout
- Building Design
- Parking Lot Design
- Circulation
- Recreation Facilities
- Children's Play Areas
- Splash Pads
- Passive Recreation Areas
- Park Furnishings
- Landscaping
- Stormwater Management
- Utility Infrastructure

These guidelines will facilitate the Department in achieving the highest quality of design for capital improvement projects while fostering environmental stewardship in all aspects of parkland development.

The Park Design Guidelines support the mission of the County and the Department by implementing the County Strategic Plan goals adopted by the Board of Supervisors in 2009 which include;

- The County Goal of achieving higher efficiencies and greater energy and resource conservation.

The document also supports Department goals including:

Strengthen Community Cohesion

- By creating parks that provide gathering places, welcoming all residents to socialize, recreate, and share their lives, while providing a nurturing and safe environment for children and youth.

Create Community Partnership

- By creating parks that encourage the community in caring for the valuable resources found in our facilities.

Promote Staff Cohesion

- By assisting park staff in sharing a common vision that allows us to work enthusiastically toward the same goals and demonstrate professionalism in all we do.

Support Healthier Communities

- By creating parks that provide positive experiences that promote greater mental and physical well-being.

Demonstrate Environmental Leadership

- By creating parks that express principles of environmental stewardship by promoting environmental education, demonstrating environmental ethics, and providing stewardship opportunities for all.

Support Organizational Effectiveness

- By creating documents that provide clear policies, efficient procedures, and are clearly communicated.

1.2 Design Guidelines

The Park Design Guidelines include design criteria for the development of most park elements. The unique design considerations of the Departments Special Use Parks and facilities, such as: wilderness parks, nature preserves, botanical gardens, nature centers, multi-use trails, performing arts centers, dog parks, aquatics facilities, lakes, campgrounds, skate parks, golf driving ranges and golf courses will not be specifically addressed in this document. However, much of the design information contained herein is applicable to Special Use Parks and should be utilized in all park design.

Park Design Guidelines 2

2.0 Chapter Introduction

The Park Design Guidelines take a broad approach to providing information to be used in the design of all County of Los Angeles parks.

These guidelines will facilitate the County of Los Angeles Department of Parks and Recreation in achieving the highest quality of design for capital improvement projects while fostering environmental stewardship in all aspects of parkland development.

In addition to the design guidance included in this document, the Design Professional will be responsible for compliance to all regulatory and permitting requirements associated with a project, including, but not limited to:

- CEQA site constraints
- Land Acquisition constraints
- Americans with Disabilities Act (ADA) compliance
- County Code Compliance
- Regulatory Permitting requirements

2.1 Spatial Organization

Spatial organization is an important park design element. Care and consideration needs to be given to the use of each space, the relationship between activities and future expansion opportunities in a park.

Often indoor and outdoor spaces are programed for multiple functions and should be designed to allow for flexibility of use. Parks are multi-generational spaces and consideration of park user compatibility must be evaluated when determining the adjacency of site features.

These variables will be affected by construction cost, mechanical systems layout, user safety, site amenities and provisions for universal accessibility.

Thoughtful spatial organization encourages social interaction and user participation. This allows many diverse activities to occur simultaneously, while facilitating administrative visibility and control of the site.

The following spatial organizational principles are expressed (and illustrated) as typical criteria to describe how individual spaces complement one another to form functional areas, and how functional areas support one another to form a cohesive site design.

2.1.1 Physical Access & Adjacency Compatibility

Physical access & adjacency compatibility gives consideration to requirements of safety (primary), compatibility, privacy, concentration of activities, ease of operations and administration.

- Activities shall be grouped to maximize desirable effects (accessibility, control of participants, multi-uses) or separated to minimize conflicts including noise and degree of physical activity.
- The placement of active and passive spaces shall allow for

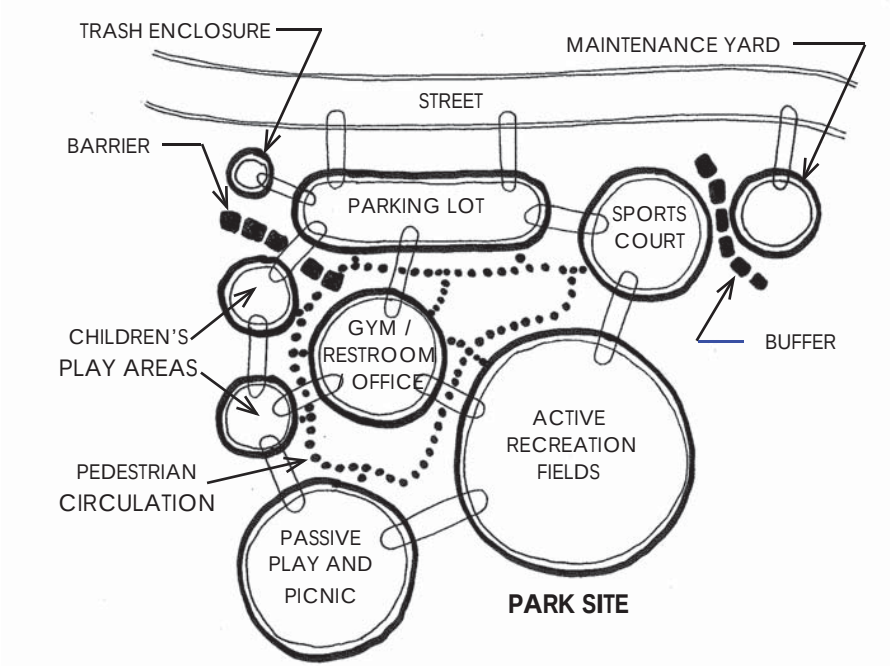


Exhibit 1: Park Adjacency Compatibility Diagram

the simultaneous occurrence of diverse activities and diverse user groups participating in both planned activities and free play.

- Sports activities, field lights for evening sports activities, large group gatherings, pools and gymnasiums are all potential sources of disturbance to the surrounding community. Consider all adjacencies when placing park features.
- Locate restroom buildings within a 150' radius of recreation fields and a 100' radius of children's play areas.
- Trash enclosures should be located at least 50' away from all buildings.
- Locate maintenance yards away from children's play areas.
- Screen maintenance yards from adjacent activities.
- Arrange activity areas to encourage casual interaction among users by introducing transitional areas for lounging and providing visual access from one area into another.
- Locate facilities that draw the largest number of users such as gymnasiums, recreational centers, and pool facilities near or within view of established public transit routes. This encourages and facilitates alternative modes of travel to the programs and activities offered at the park facility.
- Locate parking facilities near major park site features to facilitate the park user, who may be carrying equipment and/or coolers to their destination.
- Locate on-site storm water management devices in non-pedestrian / non recreational areas.

2.1.2 Visual Access

Visual access from one area to another is an important consideration for administrative control. It is also important in maintaining park patron awareness of adjacent activities.

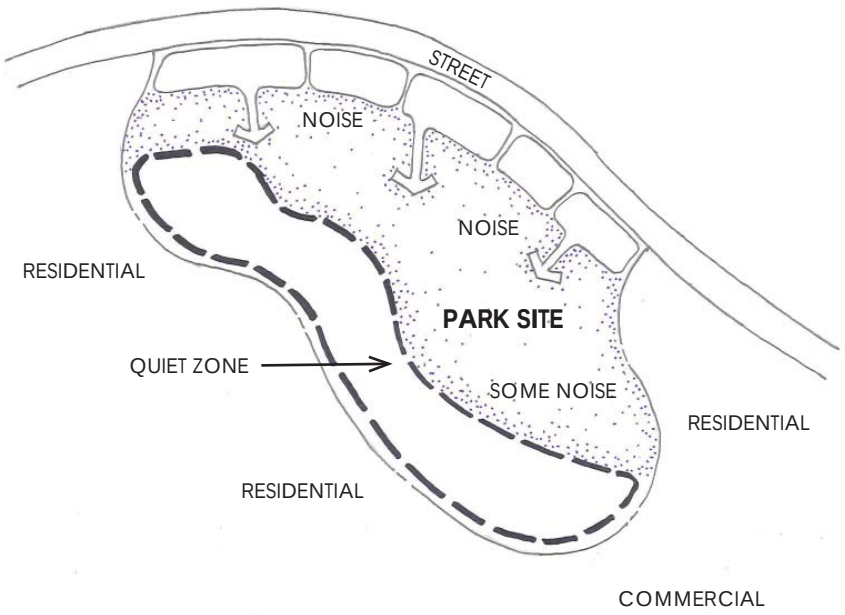


Exhibit 2: Acoustical Consideration Diagram

2.1.3 Acoustics

Care should be taken in the placement of park features that may generate disruptive noise by an activity. Care should be taken to locate activities to minimize the impact of adjacent park activities to adjacent land uses.

All projects shall comply with the County of Los Angeles Noise Control Ordinance.

2.1.4 Security and Safety

Provide consideration to safety and security during the site planning and design phase by understanding and utilizing the strategies of Crime Prevention Through Environmental Design (CPTED). The following strategies are recommended by Susan Manheimer, Chief of Police for San Mateo, CA.

NATURAL SURVEILLANCE

Natural surveillance increases the threat of apprehension by taking steps to increase the perception that people can be seen. Natural surveillance occurs by designing the placement of physical features, activities and people in such a way as to maximize visibility and foster positive social interaction among legitimate users of private and public space. Potential offenders feel increased scrutiny and limitations on their escape routes.

- Place windows overlooking sidewalks and parking lots.
- Use passing vehicular traffic as a surveillance asset.
- Create landscape designs that provide surveillance, especially in proximity to designated points of entry and opportunistic points of entry.
- Use the shortest, least sight-limiting fence appropriate for the situation.
- Use transparent weather vestibules at building entrances.
- When creating lighting design,

avoid poorly placed lights that create blind-spots for potential observers and miss critical areas. Ensure potential problem areas are well-lit: pathways, stairs, entrances/exits, parking areas, kiosks, bus stops, children's play areas, recreation areas, pools, storage areas, dumpster and recycling areas, etc.

- Avoid too-bright security lighting that creates blinding glare and/or deep shadows, hindering the view for potential observers. Eyes adapt to night lighting and have trouble adjusting to severe lighting disparities. Using lower intensity lights often requires more fixtures.
- Use shielded or cut-off luminaries to control glare.
- Place lighting along pathways and other pedestrian-use areas at proper heights for lighting the faces of the people in the space (and to identify the faces of potential attackers).
- All security and surveillance features will be subjected to review and input by the Sheriff's Department Parks Bureau in the design phase of a project to ensure that all security needs are properly addressed

NATURAL ACCESS CONTROL

Natural access control limits the opportunity for crime by taking steps to clearly differentiate between public space and private space. By selectively placing entrances and exits, fencing, lighting and landscape to limit access or control flow, natural access control occurs.

- Use a single, clearly identifiable, point of entry.
- Use structures to divert persons to reception areas.
- Use low, thorny bushes beneath ground level windows.
- Eliminate design features that provide access to roofs or upper levels.

NATURAL TERRITORIAL REINFORCEMENT

Territorial reinforcement promotes social control through increased definition of the space and improved proprietary concern. An environment designed to clearly delineate space creates a sense of the owner's and or stakeholder's common vested interest in that particular space. Natural territorial reinforcement is more likely to discourage crime because of the increased perception that the space is guarded.

- Display notice of security system at park access points.
- Place amenities such as seating elements or vending machines in common areas to attract larger numbers of desired users.
- Schedule activities in common areas to increase proper use, attract more people and increase the perception that these areas are being monitored.
- Implement territorial reinforcement measures to make the park users feel safe while making the potential offenders aware of a substantial risk of apprehension or scrutiny.

OTHER CPTED ELEMENTS

Maintenance and activity support aspects of CPTED were touched upon in the preceding narrative, but are often treated separately because they are not physical design elements in the built environment.

MAINTENANCE

Maintenance is an expression of ownership of property. Deterioration indicates less control by the intended users of a site and indicates a greater tolerance of disorder. The Broken Windows Theory is a valuable tool in understanding the importance of maintenance in deterring crime. Broken Windows theory proponents support a zero tolerance approach to property maintenance, observing that the presence of a broken window will entice vandals to break more windows in the vicinity. The sooner broken windows are fixed, the less likely it is that such vandalism will occur in the future.[1]

ADDITIONAL SECURITY FEATURES

- All visual overlooks must have an open unobstructed view of the park and have a 10' wide pedestrian walk for law enforcement accessibility.
- Decorative window guards, such as ornamental bars, screening or panels are recommended for enhanced security and shall be installed per the project facility program. Window guards must not impede passive surveillance.
- Security cameras are recommended for all staffed parks.
  - Cameras shall be located per the project facility program with monitors located in the park office.
  - Camera's shall record at the minimum frames per second required to be court legal.
  - Provide a minimum of one week record time for the surveillance system.
  - Where security camera infrastructure exists to the Sheriff's Department, security camera feed should be transmitted to the Sheriff's dispatch station.
  - When gates and/or fences are proposed or required, use only openwork or transparent fencing and gates along corridors and trails to allow passive surveillance.

2.2 Buildings

Building design strategies can contribute to conservation efforts in a number of ways. Consideration should be given to remodeling instead of replacing existing buildings

1 http://www.sustainableredevelopment.org/AC2010/Handouts/FridayGeneral/Crime%20Prevention%20Through%20Environmental%20Design%20%20Manheimer.pdf

wherever possible, building the minimum space necessary to satisfy the functional space requirements and designing multi-functional spaces. In addition, considerable electrical and thermal energy can be saved through building design that incorporates day lighting and other passive energy-conserving strategies appropriate to the local climatic environment.

2.2.1 Contextual Site Considerations

- All structures shall be sited to recognize, preserve and protect established major vistas.
- All structure designs shall consider the distinctive qualities and character of the surrounding architectural vernacular and incorporate those qualities into the design where appropriate.
- All structure designs and historical restorations shall be sensitive to environmental, cultural and historical context.
- All design of structures and park elements shall implement unifying architectural features such as repeating details, colors, and materials in these elements throughout the park. This strategy applies to a new park and existing sites.
- When locating a new park structure, consideration shall be given to site variables (size, shape, topography, orientation, views, and natural features) and climatic variables (severe or temperate).
- When designing a building addition, consideration shall be given to the building's spatial organization and site orientation. The addition shall be planned to support functional and site sensitive expansion.

2.2.2 Sustainability Considerations

- The Consultant shall perform an analysis of all new building construction and all roof replacement projects to determine the potential benefits of using photovoltaics or solar arrays.
- The Consultant shall perform an analysis of the US Green Building Council's (USGBC) "Leadership in Energy and Environmental Design" (LEED) criteria as it applies to the design and construction of a building project.
- All new park buildings including those less than 10,000 square feet shall be designed to meet the criteria of U.S. Green Building Council LEED® Rated Silver Certificate for new construction.
- All park building remodels including buildings less than 10,000 square feet shall be designed to meet the criteria of U.S. Green Building Council LEED® Rated Silver Certificate for new construction.

2.2.3 Regulatory Considerations

- All park buildings shall be designed in accordance with all applicable jurisdictional laws and regulations.

2.2.4 Restroom Buildings

Restroom buildings are typically located in local parks, regional parks, and at primary trail heads.

Provide restroom buildings as directed by the project facility program.

SPATIAL CONSIDERATIONS

- Restroom buildings shall be visible and in close proximity to a parking lot and public street.
- The restroom building shall be visible and located within a 100' radius of children's play areas.
- The restroom building shall be visible and located within a 150' radius of active recreation fields.

AMENITIES

- Provide ample paving around the building perimeter for ease of accessibility and entry.
- The restroom building's exterior and interior walls shall be constructed of split-faced or precision block, with natural or painted surfaces, and coated with anti-graffiti finish.

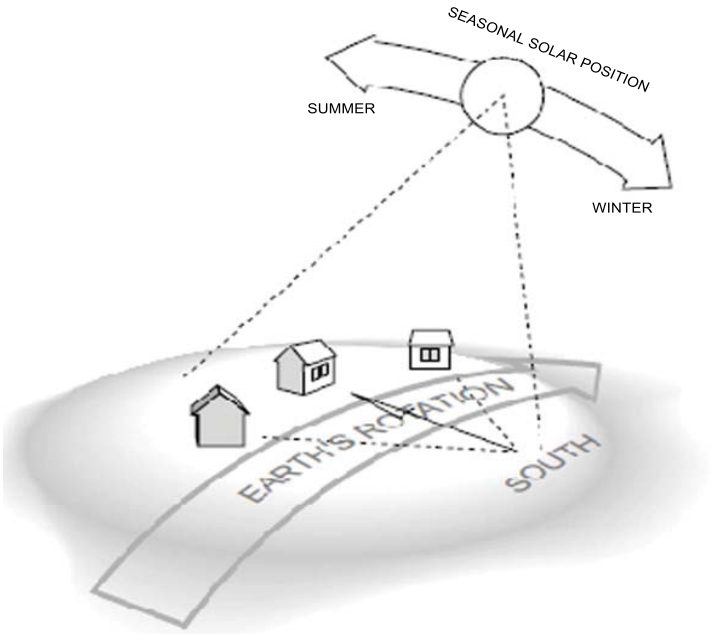


Exhibit 3: Building Orientation

The south face of a building receives three times more solar heat in winter than east or west facing sides. In summer, east and west faces receive the most solar heat.

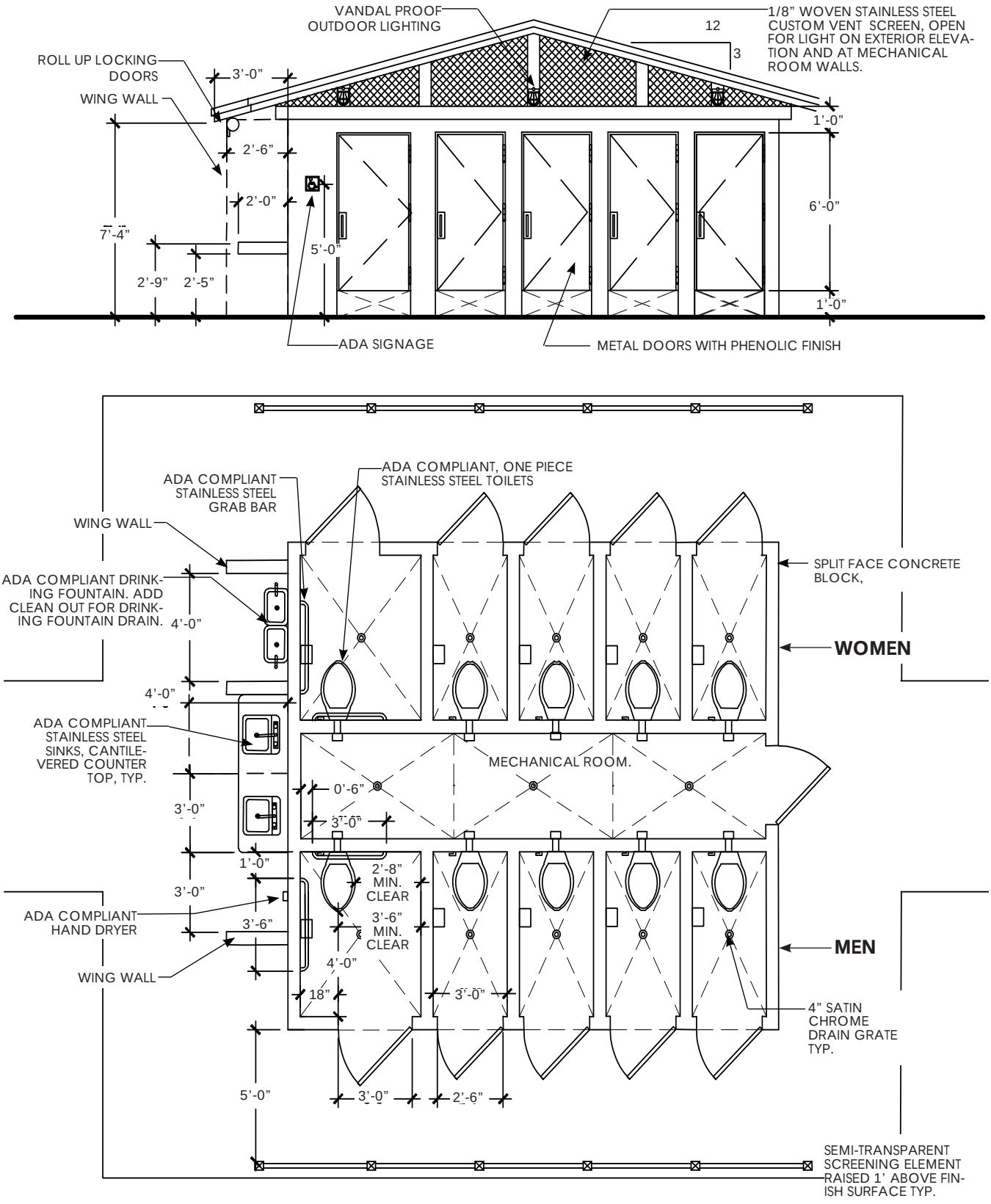


Exhibit 4: Preferred Restroom Building Layout Diagram (minimum 2 stalls)

- Concrete structural slab shall be installed per structural design and specifications.
- Roofs shall be constructed of steel seam metal.
- Ventilation and lighting shall be natural, wherever possible.
- Provide interior electrical overhead lighting with timers in all restroom buildings.
- Provide vandal resistant exterior security lighting for all restroom buildings.
- Provide floor drains in each stall.
- One standard and one Americans with Disabilities Act (ADA) compliant drinking fountain shall be located outside of each restroom building.
- Provide a minimum of two standard and one ADA compliant hand washing sinks outside the restroom building.
- All fixtures, including; sinks, toilets, handrails and surface hand dryers shall be stainless steel and vandal resistant.
- All hand dryers shall be electric dryers.
- Doors – 16 gauge steel, with self closing hinges and phenolic finish[2], hung one-foot (1') above finish floor.
- Plumbing – Water Service shall be Type L Copper (except areas in the North County where freeze conditions occur. In those areas, Type K Copper shall be utilized). Valve combo with cast iron or PVC, DWV, and stainless steel plumbing.

REGULATORY CONSIDERATIONS

- Provide fixture counts based on the current building code with a minimum of two (2) stalls, one (1) women's, one (1) men's. (See Exhibit 4: Preferred Restroom Building Layout Diagram).
- The restroom building shall comply with current building codes and ADA requirements.

2.2.5 Gymnasium Buildings

The gymnasium is intended to support indoor sports including basketball and volleyball. Additional large-venue, non-fitness events may also occur in the gymnasium.

Provide gymnasium buildings as directed by the project facility program.

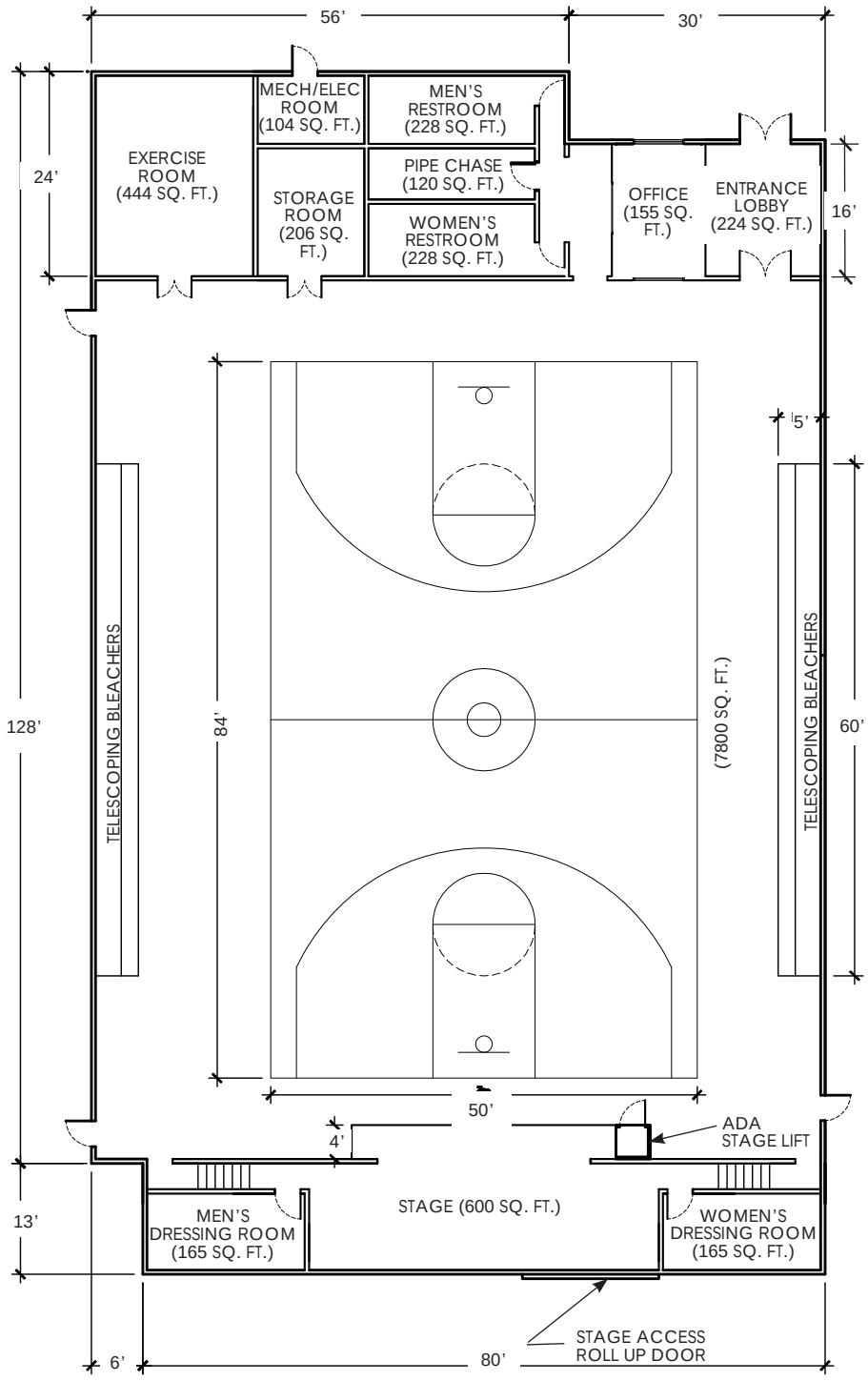
SPATIAL CONSIDERATIONS

- The gymnasium building shall be visible and reasonably close to a parking lot and public street.
- Provide an exterior gathering space in close proximity to the gymnasium entrance. Amenities in this space shall include; shaded seating, drinking fountains, bicycle racks and information kiosks. The size of these amenities shall be determined by the size and needs of the facility.
- Provide ample paving around the perimeter of the building for ease of entry and to prevent pedestrian paths of travel through planted areas and to prevent water infiltration into the building.
- The building perimeter paving shall have a minimum two-percent (2%) slope away from all exterior walls within the limit of the first ten feet (10') adjacent all buildings for positive drainage.
- The building perimeter un-paved areas shall have a minimum two-percent (2%) slope away from all exterior walls within the limit of the first ten feet (10') adjacent all buildings for positive drainage.
- The gymnasium office shall have visible access to the adjacent gymnasium through an interior window.

AMENITIES

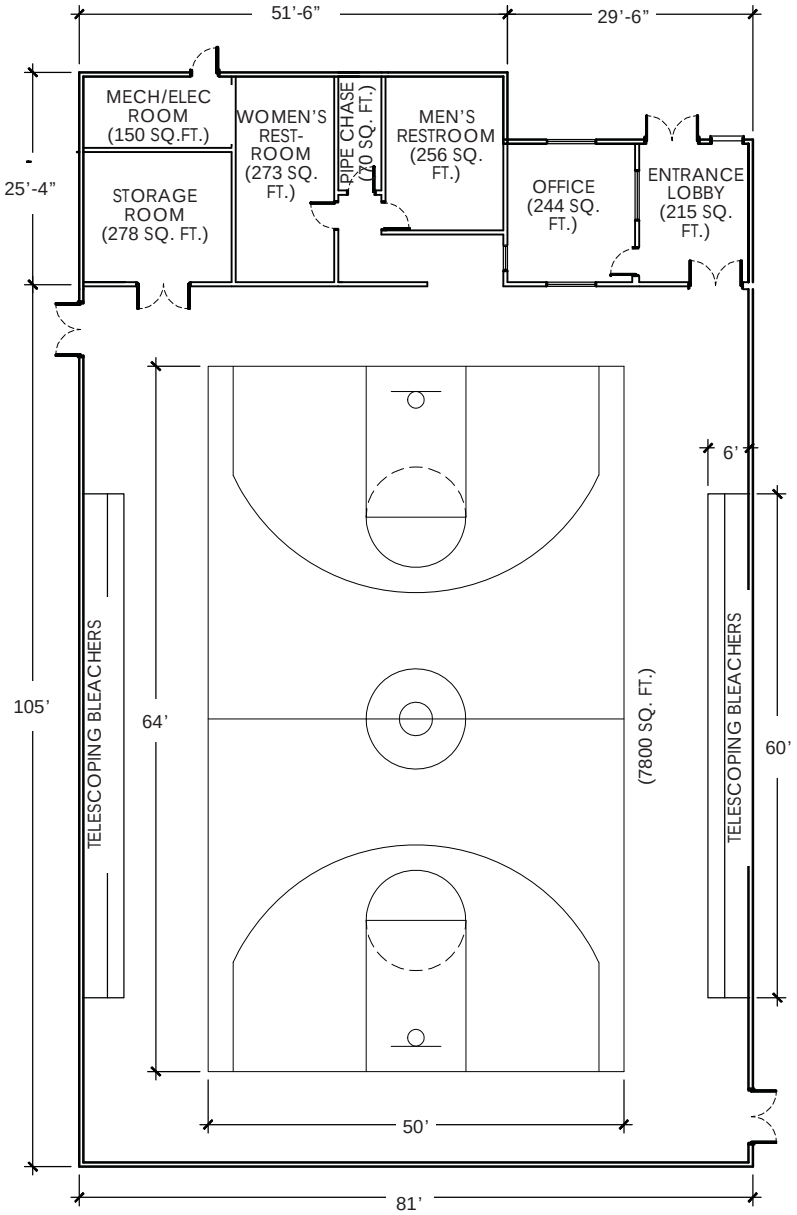
- Provide a minimum of one standard size basketball court.
- Provide ample spectator circulation space around the perimeter of the basketball court to prevent spectator interference during sporting activities.
- Provide natural ventilation and lighting whenever possible.
- Provide vandalism protection for all heating and cooling vents inside of the gymnasium space.
- Provide portable room separators as directed by the project facility program.
- Provide folding room dividers as directed by the project facility program.
- Provide mat hoists as directed by the project facility program.
- Provide a roll out protective gymnasium floor cover for use during special events.
- Provide telescoping bleachers (on both sides of the basketball court) to maximize the flexibility of the space and to allow sideline space for gymnasium events.
- Provide ADA accessible seating adjacent to the bleachers.
- Provide companion seating, one (1) for each ADA seat.
- Provide an HVAC system to serve as emergency heat relief in the event of a heat wave.
- Provide a stage and changing rooms if directed by the project facility program.
- The stage size must accommodate a variety of activities. The minimum size for a stage is sixteen feet (16') by sixteen feet (16'). This size stage can accommodate a five-piece musical band. The minimum size of the off-stage waiting area shall be a minimum of eight feet (8') in depth. The width of the stage should be approximately one third the total width of the gymnasium.
- Provide sufficient electrical supply for the gymnasium to accommodate the additional circuits neces-

2 http://www.engineersedge.com/finishing/phenolic_coatings.htm



REGULATION HIGH SCHOOL BASKETBALL COURT 7800 SQ. FT.
JANITOR'S ROOM/PIPE CHASE 120 SQ. FT.
WOMEN'S RESTROOM 228 SQ. FT.
MEN'S RESTROOM 228 SQ. FT.
STORAGE ROOM 208 SQ. FT.
MECHANICAL/ELECTRICAL 104 SQ. FT.
ENTRANCE/LOBBY 224 SQ. FT.
OFFICE 155 SQ. FT.
EXERCISE ROOM 444 SQ. FT.
WOMEN'S DRESSING ROOM 165 SQ. FT.
MEN'S DRESSING ROOM 165 SQ. FT.
STAGE 600 SQ. FT.
HALLWAY 100 SQ. FT.
TOTAL AREA 10,541 SQ. FT.

Exhibit 5: Preferred 10,541 sq. ft. Gymnasium Building Layout Diagram - Large space includes Office, Stage and Exercise Room - Option 1



REGULATION HIGH SCHOOL BASKETBALL COURT 7800 SQ. FT.
JANITOR'S ROOM/PIPE CHASE 70 SQ. FT.
WOMEN'S RESTROOM 273 SQ. FT.
MEN'S RESTROOM 256 SQ. FT.
STORAGE ROOMS 278 SQ. FT.
MECHANICAL/ELECTRICAL 150 SQ. FT.
OFFICE 244 SQ. FT.
ENTRANCE/LOBBY 215 SQ. FT.
HALLWAY 110 SQ. FT.
TOTAL AREA 9,393 SQ. FT.

Exhibit 6: Preferred 9,393 sq. ft. Gymnasium Building Layout Diagram - Small Space includes Office - Option 2

sary for stage lighting.

- Where practical, provide LED lighting for all stage lighting.
- Provide a minimum of two (2) ten feet (10') by twelve feet (12') stage changing rooms, one (1) for women and one (1) for men.
- Provide a minimum of one (1) general office in all gymnasium buildings. The general office will be equipped with a building-wide pager system.
- If security cameras are installed, locate monitors in the gymnasium office.
- Provide a T1 cable system in the office(s), gymnasium, and stage area.
- Provide a staff administration keyless entry system.
- Provide a conveniently located equipment storage space for folding chairs, nets, goals, and other sports equipment. The size of the storage space shall be dependent on the size and requirements of the facility.
- Provide an additional exercise/ auxiliary room adjacent to the gymnasium. This room shall be a minimum 450 square feet.
- Provide restrooms, showers, and locker rooms as directed by the project facility program.
- Provide one (1) standard and one (1) ADA compliant drinking fountain, located adjacent to the gymnasium restrooms.
- Provide a controlled and secured entrance to all showers and locker rooms.
- Provide privacy walls between each shower.
- Provide at least one double-door building entry for the delivery of equipment.
- Provide security lighting on or near the building.

REGULATORY CONSIDERATIONS

- All gymnasium restrooms, locker rooms, dressing rooms and showers shall comply with current building codes and meet current ADA requirements.
- Fixture count shall be in compliance with Title 28 of the Los Angeles County Code Chapter 4, Section 412.0.
- The gymnasium restroom fixture count shall be in compliance with the State of California Building Code Title 24 Part 5 Chapter 4 item 412.0.

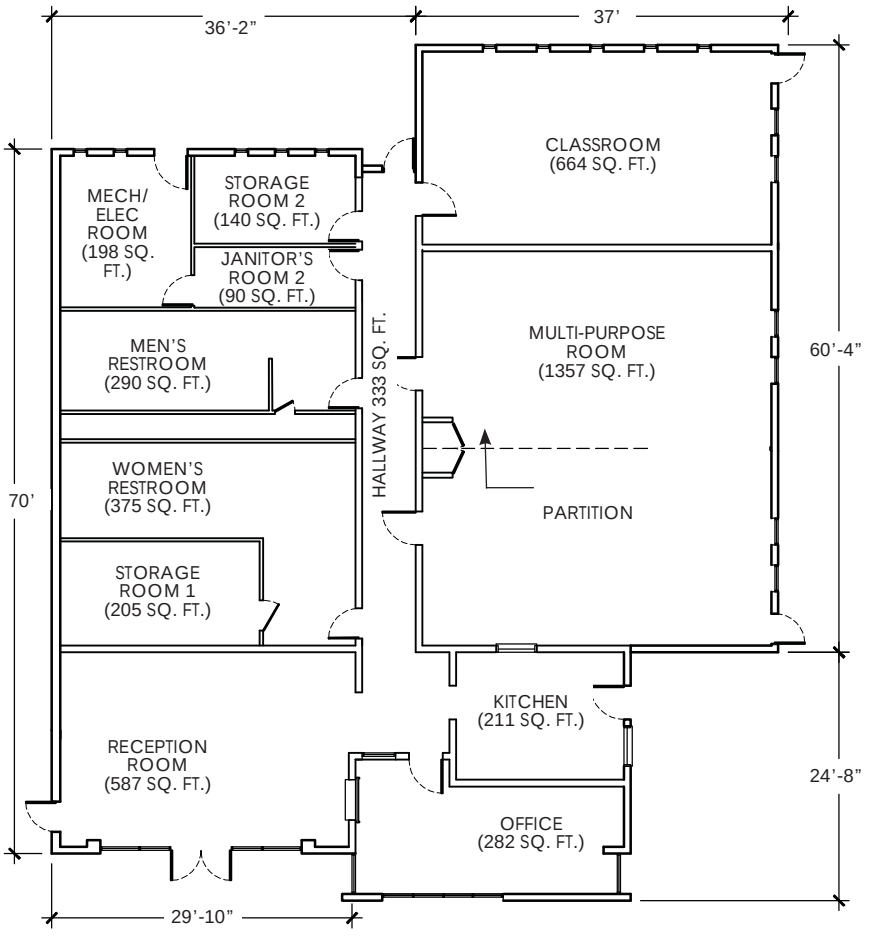
2.2.6 Community Buildings

The community building is intended to support indoor organized community events, meetings and activities.

Provide community buildings as directed by the project facility program.

SPATIAL CONSIDERATIONS

- The building shall be visible and reasonably close to a parking lot and public street.
- Provide a drop off/pick-up zone near the main entrance where possible.
- Provide a paved special events plaza near the main entrance or the multi-purpose room.
- Provide ample paving around the perimeter of the building for ease of entry, to prevent pedestrian paths of travel through planted



RECEPTION 567 SQ. FT.
OFFICE 282 SQ. FT.
KITCHEN 211 SQ. FT.
MULTI-PURPOSE ROOM 1357 SQ. FT.
WOMEN'S RESTROOM 375 SQ. FT.
PIPE CHASE 78 SQ. FT.
HALLWAY 333 SQ. FT.

MEN'S RESTROOM 290 SQ. FT.
STORAGE ROOM 1 205 SQ. FT.
MECHANICAL/ELECTRICAL 196 SQ. FT.
JANITOR'S ROOM 90 SQ. FT.
STORAGE ROOM 2 140 SQ. FT.
CLASSROOM 664 SQ. FT.
TOTAL AREA 4,788 SQ. FT.

Exhibit 7: Preferred 4,788 sq. ft. Community Building Diagram

areas and prevent water infiltration into the building.

- The building perimeter paving shall have a minimum two-percent (2%) slope away from all exterior walls within the limit of the first ten feet (10') adjacent all buildings for positive drainage.
- The building perimeter un-paved areas shall have a minimum two-percent (2%) slope away from all exterior walls within the limit of the first ten feet (10') adjacent all buildings for positive drainage.

AMENITIES

- Provide multi-functional activity rooms that can be used for a variety of activities throughout the day for different age groups.
- Each classroom shall accommodate 20 to 30 people.
- Provide folding room dividers as directed by the project facility program.
- Provide resilient flooring such as linoleum, vinyl composition tile or rubber tile floor.
- Provide a computer training room that will accommodate up to 10 workstations.
- Provide a kitchen that meets all County Los Angeles Health Department requirements and ADA requirements.
- Provide two (2) offices, one (1) private office, and one (1) general office with three to four workstations. The general office will be equipped with a building-wide pager system. Staff must have visual access to corridors from the general office. These offices shall be grouped together in a common area.
- If security cameras are installed, locate monitors in the community building office.
- Provide a T1 cable system in all office and conference room(s).
- Provide a staff administration keyless entry system.
- Provide a custodial storage room and separate, adjacent storage space.
- The custodial storage room is for the storage of normal day-to-day paper products, cleaners, and equipment. This room shall be sized to accommodate supplies for two weeks to one-month.
- Provide ventilation in the custodial storage room to eliminate odors from permeating into other rooms of the building.
- Provide a floor sink and a floor drain in the custodial storage room.
- Provide a storage room to contain equipment and materials used to support park programs and activities.
- Provide built-in heavy-duty shelving in all storage rooms.
- Provide restrooms inside the building as directed by the project facility program.
- Provide one (1) standard and one (1) ADA compliant drinking fountain, located adjacent to the community center restrooms.
- Provide natural lighting whenever possible.
- Provide HVAC system to serve as emergency heat relief in the event of a heat wave.
- Provide bicycle racks, trash receptacles, and drinking fountains near the building entrances.
- Provide security lighting at or nearby the building.
- Provide directional signage from the street to the main entrance.

REGULATORY CONSIDERATIONS

- All community building restrooms shall comply with current building codes and meet current ADA requirements.
- Fixture count shall be in compliance with Title 28 of the Los Angeles County Code Chapter 4, Section 412.0.
- All kitchens shall comply with the County of Los Angeles Public Health, Environmental Health Program. Reference the "Retail Plan Check Construction Guideline" in the Food section of this document.

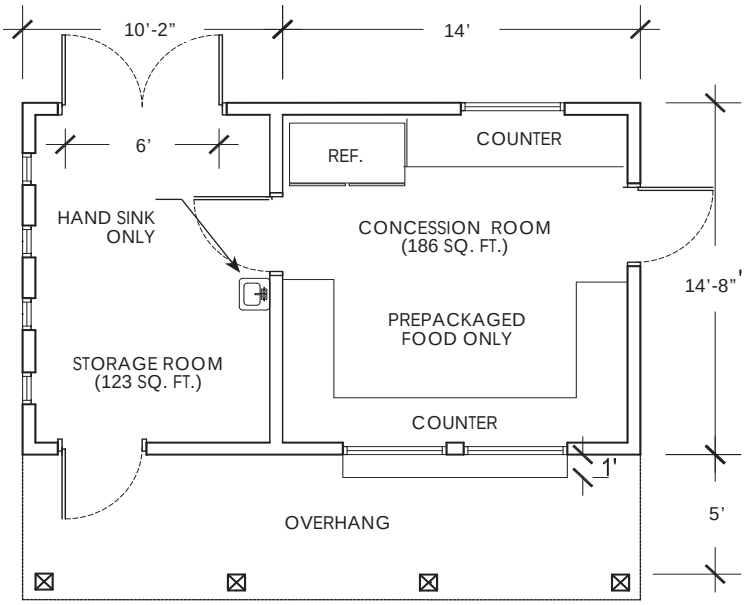


Exhibit 8: Preferred 310 sq. ft. Sports Field Concession Building Diagram

- All kitchens shall comply with the County of Los Angeles Fire Department, County Facilities Codes and Ordinances. All gymnasium restrooms, lockers , dressing rooms and showers shall comply with current building codes and meet current ADA requirements.

2.2.7 Sports Field Concession Stand

Provide sports field concession stands as directed by the project facility program.

SPATIAL CONSIDERATIONS

- Locate the concession stand in close proximity to the ball field spectator area.
- Provide a vehicular access pathway to the building.
- The concession stand should be reasonably close to a trash enclosure.
- Provide ample paving around the building perimeter for ease of entry and pedestrian accessibility.

AMENITIES

- Provide kitchen facilities for warming pre-packaged food only.
- Install resilient flooring such as linoleum or vinyl composition tile.
- Provide ample in-unit storage space within the building.
- Include a double-door entry for delivery of products and equipment.
- Provide roll-up window(s) for serving access.
- Ventilation and lighting shall be natural whenever possible.
- Provide a HVAC system.
- Provide a staff administration keyless entry system.
- Provide security lighting at or near the building.

REGULATORY CONSIDERATIONS

- All kitchen amenities shall comply with the County of Los Angeles Public Health Department requirements.
- The concession building shall comply with current building codes and meet all ADA requirements.

2.2.8 Maintenance Buildings / Yards

Maintenance buildings and yards support a broad spectrum of recreational facilities. Provide a maintenance yard as directed by the project facility program.

SPATIAL CONSIDERATIONS

- Where possible provide separate entrances to the maintenance yard and the parking lot.
- If a separate entrance to the maintenance yard and the parking lot is not feasible, locate the entrance to the maintenance yard off the parking lot.
- Provide screening between the maintenance yard and the park.
- The maintenance office shall have visible access to the adjacent yard.
- Provide space in the maintenance building to accommodate the storage of maintenance vehicle(s)as directed by the project facility program.
- Provide space in the maintenance building to accommodate the storage of maintenance tools, supplies and materials, as direct-

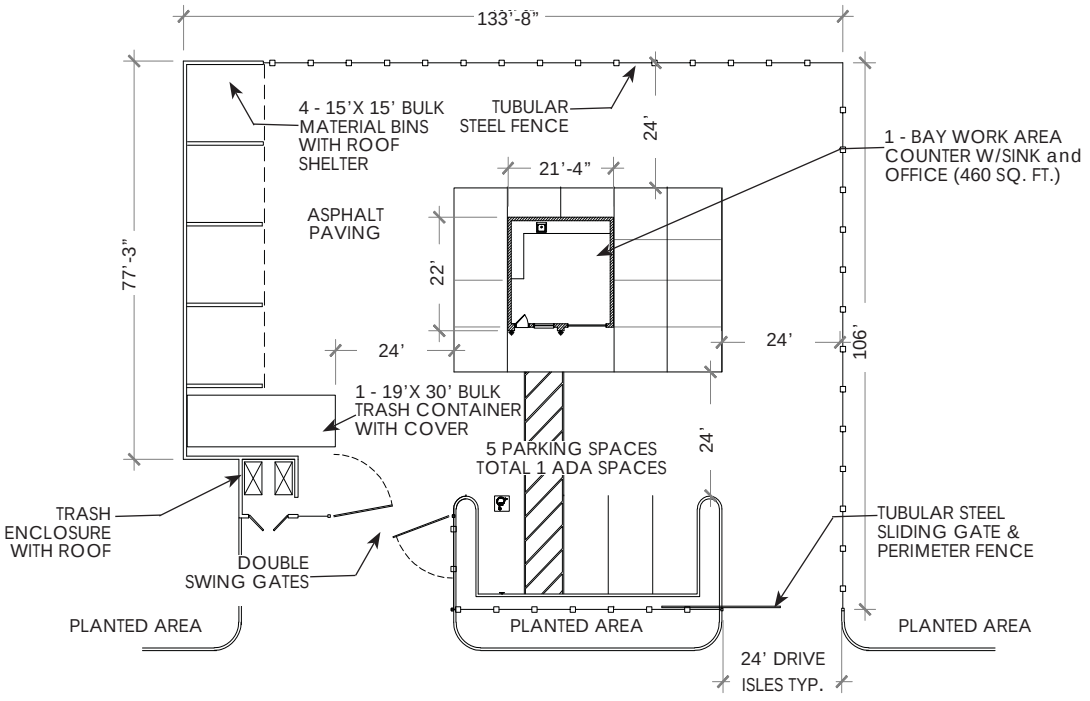


Exhibit 9: Preferred Small Maintenance Building and Yards Layout Diagram -

ed by the project facility program.

- Provide space in the maintenance yard to accommodate the storage of building and maintenance materials, as directed by the project facility program.
- Provide secured gates and fencing around the perimeter of all maintenance yards.

AMENITIES

- Provide office space for staff in the maintenance building. The office size will be as directed by the project facility program.
- Provide a staff administration keyless entry system.
- Provide a minimum of one (1) ADA accessible restroom in each maintenance building.
- Provide a rest/eating area and a kitchenette space (microwave and refrigerator only) in each maintenance building.
- Provide a T1 cable system in each maintenance building.
- Provide roll-up doors for entry into maintenance building.

REGULATORY CONSIDERATIONS

- All bulk items, new or used, should be covered (and elevated on a palette). Particularly trash, and other waste items such as oil, grease or other miscellaneous hazardous materials, to mitigate contamination of stormwater runoff per Department Stormwater Pollution Prevention Plan, under NPDES[3].
- All restrooms shall comply with current building codes and meet current ADA requirements.
- The restroom fixture count shall be in compliance with the State of California Building Code Title 24 Part 5 Chapter 4 item 412.0.

3 http://dpw.lacounty.gov/wmd/npdes/public_tc.cfm

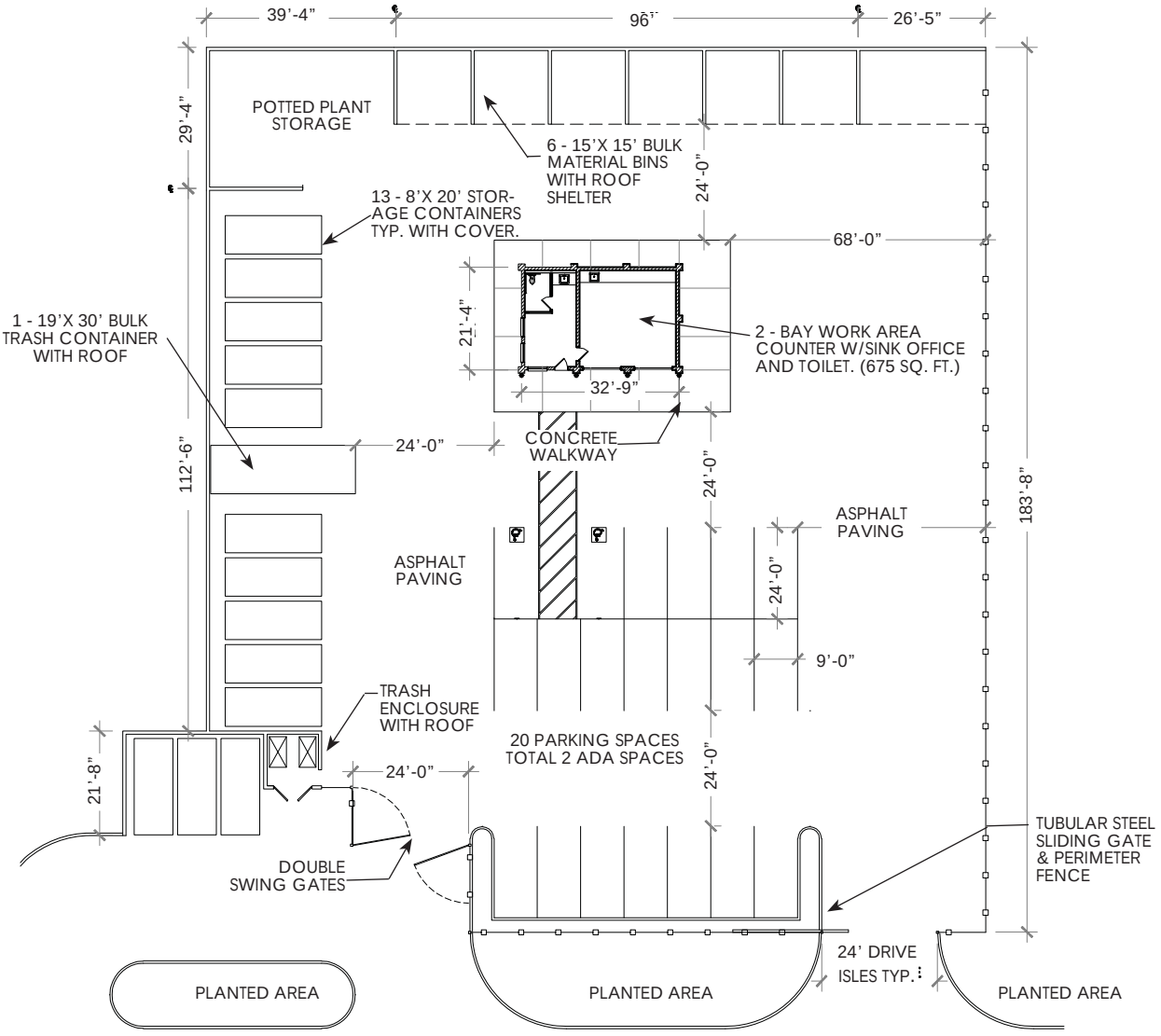


Exhibit 10: Preferred Large Maintenance Building and Yards Layout Diagram -

2.3 Parking Lots

The parking lot is the first and the last element of a park facility to be viewed by many visitors. It is the gateway through which most visitors pass. This first impression is very important in establishing the overall feeling and atmosphere conveyed to the user.

SPATIAL CONSIDERATIONS

- Provide adequate parking at each park location to minimize parking on residential and arterial streets.
- Provide parking lots that service and support park facilities. These parking lots shall not bisect or segment the park site.
- Provide overflow parking for special events as directed by the project facility program.
- Parking lots must remain visually unobstructed and highly visible at all times.
- Locate parking lots in close proximity to major park activity areas.
- Maximum non-pedestrian route-of-travel grades in a parking lot shall not exceed nine percent (9%).
- The parking stall and aisle dimensions and angles illustrated in Table 1 on the next page shall be utilized in parking lot design layout.

AMENITIES

- Provide a barrier gate at park vehicular entries.
- Provide vegetated screening or visual barriers to prevent vehicle headlights from shining into residential areas.
- Provide access barriers at parking lot perimeters. Perimeter barrier material is typically but not limited to a 6" high concrete curb.
- Provide maintenance vehicle access to the primary 10' wide park circulation system off the parking

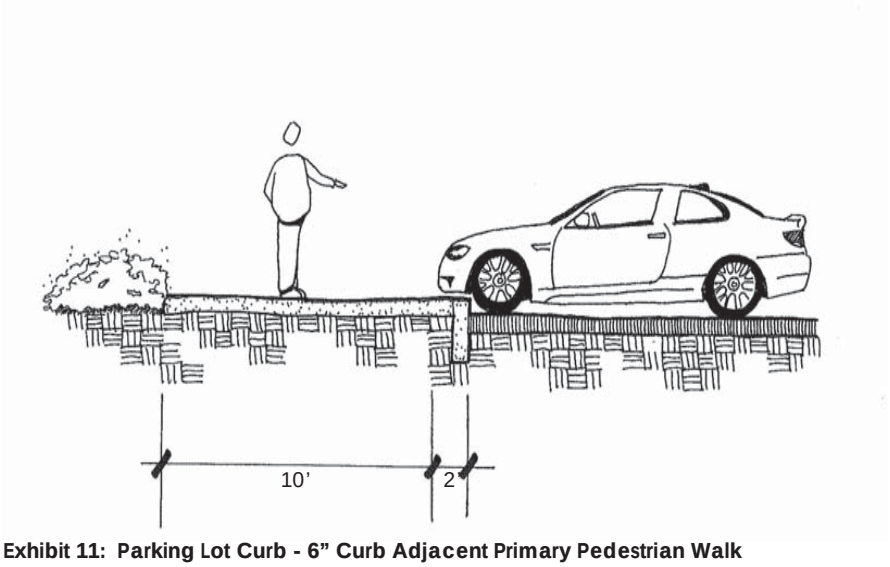


Exhibit 11: Parking Lot Curb - 6" Curb Adjacent Primary Pedestrian Walk

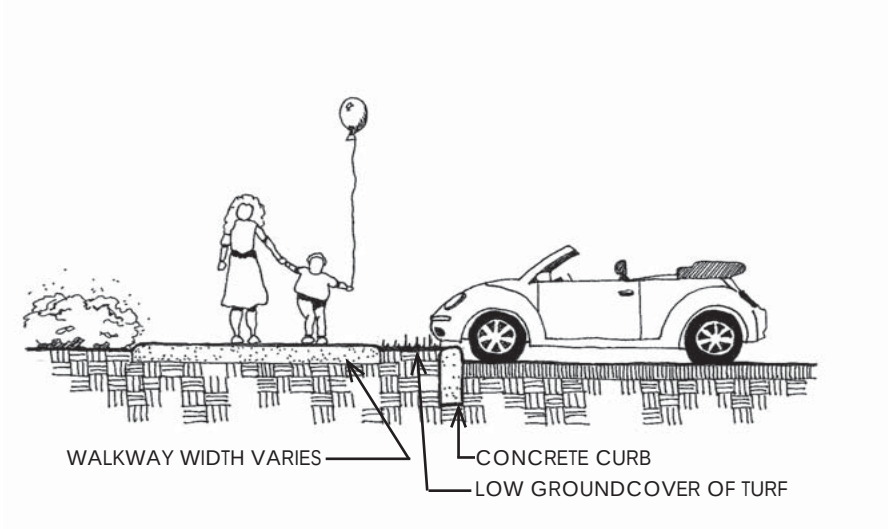


Exhibit 12: Parking Lot Curb - 6" Curb Adjacent Planted Area

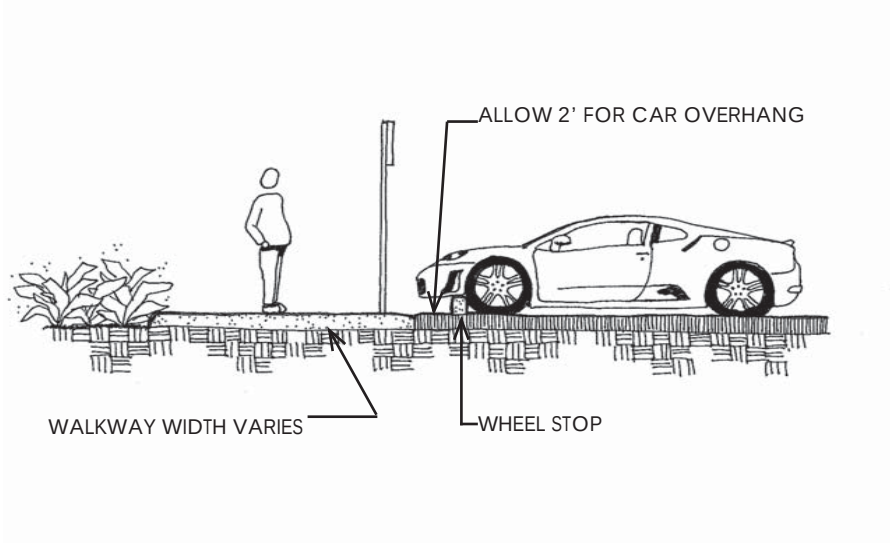


Exhibit 13: Parking Lot Curb - 0" Curb Face at ADA Parking Stalls

lot. The entrance from the parking lot shall be protected by locking removable bollards.

- Provide wheel stops at all zero curb height and ADA ramps to prevent parked vehicles from encroaching onto adjacent walkways or adjacent landscaped areas.
- Ensure that wheel stops and curb heights do not impact vehicular clearance.
- All plant material in front of a parking stall as illustrated in Exhibit 12: Parking Lot Curb - 6" Curb Adjacent Planted Area, must be low groundcover with a maximum height of six inches (6").
- Where no wheel stops have been provided and there is an encroachment of a car over the required width of an adjacent walkway, an additional two feet (2') must be added to the width of the walkway.
- Provide a one-foot (1') wide concrete "step out" at all landscaped areas adjacent to parking stalls.
- In order to provide shade to vehicles and lower the heat island effect in parking lots, provide one (1) 24-inch (24") box tree per four (4) parking stalls.
- The parking lot tree canopy shall provide at least forty percent (40%) shade coverage in the open parking areas within fifteen (15) years.

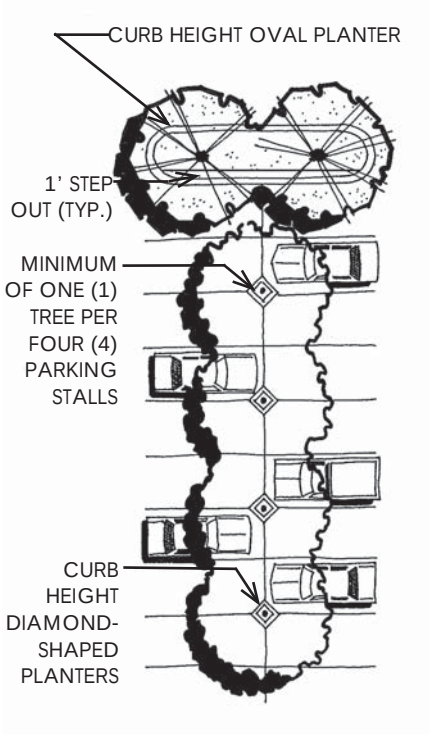


Exhibit 14: Shade Tree Layout in Parking Lots

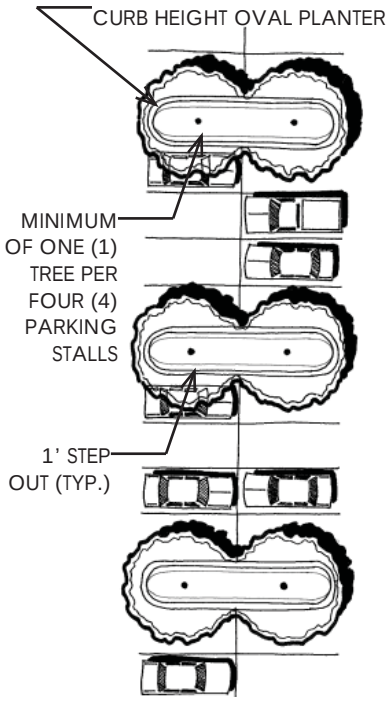


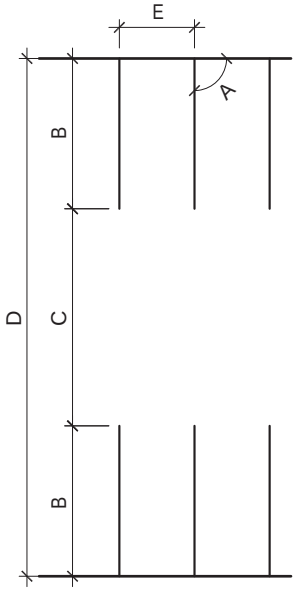
Exhibit 15: Shade Tree Layout in Parking Lots (Alternate)

- Provide trees, shrubs, and ground cover at suitable intervals in order to break up the continuity of the parking area.
- Landscape plants shall not block the view of motorists and pedestrians.
- Provide landscaped islands with a minimum width of five (5) feet, and a one (1') foot step-out excluding the curb width, at each end of the parking lot lanes per Exhibit 14: Shade Tree Layout in Parking Lots.
- Provide five foot (5') diamond shaped curb height tree planters, excluding the width of the curb, in double loaded parking stall areas per Exhibit 14: Shade Tree Layout in Parking Lots.
- Additional parking over and above the County of Los Angeles Code Chapter 22.52, General Regulations, Part 11, Vehicle Parking Space, shall be provided for parks with sports fields as shown in Table 2.[4]

Table 1: Minimum Dimensions for Parking Stalls

A Angle (degrees)	90	60	45
B Stall	18'-0"	20-1"	19'-1"
C Aisle	26'-0"**	20'-0"*	14'-0"*
D Overall Width	62'-0"	60'-2"	52'-2"
E Curb Length	9'-0"	10-5"	12'-9"

* One way traffic
** Two way traffic



4 Carpenter, Handbook of Landscape Architectural Construction (1976)

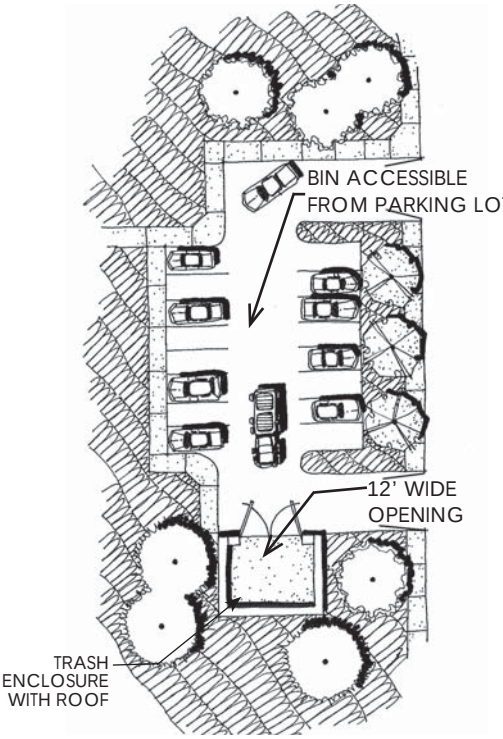


Exhibit 16: Parking Lot Design with Trash Bin Enclosure

- Provide additional parking over and above the County of Los Angeles Code Title 22 Chapter 22.52, General Regulations, Part 11, Vehicle Parking Space, as directed by the project facility program.
- Provide preferred parking stalls and signage for Low-Emission & Fuel Efficient Vehicles at high use park sites such as community buildings, nature centers, arboretum and botanical gardens parking lots.
- Refer to the Stormwater Management section for parking lot grading and drainage.

REGULATORY CONSIDERATIONS

- All parking lots shall include security lighting, meeting current California Code of Regulations and all local building standards.
- Provide two points of ingress/ egress access drives, a turnaround, or a "hammer head" for all size vehicles.
- Parking shall comply with the most current ADA standards and guidelines.
- Provide ADA compliant parking stalls and signage per the current State and Federal requirements. The parking area shall be clearly marked to delineate parking spaces and to direct traffic flow.
- Parking lot design shall comply with the County of Los Angeles Code Chapter 22.52, General Regulations, Part 11, Vehicle Parking Space, unless otherwise specified in the Park Design Guidelines.
- The number of parking spaces shall comply with the County of Los Angeles Department of Regional Planning Code for all facilities unless otherwise specified in the Park Design Guidelines. Provide additional parking as noted in Table 2.
- Park design must comply with County of Los Angeles Code Title 22, Chapter 15.52 crosswalks and bicycle lanes.

2.4 Circulation

A well-connected network of park roads and paths provides an effective means to accommodate all forms of travel including; walking, bicycling, and transit. Multiple routes through a well connected park circulation system ensures that attractive walking and bicycling routes are widely and safely available. Consider the following for developing effective park circulation systems:

- Develop one main park entry, where a park design or theme can be established to create the park's identity and sense of arrival.
- Provide a highly visible and distinct park entry marker or gateway to create a sense of transition and arrival to the destination.
- Primary paths - Provide at least one path of travel within the park design which connects all major use areas. This concrete pathway should be ten feet (10') wide preferred, and a minimum of eight feet (8') wide, for use by maintenance and service vehicles. All curves within this route shall contain radii no less than ten feet (10').
- Secondary paths shall be a minimum of six feet (6') wide.
- Tertiary paths consist of non-circulation routes, e.g. (around play areas), and shall be a minimum of five feet (5') wide.
- Provide adequate access for fire, emergency response, and maintenance vehicles in parks and open space areas.
- Create anticipation and visual interest by framing views and directing attention to landscape features along the pathways.
- Provide deliberate focal points such as a circular drop-off or plaza where the network of pedestrian paths, bicycle routes and vehicular roads meet.
- Locate primary and secondary paths to minimize environmental impacts on the site.
- Locate all park fixtures, such as security lights and trash receptacles on concrete pads outside the limit of the walkway width.
- Park benches and drinking foun-

Table 2: Minimum additional parking for sports fields

SPORT	MINIMUM PARKING SPACES
Softball	15 spaces / field
Baseball	20 spaces / field
Soccer, football, lacrosse	16 spaces / field
Basketball	6 spaces / field
Tennis	2 spaces / field
Volleyball	6 spaces / field

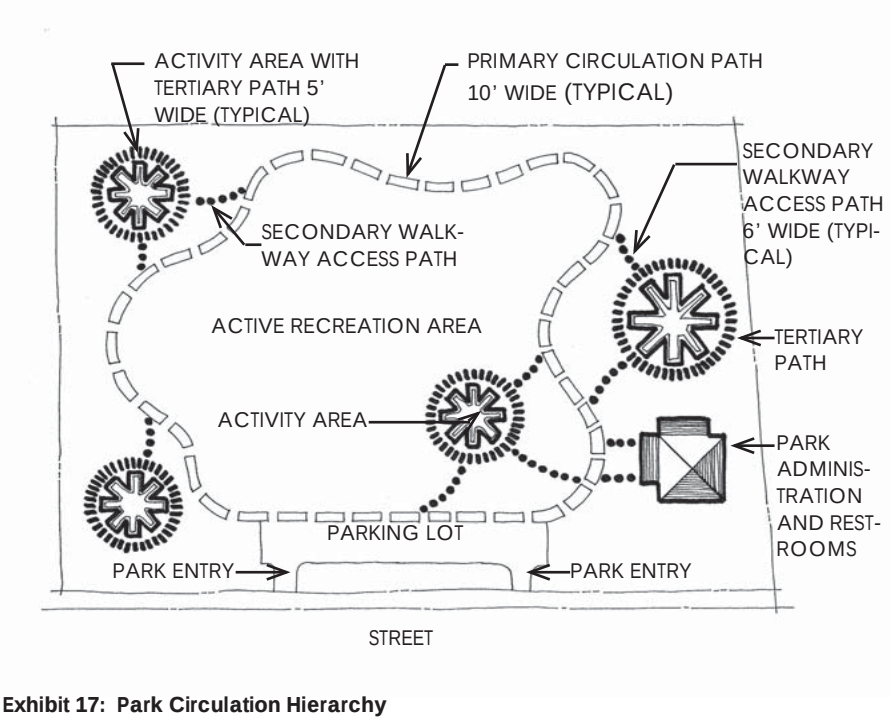


Exhibit 17: Park Circulation Hierarchy

tains shall be located outside the limits of the pathway width. This space shall include the width of the amenity and ADA path of travel.

2.4.1 Pedestrian

- Provide a clear separation between the park's vehicular and pedestrian entrances.
- Provide open access to the park and to its facilities for all pedestrian park users, with visibly marked ADA accessibility.
- Where a pedestrian path crosses a vehicular road, provide a pavement warning tile system and identify the path with visible signage and/or striping.
- Provide pedestrian entrances near existing or proposed crosswalks.
- Direct pedestrian entrances toward public transit centers to encourage and facilitate alternative modes of travel to the park.
- Pedestrian paths shall provide direct access to the play area, restrooms, and sports fields.
- Provide textured paving where tertiary walkways intersect secondary paths of travel at restroom buildings and children's play areas, to discourage skateboarding.
- Pedestrian paths and bicycle routes shall be clearly marked, and where possible separated from vehicular travel.

2.4.2 Vehicular

- Locate the park vehicular entry to avoid conflicts with established rights-of-ways.
- Where possible provide separate entrances to the parking lot and maintenance yard.
- If a separate entrance to the maintenance yard and the parking lot is not feasible, locate the entrance to the maintenance yard off the parking lot.
- Provide maintenance vehicle access from the parking lot to the major, ten feet (10') wide concrete paths. The path should be secure from public vehicular access via removable bollards. This path must be designed to support large maintenance vehicles with load weights of up to twenty (20) tons.
- Where roadways are part of a park plan, they shall be designed to control vehicular speeds.
- Automobiles are usually restricted to the perimeter of the park site. This can pose problems when programmed recreation events demand equipment to be delivered by vehicles. Avoid damage to fragile vegetation and irrigation systems by providing primary, ten foot (10") wide, paths that can support vehicular use near recreation fields.

TRAFFIC CALMING

- Provide traffic calming design solutions where public vehicular roads travel through the park site. Traffic calming solutions may include but are not limited to the following:
  - Speed humps
  - Textured decorative paving
  - Traffic circles or roundabouts
  - Neckdowns/chokers (curb extensions)

2.4.3 Bicycle

To encourage and facilitate bicycle travel to the park, provide bicycle path connections from the park to the following locations:

- Public bicycle paths
- Street paths
- Bike racks/storage

2.4.4 General

- All paving design criteria shall comply with the Geotechnical Engineer's recommendations.
- All pathways and edging shall be installed flush with surrounding grades with the exception of the following;
  - Finish surface elevation of planting areas shall be two inches (2") lower than adjacent

edging or paving, to allow for mulch.

- Finish surface elevation of turf areas shall be one inch (1") lower than adjacent edging or paving to allow for thatch build-up.

- Decomposed granite (D.G.) paving shall be contained with a six inch (6") wide concrete mow strip on both sides of the paving, and flush with the paving surface.
  - D.G. used for walking paths and as paving shall be stabilized, unless otherwise specified in the facility program.
  - D.G. used as mulch for planting areas shall be unstabilized.
- Provide a one foot (1') wide mow strip under all tubular steel and chain link fencing placed in landscaped areas.
- Avoid abrupt and/or protruding edges or abrupt grade changes on all roads, walkways and bicycle paths.
- Approved Root Barriers shall be used along the edge of new roadways and pathway paving within the drip line of existing trees, or within ten feet (10') of newly planted trees.
- Design utility corridors in close proximity to roads and major walkways, to reduce future disturbance of these areas from maintenance and repair operations.

2.5 Recreational Facilities

The location and orientation of recreation fields shall recognize and be sensitive to the established surrounding conditions. Care must be taken to address potential conflicts with adjacent passive use areas including children's' play areas.

The size and shape of a site can have a major influence on the types of recreation uses it can support. For example, a large, regularly shaped site may be well suited for a multiple athletic field complex (e.g., soccer or baseball) while a smaller, irregularly shaped site may not be able to support this level of development and may be better used for smaller athletic fields or courts (e.g., basketball or tennis courts). In addition to the area requirements for the selected recreational activity, additional space may be required for supporting facilities such as, parking lots, concession stands, spectator areas, maintenance yard, and storage buildings. At multiple athletic field complexes, space also may be needed for buffer zones between fields and drainage features.

Table 3: Standard Field Dimensions and Acreage for Athletic Fields provides standard field dimensions and acreage for common athletic fields to be used in designing County parks, unless otherwise directed by the project facility program. The area required for most playing fields ranges from approximately 0.05 acres (a volleyball court) to three acres (an adult level baseball field). However, recreational facilities consist of more than just a playing field. When estimating the area needs for a recreation facility, the size of the fields and spatial requirements for supporting features or areas need to be considered. The following list represents typical park amenities to be considered:

- Parking
- Restrooms
- Storage facilities
- Concession facilities
- Bleachers or other spectator areas
- Spillover noise and activity areas
- Surface drainage features

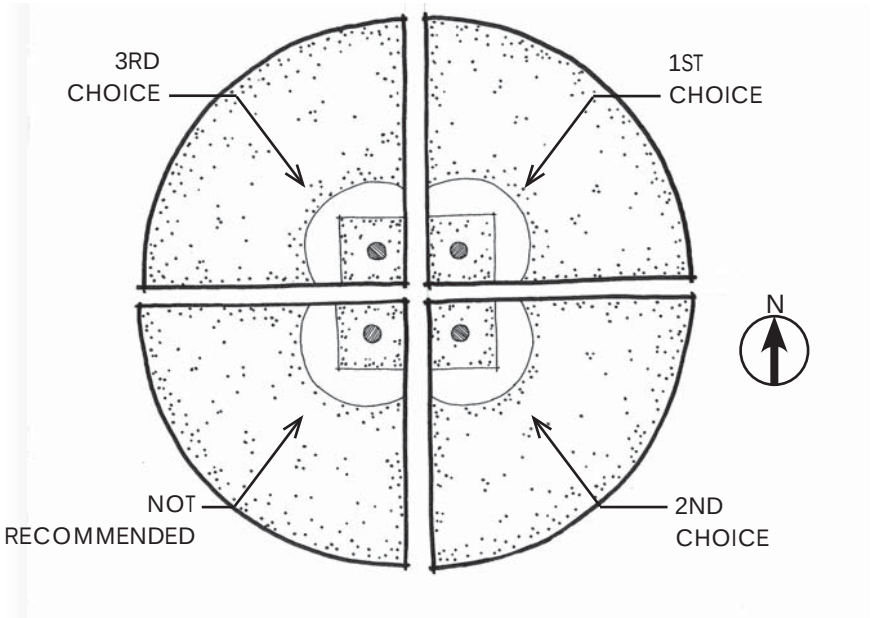


Exhibit 18: Preferred Baseball/Softball Field Orientation

Table 3: Standard Field Dimensions and Acreage for Athletic Fields

Sport	Field Dimensions	Minimum Acreage
Softball	60' baseline, 275'-300' outfield	2.0 acres
Baseball	90' baseline, 350'-380' outfield	.75 - 3.0 acres
Soccer	225'x 330' field dimension	1.0-2.0 acres
Basketball	50'x 94'	0.01 acres
Tennis	78'x 36'	0.06 acres
Volleyball	29.5'x 59'	0.05 acres

- Buffer zones
- Maintenance access areas

2.5.1 Ball Fields

SPATIAL CONSIDERATIONS

Field sizes vary from approximately three-quarters of an acre for a little league baseball field, to approximately three acres for an adult baseball field, with the center field fence 380-feet away from home plate. To account for additional space required for errant balls, spectator areas, and other ball field features, a full size baseball field may need up to six acres.

- To address errant balls along the foul ball lines, a physical buffer or sufficient space should be provided for public safety.
- The preferred field orientation locates the third base line aligned with true north. However, some sites may require variations from this preferred orientation.
- Fields shall be crowned in the center with drainage to the sides with no more than a two percent (2%) slope for positive drainage. However, if specific site conditions make this unattainable, other drainage options will be considered.

AMENITIES

- Install ground sleeves for portable Little League fencing 235' from home plate.
- Provide spectator seating areas with shade covers at all baseball and softball fields.
- Spectator areas shall consist of either aluminum or concrete tiered seating and shall accommodate ADA compliant seating and companion seating.
- Provide chain link fence enclosed dugouts with shade covers, player's benches, bat racks, and area for players equipment bags.
- Provide one (1) ADA compliant pedestal drinking fountain centered between the dugout and spectator bleachers.
- Provide softball infield mix of sixty percent (60%) brick dust to forty percent (40%) clay.
- Ball field turf areas shall be planted with hybrid-bermuda turf.
- Provide irrigation quick couplers at the fence line in two locations:
  - One (1) between home plate and first base
  - One (1) between home plate and third base

SPECIALIZED AMENITIES TO BE PROVIDED AS INDICATED BY THE FACILITY PROGRAM

- Provide concession building.
- Provide a public address system with announcer's table.
- Provide electronic scoreboard with score keepers console accessible from the 3rd base bleachers.
- Provide equipment storage containers/bins; one for recreation equipment and a second for grounds maintenance equipment.
- Provide batting cages with pitching machine electrical outlets.
- Provide outfield fencing with Poly-Cap or equivalent safety fence guard.
- Fence height shall be per facilities program
- Provide sports lighting and sports lighting timers.
- Provide an infield irrigation system (pop-up rotors).
- Provide a sub-surface drainage

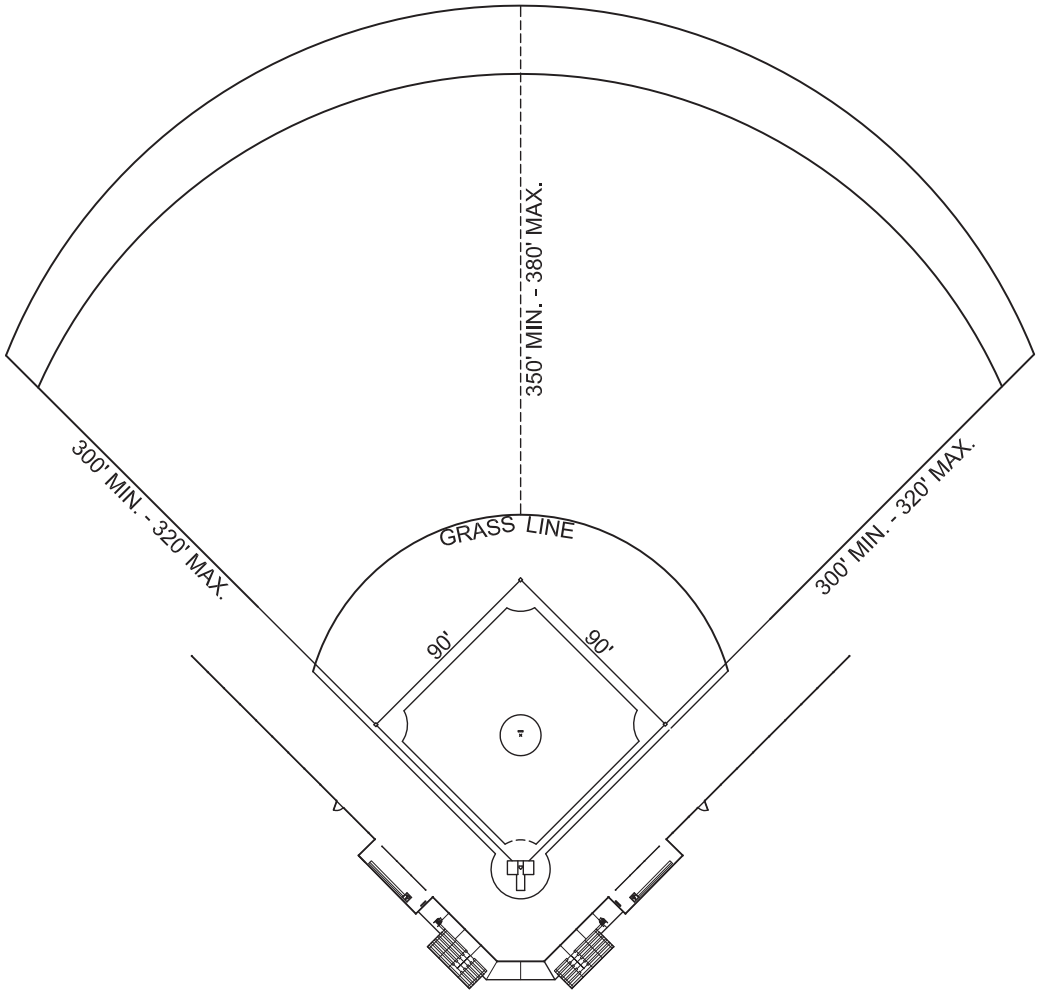


Exhibit 19: Baseball Field - Standard Layout

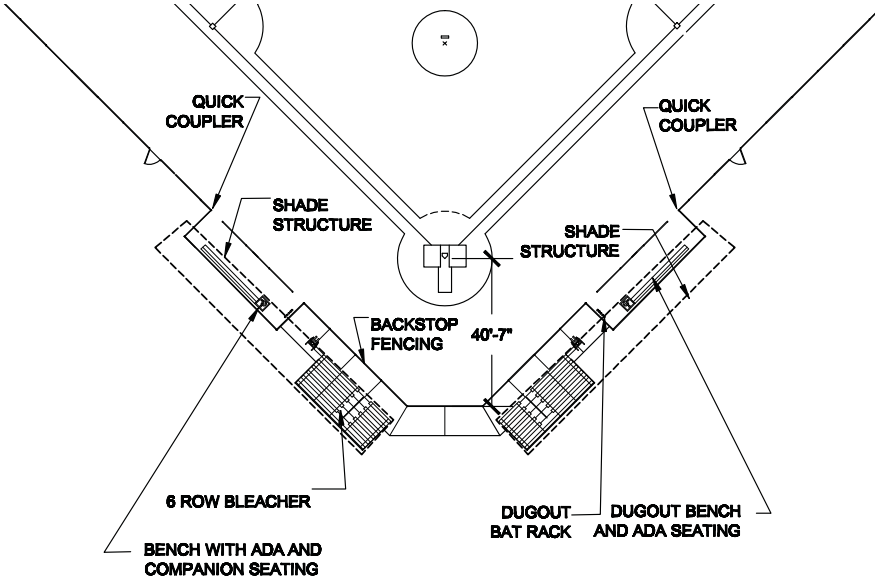


Exhibit 20: Baseball Field - Dugout and Spectator Seating enlargement

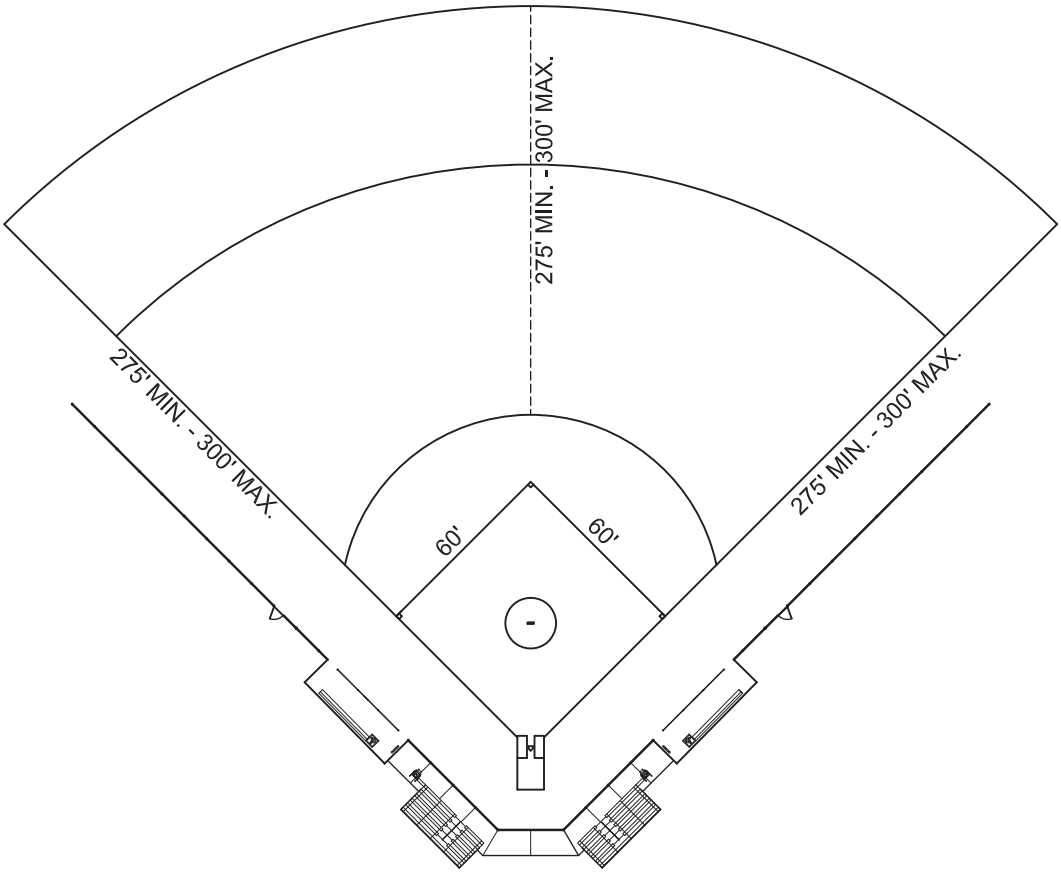


Exhibit 21: Softball Field - Standard Layout

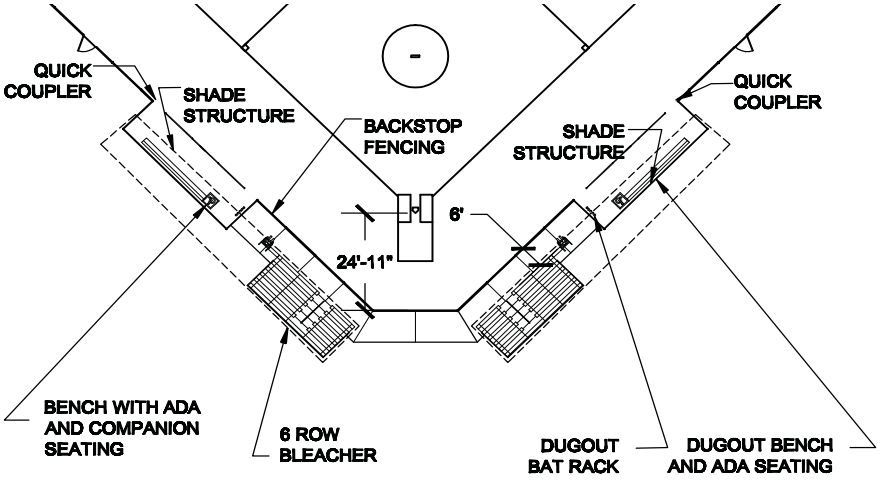


Exhibit 22: Softball Field - Dugout and Spectator Seating enlargement

system.

- Locate all utility controls (sports lighting, infield irrigation controller, etc.) in an area convenient for operation and maintenance.

2.5.2 Sports Fields

Many large athletic fields can be used for multiple purposes and sports of similar sizes and dimensions. Table 4: Standard Court Dimensions and Acreage for Basketball Courts provides the field dimensions of typical sports fields. Football and soccer are two of the most popular sports and their field sizes are quite compatible for dual use. A typical soccer field layout is provided in Exhibit 23.

Soccer fields vary greatly in size depending on the age and level of play. A field for players of age six (6) and under is approximately 0.12 acres in area while a field for adults can require nearly two (2) acres. Additional area is also required for spectator areas, missed shots, and errant passes. An adult soccer field with supporting areas may need up to three acres of land.

SOCCER AND MULTI-USE FIELDS

- All fields shall have a (2%) max. slope for positive drainage. However, if specific site conditions make this unattainable, other drainage options will be considered.
- The long axis of the field shall have a north/south orientation whenever possible.
- Where there are multiple fields, the minimum space between fields shall be twenty feet (20').
- Provide an area of 20' in width around the field's perimeter (10' minimum) with no trees (measured from the maximum drip line), berms, planters, sidewalks or light standards.
- Fields shall typically have a corner pitch drainage pattern unless specific site conditions prohibit this.
- Soccer fields shall be planted with hybrid-bermuda turf.
- Markings for Soccer Fields are chalked prior to the game. Permanent field markings are not necessary unless the playing fields are synthetic turf.

SPECIALIZED AMENITIES TO BE PROVIDED AS INDICATED BY THE FACILITY PROGRAM

- Provide all synthetic turf fields with;
- Irrigation system for cooling fields and cleaning
- 10' high perimeter fencing
- Subsurface drainage

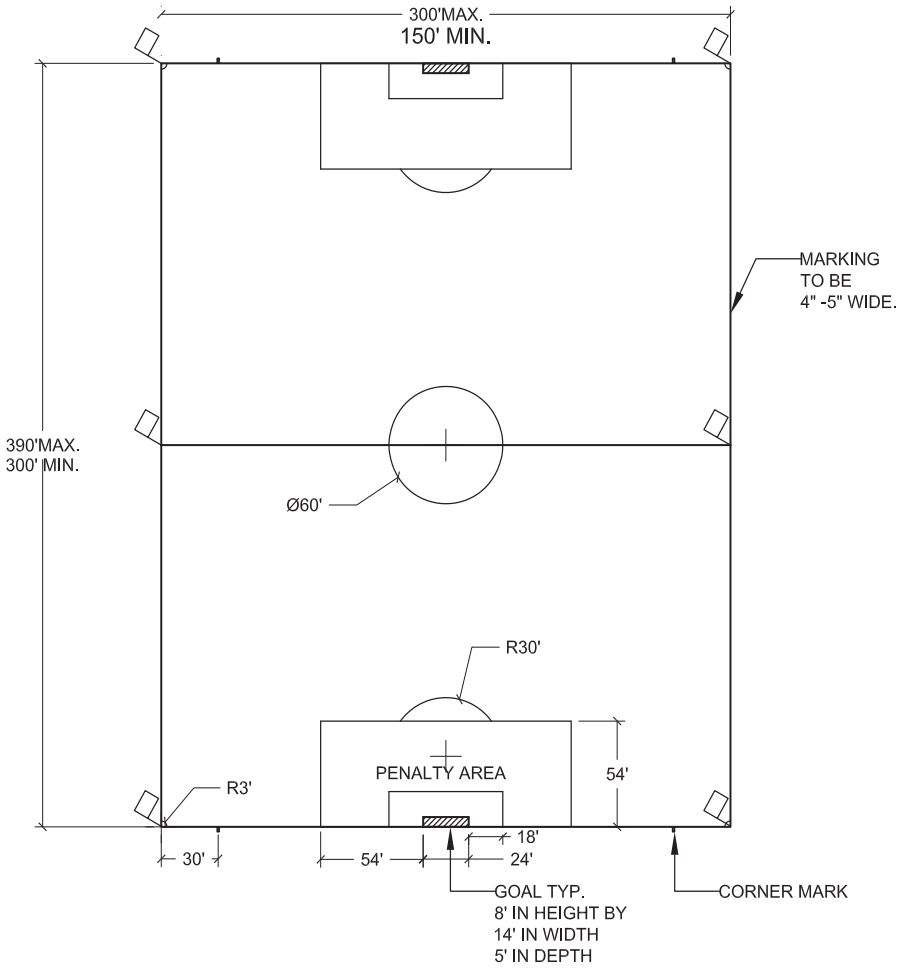


Exhibit 23: Soccer Field - Standard Layout

Table 4: Standard Field Dimensions and Acreage for Sports Fields

Sport	Field Dimensions	Minimum Acreage
Soccer	225'x 330' field dimension	1.7 acres
Football	120 yards x 53 yards	1.3 acres
Field Hockey	100 yards x 60 yards	1.2 acres
Lacrosse	119 yards x 69 yards	1.7 acres

2.5.3 Sports Courts

BASKETBALL AND MULTI-USE COURTS

The table below lists common dimensions and areas for basketball courts. A diagram of a typical basketball court is provided to the right. Futsal (Five-a-Side-Soccer) is also compatible with sports courts.

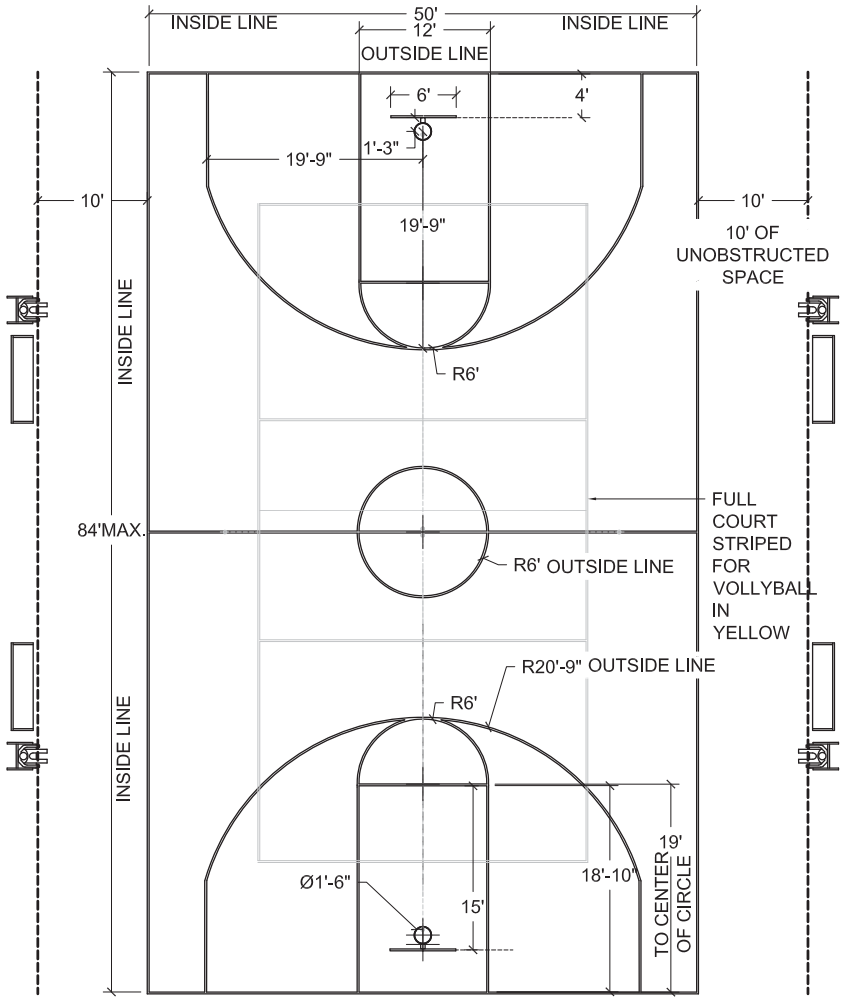


Exhibit 24: Basketball Court - Standard Layout over Volleyball Court

- Where possible, locate sports courts along the edges of the park to maximize visibility for security. Provide a separation from the street with a low berm or low planted landscape buffer. This separation shall be a minimum of fifteen feet (15') and a maximum of twenty feet (20') in width.
- All courts shall have a (1%) max. slope for positive drainage.
- Provide sports lighting as indicated by the facility program.
- Surrounding land uses must be considered for possible impacts from noise and sports lighting.
- Adult / teen basketball activities should be located away from small children's and passive activity areas.
- Provide shaded spectator seating at the perimeter of the basketball court.
- The court surface shall be integral colored concrete with a medium broom finish to prevent slipping.
- Provide basketball pole pads on the pole standards.
- Provide a minimum of ten feet (10') between courts placed side-by-side, or end-to-end.
- All markings on the playing surface shall be applied using a wear-resistant, colored substance. All markings shall be a minimum of two inches (2") in width. Color to be white.
- Stripe volleyball court lines on a basketball court yellow.
- Provide in-ground sleeves and court striping to accommodate three (3) removable volleyball

Table 5: Standard Court Dimensions and Acreage for Basketball Courts

Sport	Field Dimensions	Minimum Acreage
Basketball - Full Court	84'x 50'	0.11 acres

court standards (two (2) half courts and one (1) full court).

- The long axis of the court shall have a north / south orientation wherever possible.

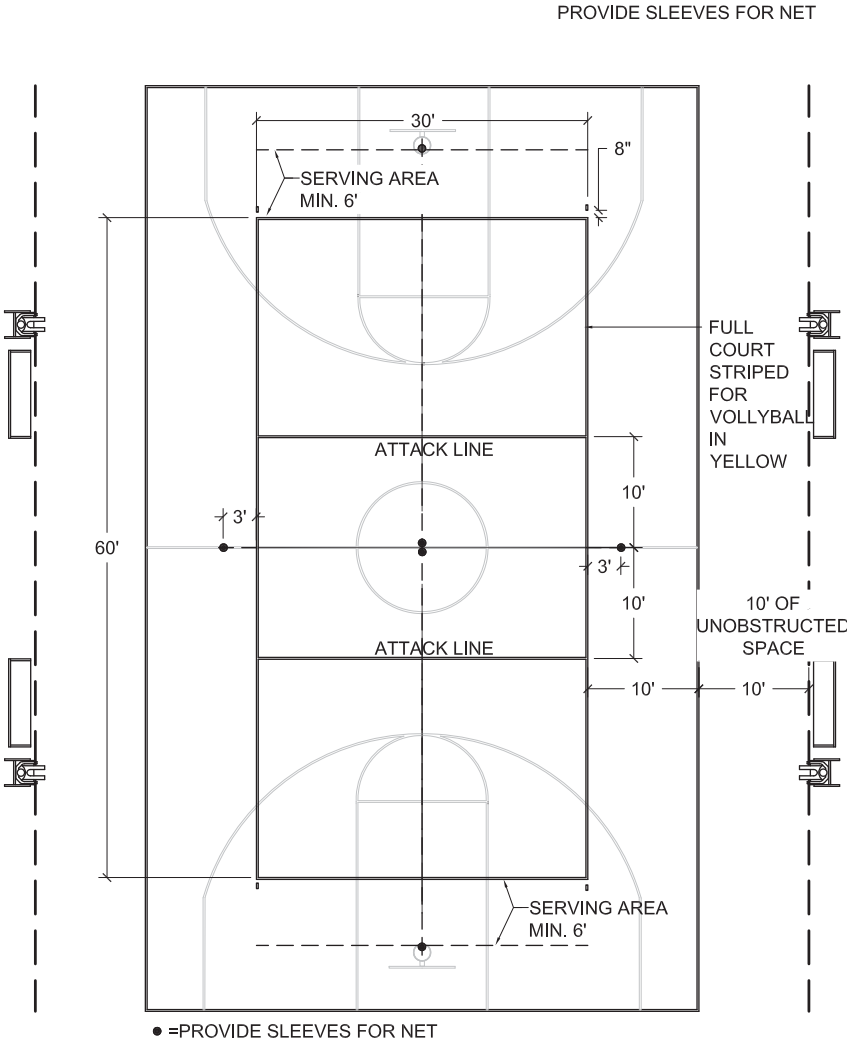


Exhibit 25: Volleyball Court - Standard Layout over a Basketball Court

Table 6: Standard Court Dimensions and Acreage for Volleyball Courts		
Sport	Field Dimensions	Minimum Acreage
Volleyball Court and half Court	30'x 60'	0.11 acres

TENNIS COURTS

The table below lists common dimensions for tennis courts. A diagram of a typical tennis court is provided.

- Tennis courts shall be oriented with the long axis north to south.
- Courts shall be concrete with an appropriate slip-resistant surfacing. Colors shall be determined by the Department during design.
- Side by side courts within one fenced enclosure shall be a minimum of twelve feet (12') apart. End to end courts within one fenced enclosure shall be a minimum of twenty-one feet (21') feet apart.
- All markings on the playing surface shall be applied using a wear-resistant, colored substance, a minimum of two inches (2") inches wide. Color to be determined and approved by the Department during design. Refer to Exhibit 26 for a diagram of a typical Tennis court.
- Provide vented windscreen fabric on perimeter fencing.
- Provide a practice wall (without side walls) on one side or end of the tennis court.

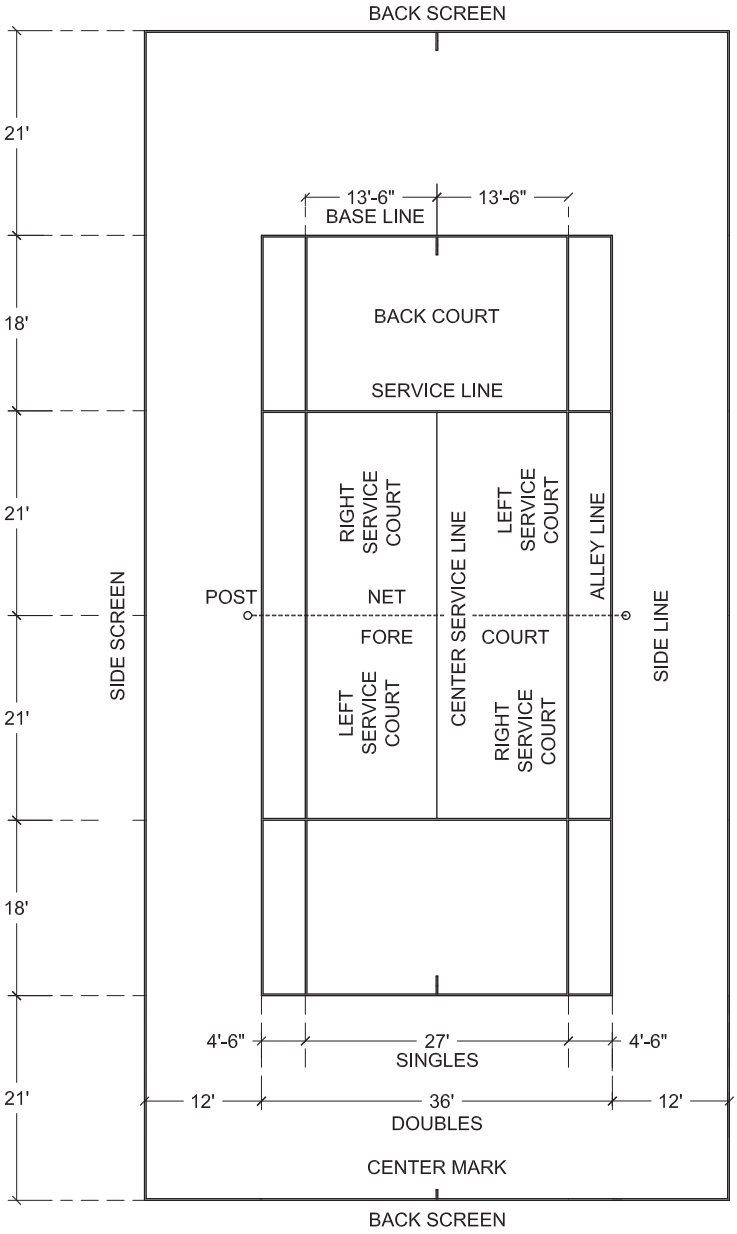


Exhibit 26: Tennis Court - Standard Layout

Table 7: Standard Court Dimensions and Acreage for Tennis Courts

Sport	Court Dimensions	Minimum Acreage
Tennis Court	78'x 36'	0.064 acres
Tennis Enclosure	120'x 60'	0.165 acres

VOLLEYBALL COURTS

The table below lists common dimensions and areas for volleyball courts. A diagram of a typical volleyball court is provided to the right.

- Volleyball courts can be concrete, sand or grass. The volleyball surface shall be determined by the project facility program.
- If sand is specified, provide 20-30 mesh silica sand.
- If sand is specified affix court-boundary nylon cords to sub-grade anchors.
- When placed side by side, volleyball courts they shall be a minimum of ten feet (10') apart and a minimum of fifteen feet (15') apart when placed end to end.
- A standard sand volleyball court is thirty feet (30') by sixty feet (60'), with the sand area fifty feet (50') by eighty feet (80') feet. A twelve foot (12') wide zone beyond the sand is typically provided around the court for players to pursue the ball. The total area required is approximately 0.2 acres. Although sand depths vary, a depth between twenty-four inches (24") and forty-two inches (42") is preferred. Refer to Exhibit 27 for a diagram of a typical volleyball court.
- The fifty feet (50') by eighty feet (80') sand area shall be contained by a six inch (6") wide rubberized border.
- The twelve foot (12') zone beyond the sand area shall be turf.
- All markings on concrete playing surfaces shall be applied using a wear-resistant, colored substance. Color to be determined and approved by the Department during design.
- Provide shaded spectator seating adjacent all volleyball courts.
- Adult / teen activities such as volleyball should be located away from small children's activities.

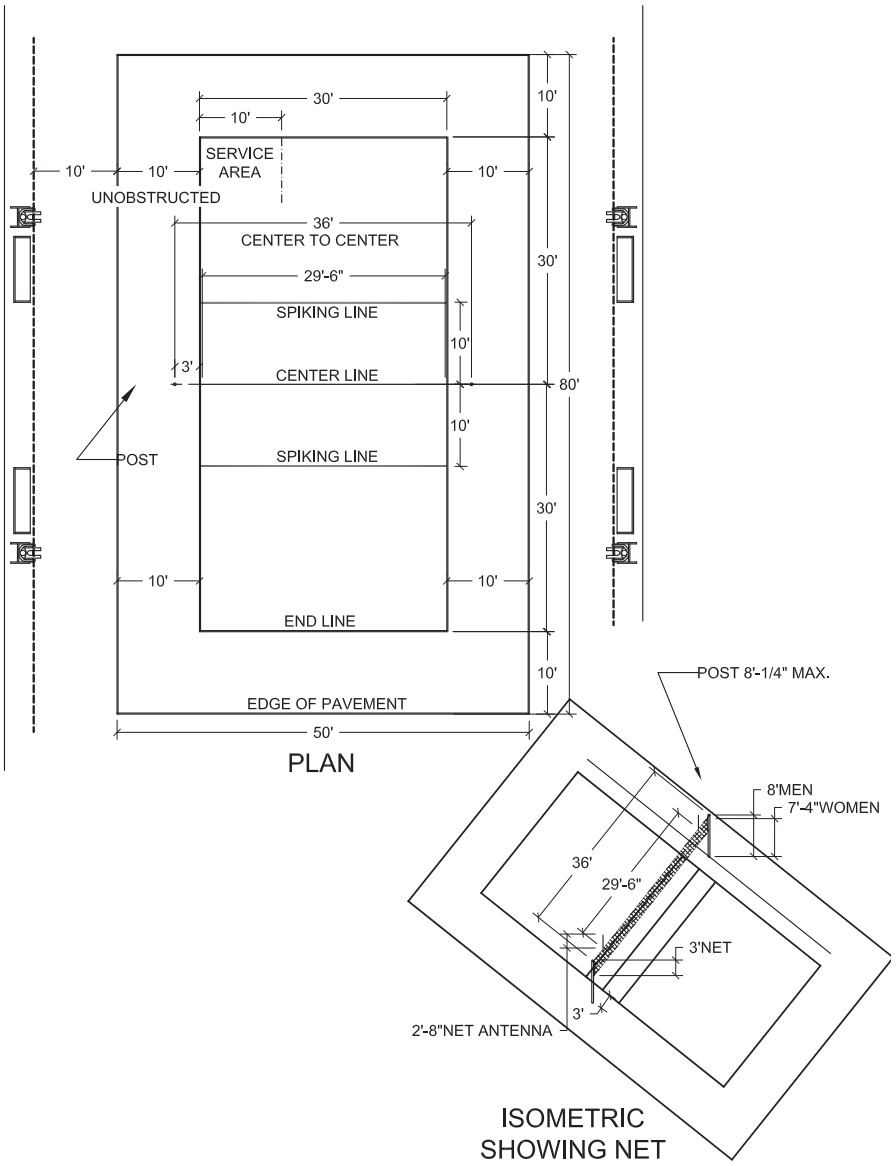


Exhibit 27: Volleyball Court - Standard Layout

Table 8: Standard Court Dimensions and Acreage for Volleyball Courts

Sport	Court Dimensions	Minimum Acreage
Volleyball	60'x 30'	0.041 acres
Volleyball Play Zone	80'x 50'	0.091 acres

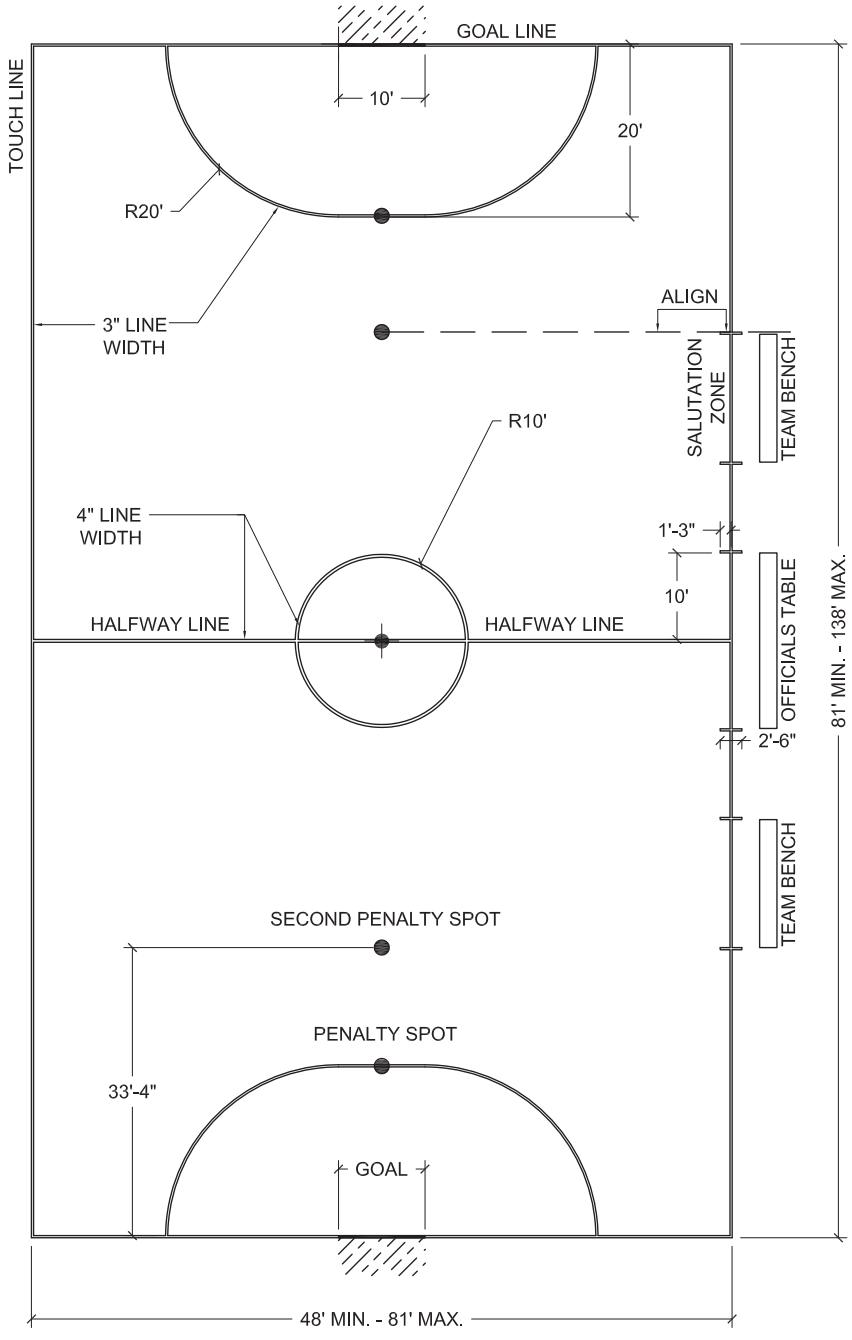


Exhibit 28: Futsal Court - Standard Layout

Table 9: Standard Court Dimensions and Acreage for Futsal Courts		
Sport	Court Dimensions	Minimum Acreage
Futsal Court	81' x 48'	0.09 acres

FUTSAL COURTS

Futsal is a variation of soccer that is played on a smaller playing surface and mainly played indoors on a hard court surface. It is frequently referred to as Five-A-Side or Mini-soccer. It is played between two teams of five players, one of whom is the goal-keeper.

The table below lists common dimensions and areas for futsal courts. A diagram of a typical futsal court is provided to the right.

- Provide hard court surface delimited by lines applied using a wear-resistant, colored substance.
- No boundary walls or boards are necessary.
- Provide court dimensions of eighty-one feet (81') by forty-eight feet (48').
- Provide two team benches and an officials table.
- Provide two goals on each end of the court.

2.5.4 Extreme Sports

There are several characteristics common to most extreme sports. They typically have a younger-than-average target demographic, are rarely sanctioned by schools, and tend to be more solitary than traditional sports. Participants in these activities compete not only against others, but also against environmental obstacles and challenges.

SKATE PARKS

There are a variety of styles of skate parks with varying degrees of difficulty inherent to skate parks. While above ground skate parks offer the convenience of installing moveable skate elements, in-ground skate parks offer greater challenge and a higher degree of flow or movement between the elements. However varied in their design, the County's skate parks shall share the following features and elements inherent to these facilities:

- A minimum of 5,000 s.f. skating area should be allocated.
- Skate elements, including complexity and degree of difficulty shall be determined by the Agency based on community needs and desires.
- Skate surfaces shall be smooth concrete with a tubular steel perimeter fence enclosing the area.
- Provide a vehicular maintenance pathway and double-gate entry for vehicular access.
- Provide shaded spectator bleachers and a drinking fountain.
- Surfaces shall slope to capture and manage storm water run-off.
- Provide sports lighting sensitive to spill-over into the surrounding neighborhood.
- Locate facility away from small children's activities.
- Provide a pedestrian path linking the skate park to the park's primary circulation path.

2.5.5 Active Recreation Amenities

To promote a healthy active lifestyles, the inclusion of non-traditional sports activities and creative recreation amenities are included in park design. These amenities have emerged as popular park amenities.

FITNESS ZONES

Fitness zones are outdoor facilities designed with kinetic exercise equipment, to promote general health by encouraging active participation on high quality outdoor equipment.

- Provide ADA accessibility into the fitness zone.
- Provide a surface material consistent with achieving ADA access to the individual exercise apparatus.
- Provide durable and vandal resistant equipment appropriate for teenagers and adults of all fitness levels.

HORSESHOE PITS

- Provide this recreation element as directed by the facility program.
- The overall length is 48' long and 6' wide, and includes The Pit, The Pitching Platform, and The Stake.
- A diagram of a typical horseshoe pit is provided below.

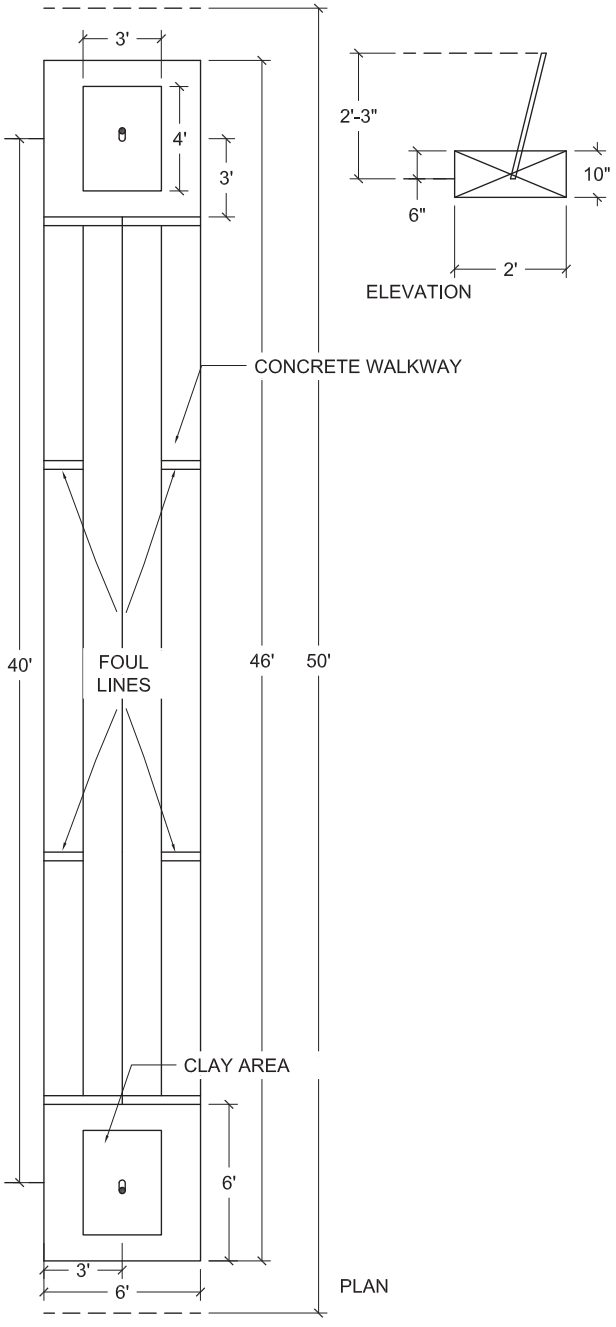


Exhibit 29: Horseshoe Pits - Standard Layout

2.5.6 Children's Play Areas

Children's play areas fall into two age group classifications: Pre-school age children of two to five (2-5) years and school age children ages five to twelve (5-12) years. Each age group category must have a distinctly different space with required separations.

Provide children's play areas as directed by the project facility program.

SPATIAL CONSIDERATIONS

- Pre-school age children play areas, often referred to as tot-lots, shall have a suggested area of 2,500 s.f., and shall be designed for pre-school age children of two to five (2-5) years of age, and have a recommended maximum deck height of forty-eight inches (48").
- School age children play areas shall have a suggested area of 5,000 s.f., and shall be designed for five to twelve (5-12) years of age and have deck heights ranging upwards of six feet (6').
- Composite play areas that serve children of both two to five (2-5) years and five to twelve (5-12) years shall be a minimum of 7,000 s.f. in size with functionally separate play structures and events.
- In single composite play areas that service children of both two to five (2-5) years and five to twelve (5-12) years, provide space and/ or a barrier to separate the two age groups and ensure that play patterns do not interfere with one another.
- Play areas should be sited with safety in mind and follow the following criteria:
  - Maintain 150' from vehicular travel or provide a forty- two to forty- eight inch (42"-48") high fence to prohibit children from running into vehicular traffic.
  - Maintain a safety buffer around all baseball / softball fields. Refer to Exhibit 30: Buffer Between Children's Play Areas and Ballfields for minimum distances.
  - Maintain one hundred feet (100') from a basketball court or provide adequate fencing.
- Play areas should include shaded seating for parental supervision such as benches under tree canopies or in close proximity to group picnic areas.
- Develop playgrounds that provide enhancement of children's total developmental needs, including physical, social, creative, reflective and tactile experiences.
- Linkage of play areas to open space is desirable.
- Develop natural barriers or features to segregate play areas from conflicting or incompatible uses.
- Provide unobstructed lines of sight between separate play areas for ease of supervision.
- Provide shade structures that are free-standing or attached to the play structures.
- Provide shade structures with steel posts, and rigid metal roofing or shade fabric.
- Provide restrooms with hot water preferably, within 100' of play area.
- Restrooms must be in a clear line of sight from play areas.
- Provide ADA compliant water fountains in close proximity to play areas.
  - Drinking fountains shall be located a minimum of twenty-five feet (25') from all play areas.
  - Drinking fountains shall be visible from play areas.
- Design facilities to permit use by the physically disabled by providing ground play opportunities, transfer points to elevated play, and either ramps with engineered wood fiber or flush installation of rubber tile surfacing.
- Scale equipment and apparatus to the size of the intended users.
- Provide irrigation quick-couplers outside the perimeter of play areas. The distance between quick couplers shall be fifty feet (50').

LAYOUT

- Provide age designation signage at the entrance of each play area that states the age appropriateness of the play equipment and recommendations for adult supervision.
- Provide an ADA compliant access ramp near the play equipment transfer deck per the Consumer Product Safety Commission (CPSC) Guidelines.

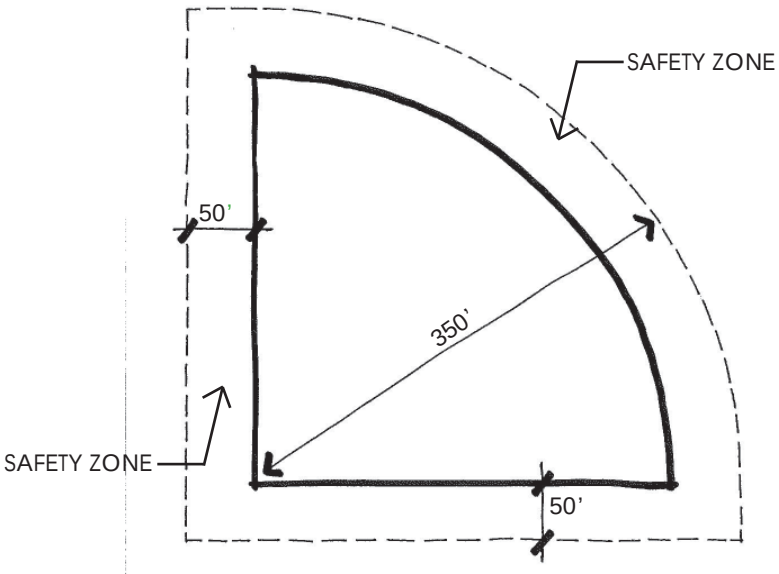


Exhibit 30: Buffer Between Children's Play Area and Ballfields

- Provide a two-inch (2") clearance between the finished surface of the engineered wood fiber or playground sand, and the top of adjacent play area curb. The preferred surfacing for fall attenuation is engineered wood fiber with a minimum depth of sixteen-inches (16").
- Orient the swing area away from the active play area to avoid conflicts in play circulation. Swings can be either visually or physically separated from the active play area.
- Provide an additional two feet (2') between the required fall zone of a play component and the play area containment edge.
- Equipment layout including fall zones must follow current CA State law AB1144 Harmon, ADA regulations, Consumer Product Safety Commission (CPSC) Guidelines, and ASTM.
- As a general rule, provide a one hundred and fifty cubic foot (150 cu. ft.) drain sump per one thousand five hundred square feet (1,500 sq. ft.) of play area surface.
- All sumps shall follow the County Standard Details, with a drain pipe connecting all sumps within the play area to a sump outside the play area.[1]
- Where possible, an overflow drain pipe shall be used to connect the drain sump outside the play area to the nearest storm drain. An alternate drainage outlet may be located through a curb to the storm drain or to a rip-rap outfall.
- All play structure footings shall be per the manufacturer's details, and are to be a minimum of eighteen inches (18") diameter by three feet (3') deep.
- Where non-standard manufacturer footings are required, the County prescribes that the volume of concrete be multiplied by one and a half, with the minimum depth to remain at three feet (3').
- All posts shall extend to the bottom of the footing with a minimum clearance of three inches (3") on all sides of concrete footing. Provide a clamp or other acceptable mechanism to anchor the post inside the footing.
- Curbs and ramps should all be as per County Standard Details.[1]

EQUIPMENT

- The Department shall approve colors of the play components.
- Playground equipment and design shall meet current U.S. Consumer Product Safety Commission (CPSC) guidelines and standards as set forth in the Handbook for Public Playground Safety, as intended by SB 2733, and updated as per AB 1144 (Harmon), and shall meet or exceed ASTM standards.
- All play equipment shall be IPEMA certified.
- Playground design shall comply with the latest requirements of ADA for public agencies, which include accessible elevated, and ground level events.
- As a rule, play equipment shall be from the standard manufacturer's equipment currently specified at County Parks. However, different equipment may be installed as directed by the facility program.
- Alternative play equipment such as climbing boulders or concrete animal sculptures may be used as directed by the facility program.
- Playground equipment components shall be specified of durable construction with:
  - Five inch (5") primary post-size minimum.
  - UV stabilized rotomold polyethylene .
  - All plastic components shall be constructed with UV inhibitors for longevity.
  - Hardware shall be of an uncommon head type or have an insert/cover for vandal deterrent purposes.
  - Ropes shall be constructed of nylon with a steel core.
- Play equipment design shall consider durability and the long-term maintenance requirements of the specific equipment, as well as the potential for vandalism and graffiti.
- All proposed play equipment is expected to be in place for a minimum of twenty (20) years.
- Wooden play equipment shall not be specified.
- Swings shall be provided as a standard element in all play areas.
- The design and equipment shall include a variety of play elements that encourage:
  - Swinging
  - Spinning
  - Hand over hand and side to side climbing
  - Balance challenges
  - Overhead activities
  - Sliding
  - Sensory development
  - Crawling
  - Imagination
  - Adventure
- The Department encourages unique innovative designs that provide increased play value, i.e. electronic play systems.
- Play area themes may be considered where the budget is not adversely affected by the introduction of custom designed elements.

1 For a copy of Play Equipment Standard Installation Details" Contact County of Los Angeles Department of Parks and Recreation Development Division Telephone number 213-639-6706

SURFACING

- The preferred surfacing for fall attenuation is engineered wood fiber with a minimum depth of sixteen inches (16”).
- Rubber tile may be used as an alternate with the stipulation that the critical fall height be increased by one foot (+/-1’)from the actual equipment requirements, and all tile in the same plat site shall be the same thickness.
- Rubber tile shall be installed over a four inch (4”) nominal slab with #4 rebar at eighteen inches (18”) on-center each direction.
- All rubber tiles shall be provided with a fifteen-year warranty (not pro-rated) to ensure the surfacing meets the required fall attenuation.
- Poured-in-place rubber surfacing will not be accepted as a play surface.
- Provide nominal 3’x 3’ rubber mats as per County Standard Details under all swings, and at all slide exits when engineered wood fiber or sand are used for the fall surface.

2.5.7 Splash Pads

All design criteria for splash pads and their associated equipment must comply with the latest standards provided by the County of Los Angeles Department of Public Health (DPH), current plumbing and electric codes, and all local jurisdictional requirements.

Design reviews for Splash Pads should include the Field Agency’s Aquatics Division in addition to the typical design review process.

SPATIAL CONSIDERATIONS

- Shade sails shall be provided over the splash pad to ensure that the surface water temperature does not get too hot. Verify heights of all water feature equipment to provide adequate clearance from shade sails.

- Shaded benches should be provided outside the splash pad for parental observation.
- A decorative fence with appropriate corrosive-resistant finish should be used around parts of the splash pad as a measure of safety.
- No sand or wood fiber play area surfacing shall be allowed within a minimum radius of:
  - One hundred feet (100’) for sand.
  - Fifty feet (50’) for wood fibar
- Care should be taken to determine wind directions and assess the possible impacts of over spray onto vegetation within the vicinity of the splash pad.
- No deciduous or pine trees shall be planted near or around the splash pad.
- The accumulation of leaf debris or grass clippings should be minimized around the splash pad, to reduce water filtration issues.
- Provide seat walls at the perimeter of the splash pad to prevent debris from reaching the pad.
  - Provide design features to discourage skateboarding on the seat walls.
  - Provide graffiti coating to all seat walls.
- Provide an ADA path of travel to the splash pad area.
- Provide ADA restrooms with warm water service in the proximity of the splash pad.
- The Splash pad surface area should be a minimum of 2,500 square feet.

DESIGN REQUIREMENTS

- Provide a combination of in-ground spray orifices and stainless steel upright equipment as sources of the spray features.
- Splash pad moving and overhead features shall be constructed of light weight fiberglass materials.
- The spray from all splash pad elements shall be restricted to the limits of the splash pad finished surface. For example: the reach of cannon arcs sprays shall be restricted to the outer edge of the splash pad.
- A minimum area of 20’ X 10’ is required for the 4,000 gallon underground water storage tank.
- A minimum area of 30’ X 30’ is re-

quired for the mechanical equipment enclosure.

- Provide a 2' wide walking clearance around entire mechanical skid.
- Provide a lockable welder's box with dimensions of 15"H x 31"W x 18"D minimum. Locate the box in the mechanical enclosure off the finish floor. If the enclosure is Contractor provided, paint the enclosure to match the mechanical enclosure.
- Pool type signage as well as emergency shut off signage are required per DPH codes.
- Provide a hedge around the Water Quality Management System (WQMS) shelter to discourage graffiti, provide sound reduction, and improve park aesthetics.

SURFACING

- Splash pad surface should be durable and non-slip with a colored pattern design.
- Where colored concrete is being used as the surface of the splash pad, the finish should be a medium broom finish.
- Provide slip-resistant surfaces on the tops of all seat walls.

EQUIPMENT

All the splash pad mechanical equipment shall be located within an enclosed shade structure and comply with the following criteria:

- One wall shall have double doors wide enough to accommodate the replacement of any mechanical equipment within the enclosure.
- All walls should provide 15% to 20% passive ventilation in the form of perforated screening.
- Allow sufficient spacing between chemical containers, and for electrical equipment per local codes and jurisdictional regulations.
- Provide lighting and adequate space for daily testing and monitoring of the system.
- Provide a concrete surface within the shelter, sloped to provide positive drainage to a sanitary sewer.
- Provide sanitary sewer/leach field a minimum of 32" below grade immediately adjacent to the Water Quality Management System (WQMS).
- Provide accessibility to all equipment and proper OSHA clearances for serviceability.
- Provide an eyewash and shower station per safety regulations.
- Provide factory maintenance and operation training, including maintenance and equipment manuals at the project turn-over to the Department.
- Operate the Water Quality Management System (WQMS) at least one week before project turn over.
- Provide 2 (two) extra filter pump screens, feature pump screens, and wye strainer screens at project turn over.
- Avoid installing the floor drain box underneath the equipment skid.

ELECTRICAL

- Provide a 100 AMP three-phase power source.
- Emergency shut off push button switch shall be provided to shut down the control panel.
- The emergency shut off button shall be accessible and covered with a clear cover installed at 48" above finish surface. Provide emergency shut off signage visible from the splash pad. Verify ADA switch height.
- Provide lighting for the mechanical equipment enclosure. The lighting switch shall be installed near the entryway column. Fixture, conduits, boxes and fittings shall be of weather tight materials and installed per code. Provide a ground fault 20 amp circuit (gfi) outlet as required by code.
- Clearances in front of panels shall be per code with panel schedules and circuitry identified.

PLUMBING

- Per Public Health Department requirements, provide tempered warm water to sinks in the nearest restroom or Comfort Station.
- Provide a 1-¼" domestic water source.
- Provide perimeter protection to the underground water storage tank and its associated plumbing with, but not limited to bollards.
- Provide Eye Wash / Drench Combination Safety Shower piping to the domestic side of the backflow device.
- Provide backflow protection from splash pad holding tank.
- Provide a pressure regulator when inlet pressure exceeds manufacturer's tank fill valve recommendations.
- Domestic water supply line to be 1-¼" iron pipe size brass or type "K" copper.
- Provide a quick coupler within 100' of the furthest edge of splash pad. Insure the quick coupler is backflow protected.
- All PVC pipe joints shall be solvent weld cement. No mechanical joints will be allowed under concrete or turf.
- Locate Chemical Vats next to the Water Quality Management System (skid) at 2-corners on the same side. If the design requires vats to be located next to the enclosure wall, provide a 1" PVC conduit with sweeps for routing of the chemical supply tubing under the concrete slab.
- Provide inlet & outlet isolation ball valves on the chemical controller water sample well. Provide UV

protected poly tubing on the skid.

- Provide support brackets where needed to eliminate pipe movement on all hard piping located on the skid. No piping shall move on start up or shut down.
- Provide a skid tool repair kit and chemical Photometer for water quality testing.
- Post a Material Safety Data Sheet (MSDS) inside the equipment enclosure.
- Provide 300 pound rated ladders in each water holding tank.
- Clean all tanks and boxes of construction debris, dirt, etc. before start up.
- WQMS feature valves shall have chloramines resistant diaphragms. Valves and solenoids shall have a 225 pound rating.

2.5.8 Passive Recreation Areas

A passive recreation area may be defined as an open, unobstructed area used for non-programmed recreation activities.

OPEN PLAY AREAS

- Where possible, passive open play areas shall remain unobstructed by trees, to support activities such as throwing a ball, a frisbee, and/or flying kites.
- Locate passive open play areas adjacent to picnic and children's play areas.
- Provide shade trees at the perimeter of open play areas.
- Provide regulatory signs that describe the permitted uses within open play areas.
- Passive open play areas shall not slope greater than 5%.

GROUP PICNIC AREAS

- Small group picnic areas shall accommodate twenty-five to fifty (25-50) people.
- Large group picnic areas shall accommodate fifty to one hundred (50-100) people.
- Provide a shade shelter for all group picnic areas.
- Provide lighting within shade shelters where indicated by the facility program.
- Provide one (1) barbecue grill for every two (2) picnic tables, or one (1) double barbecue grill for every four (4) picnic tables.
- All barbecue grills shall be ADA accessible and have a clearance of two-feet six-inches (2'-6") at each side of grill.
- Provide a counter top equipped with a sink and keyed faucet where indicated by the facility program.
- Provide a keyed quick coupler adjacent to the group picnic area to facilitate wash-down by park maintenance staff.
- Provide security fencing around group picnic areas for rental purposes, where indicated by the facility program.
- Provide signs with picnic area name or number for identification and rental purposes.
- Provide restrooms within one-hundred fifty feet (150') of group picnic areas.
- All group picnic areas shall be ADA accessible. Any exception shall have prior approval of the Department.

INDIVIDUAL PICNIC AREAS

- Provide a minimum of two picnic tables per acre for each of the first three (3) acres, then one (1) picnic table per acre thereafter.
- All individual picnic areas shall be ADA accessible. Any exception shall have prior approval of the Department.

2.5.9 Park Furnishings

On January 16, 2007, the County Board of Supervisors adopted a Countywide Policy instructing all County Departments to implement the County's Energy and Environmental Programs.

County Departments have been directed to:

- Ensure that all park furnishings are products of "Green" purchasing or Environmentally Preferable Purchasing (EPP), which effectively minimize negative environmental impacts over their life cycle.
- Purchase products that include recycled and natural materials content, are durable and long lasting, conserve energy and water, reduce greenhouse gas emissions, use unbleached or chlorine free manufacturing processes, and use wood from sustainable harvested forests.
- Reference the Green Seal[2] web site for product and service information regarding examples of EPP products.
- Ensure that Contractors and vendors are familiar with the County's initiative to purchase environmentally preferred goods, products, and services.

In addition to complying with the County's Energy and Environmental Programs:

- Provide consistency in the design character of park furnishings including park signs, light fixtures, drinking fountains, trash receptacles, benches, etc.
- All park furnishings must be securely anchored to paving or installed in footings.
- Provide skateboarding stops on edges of concrete benches and low seat walls.

PICNIC TABLES

- Picnic tables shall be a minimum of six-feet (6') long.

2 Green Seal Corporate Office 1001 Connecticut Avenue, NW Suite 827 Washington, DC 20036-5525 USA Phone: 202-872-6400 Fax: 202-872-4324Email: greenseal@greenseal.org

- Each picnic table shall be located and anchored in the center of a four-inch (4") thick reinforced concrete pad, minimum size of ten-feet by nine-feet (10' x 9').
- Provide a four-foot (4') clearance between each picnic table or other obstructions.
- All picnic tables shall be ADA compliant, and accessible from ADA path of travel. Any exception shall have prior approval of the Department.
- Picnic tables at ADA accessible locations shall have one wheelchair accessible end.

BENCHES

- Provide benches at key locations throughout the park including at the park entry, at regular intervals along the main circulation path, singular and grouped to support gathering, for viewing activities or vistas, and at recreational facilities such as organized play areas, tennis courts, etc. for supporting the visual supervision of children.
- The minimum length of a seating section shall be six-feet (6').
- Whenever possible, situate benches with back toward a wall, landscape planting, or trees to increase a sense of user security.
- Set benches back from circulation paths of travel to reduce pedestrian obstructions.
- Benches shall be located to maximize shade opportunities in the summer and sun exposure in the winter.
- Benches are required at all playgrounds and athletic courts.
- Benches shall be evenly distributed throughout the park.
- Benches shall be located adjacent to a path of travel and shall be ADA accessible with adjacent ADA companion seating as illustrated in Exhibit 31.
- Provide benches designed with a center armrest or center break to discourage patron sleeping.
- Benches can be free standing or integrated into walls or other design features.
- Benches shall be permanently installed unless otherwise instructed by the facility program.

DRINKING FOUNTAINS

- One (1) standard and one (1) ADA compliant drinking fountain shall be located outside of each restroom building.
- Drinking fountains are required near (with a clear line of sight from) athletic courts, group picnic areas, restrooms, sports facilities, and children's play areas.
- All drinking fountains located within close proximity to children's play areas shall be visible from parent seating areas.
- All drinking fountains shall be vandal resistant.
- All drinking fountains shall be ADA compliant and positioned so that pathways are not obstructed by the drinking fountain user.

BICYCLE RACKS

- Bicycle racks shall be located near park amenities accessible by vehicular roadways.

TRASH RECEPTACLES AND HOT COAL RECEPTACLES

- Provide an adequate number of trash receptacles throughout the park. At a minimum, the trash receptacles shall be located near all parking areas, at the entrances to major buildings and restrooms, playgrounds, picnic areas, spectator areas, and at active recreation areas.
- Hot coal receptacles shall be placed near all picnic areas having barbecue grills.
- Trash receptacle design shall match park furnishings, wherever feasible.
- Place all trash and hot coal receptacles on concrete pads. Concrete pads must have a twelve inch (12") unobstructed perimeter on all sides for ease of mowing.
- Provide trash and recycle bins as indicated by the facility program.

BARBECUE GRILLS

- Provide one (1) barbecue grill for every two (2) picnic tables.
- All barbecue grills at ADA acces-

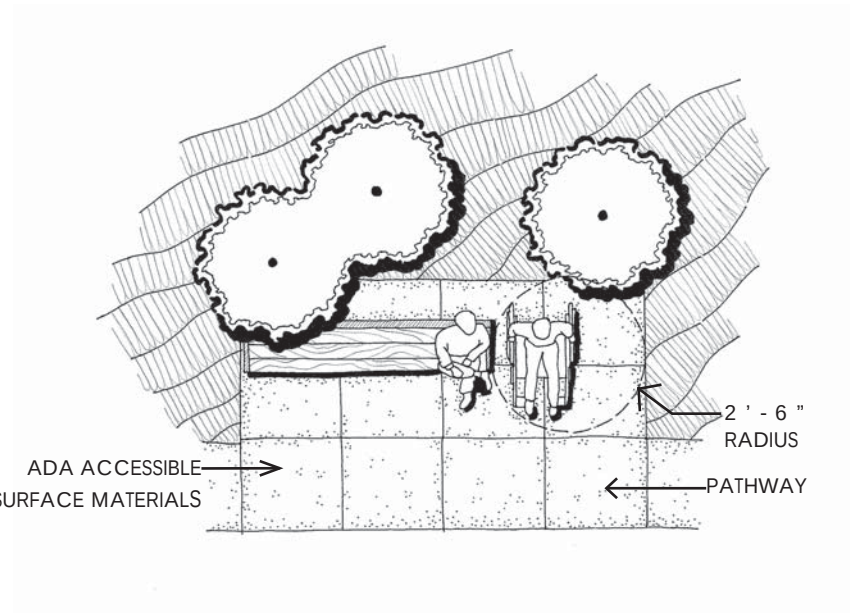


Exhibit 31: Park Bench with Adjacent ADA Companion Seating

sible sites shall be wheelchair accessible.

- Group and individual barbecue grills shall be in-ground mounted pedestal type with a side utility shelf. Firebox size shall be approximately 20" wide x 15" deep x 10" high, and is constructed with a minimum 3/16" thick steel.
- Provide built-in barbecues per the facility program.

ADDITIONAL SITE FEATURES

- Boulders may be used to define pedestrian or vehicular edges and boundaries, as well as for drainage rip-rap, and in dry stream swales.
- Boulders may also be used for casual seating, decorative effects, etc.
- Boulders shall not be placed in active recreation or open play areas, play area fall zones, and/or in any area where they would conflict with recreation activities or create a physical hazard.

PARK SIGNAGE

- Each park shall have a park identification sign at its main entry with the park facility name and appropriate County seals.
- Park identification, information, and regulatory signage shall be uniform in design and compliment the overall park design.
- Provide a park information board and/or kiosk to promote park events and activities, as indicated by the facility program.
- Provide an educational kiosk as indicated by the facility program.
- Signage shall be kept to the minimum sizes necessary to clearly direct and inform the park users.
- Any graphic/interpretive element displays with narrative information shall be located where best viewed by a seated individual, and the written information shall also be provided in brail.

PARK DUMPSTERS

- Locate dumpsters away from park users, to minimize offensive odors.
- Provide a level access approach, and a minimum ten-feet by twelve feet (10' x 12') concrete pad for each dumpster.
- All dumpster pads must be positioned to allow the trash truck to approach the containers head on. Ensure that the turning radius, truck length, and angle of approach are adequate.
- Maintain a twelve foot (12') wide opening to the enclosure, and provide gate stops to secure the gates in an open position.
- Provide a securable and gated enclosure around the dumpster pad. Maintain a ten foot by 12 foot (10' x 12') clearance within the enclosure.
- Dumpster pads shall be positioned with their long axis perpendicular to the vehicular truck access.

FENCING

- For new park projects, refer to the project facility program for fencing types and their proposed locations.
- For park refurbishment projects, new fencing shall match existing park fencing unless otherwise specified in the facility program.
- Provide a one foot (1') wide concrete mow strip under all tubular steel and chain link fencing placed in landscaped areas.

2.6 Landscaping

Water conservation is an important focus in the development of park landscapes. These guidelines address water conservation through the use of drought tolerant plant materials and the design of efficient irrigation systems.

The Appendix of this document includes three plant lists:

- Preferred Plant List - Potable Water
- Preferred Plant List - Recycled Water
- Do Not Use Plant List

The Preferred Plant Lists consist of drought tolerant plant material known to perform well in a park environment. This list may be augmented by the designer to achieve the water conservation and design objectives of each park project. The use of plants beyond those included on the Preferred Plant List will be reviewed for suitability by County Staff during the design review process.

The Do Not Use Plant List consists of plant material considered inappropriate for County parkland. These plants may be invasive, short lived, delicate, require intensive maintanance or a strong attractant to bees. The use of plants on this list will not be allowed.

2.6.1 Planted Areas

DESIGN CONSIDERATIONS

- Landscape designs must be sensitive and appropriate for the project site to minimize disruption to existing plant habitats. Use climate appropriate drought tolerant plants to support the design intent. Planting designs should incorporate biodiversity, and water conservation.
- Use only non-invasive plants that are nursery grown or legally harvested.
- Select plant materials that promote and support the regional identity to the park location.
- Park designs may include low maintenance naturalized areas with either a four inch (4") layer of mulch, decomposed granite paved areas planted with native trees, or a combination thereof.
- Natural and naturalized areas may accommodate passive recreation activities such as picnicking, biking, nature trails with interpretive signage and rest areas, or similar activities.

- Naturally occurring landscape features including tree groves, dry streambeds, rock features, and earth forms are desirable design elements in new park designs, and enhance the natural character of the site. These features shall be protected if they are existing.
- California Native species should be used in parks having the following natural settings: special use sites and corridors, graded slopes in environmentally sensitive areas, riparian areas, wetland and watershed rehabilitation areas, wildlife habitat restoration areas, post-fire rehabilitation areas, and demonstration gardens.
- Preserve all oak trees, native sycamores and other trees designated as natural resources by local, County, State or Federal entities.
- Use plant materials and trees around buildings to create microclimates, lower energy consumption, and reduce costs associated with indoor energy needs.
- To reduce the amount of radiant heat generated from the reflection of hardscape surfaces (urban heat island effect), provide trees or vegetated structures to shade walkways, roofs, or parking lots.
- Medium canopy trees with non-invasive roots shall be specified for areas adjacent to paved circulation paths and parking, to provide shade, reduce heat build-up, and minimize glare.
- Locate vegetated bio-swales outside of active recreation areas to achieve stormwater management goals for the park site.
- Foundation planting may be incorporated where planted areas occur adjacent to buildings. These areas may include raised or in-ground planters.
- Control and remove invasive plant species to minimize damage to local plant ecosystems.
- Mitigate potential fire hazards in designated fire threatened areas per County Standards.
- When designing planting areas adjacent to public streets, design consideration should be given to compliment the existing planting design within the right-of-way, to maintain design continuity.
- Shrubs should be selected and located with consideration for their function and size at full maturity to minimize pruning, and maintain the natural characteristics of the selected shrubs.
- Provide a two inch (2") layer of organic mulch (free of weed seed) to all planted areas.
- In areas where security is an issue, visibility into and out from the park should remain unobstructed by landscape plant materials.
- Planter areas shall be planted with low maintenance, drought tolerant, hardy plants.
- To support security and visual surveillance, shrubs planted along property line fences should not grow above eight feet (8') high, while shrubs planted in open areas should not grow over four feet (4') high.
- Turf types that require less mowing and water shall be selected. Plant all sunny open turf areas and recreation fields with warm season hybrid bermuda grasses.
- Turf areas shall be graded no steeper than a 5:1 slope for easy mowing.
- Separate planted areas from turf areas with a six inch (6") wide poured-in-place concrete mow strip, unless otherwise directed by the facility program.
- Trees planted in turf areas adjacent to the street shall be set back a minimum of six feet (6') from the curb face.
- Trees planted five feet (5') or less from hardscape surfaces require root barrier protection. The root barrier shall be placed adjacent and parallel to the hardscape, and span a minimum of five feet (5') in both directions along the pathway from the center of the tree.
- A combination of dense landscaping, screen walls, berming and/or mounding may be used to screen service, loading, maintenance and storage areas, trash enclosures, utility cabinets, and

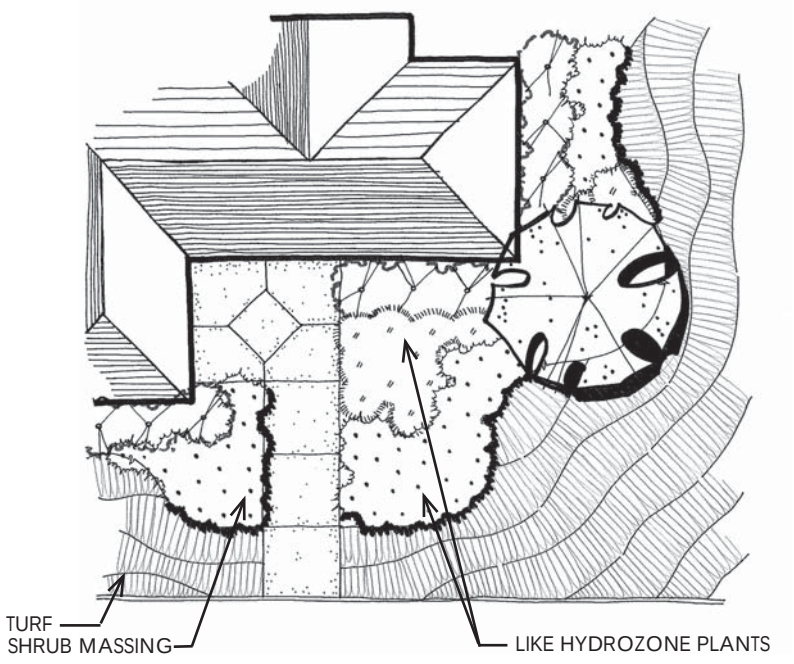


Exhibit 32: Building Foundation Planting Example

other similar elements.

- All designs shall identify the most appropriate areas to include shrubs and ground cover plantings, to maximize water conservation. To accomplish this, a Parkland Activity Use Analysis is a useful tool for determining which areas are the most suitable for shrubs and ground covers. Exhibit 33 illustrates an example of a Parkland Activity Use Analysis. This analysis identifies:

1. Active Sports Areas (turf required)
2. Passive Recreation Areas (turf typically required)
3. Potential Planted Areas (remaining non-pedestrian areas suitable for planted areas)

PLANT MATERIAL

Lists of preferred plant materials for use in County Parks have been provided in the Appendix of this document. These lists have been developed as a design aid and may be augmented by the designer to achieve the water conservation and design objectives for the park.

- Prior to developing a Planting Plan verify the approximate date that the existing or new park is expected to be connected to a recycled water mainline. This information can be obtained from the Department's Planning and Development Agency[3].
- If the park is more than two (2) years away from connection to recycled water, the Potable Water Plant List will assist the designer in preparing an appropriate plant palette.
- If the park is within two (2) years of connection to recycled water, the Recycled Water Plant List will assist the designer in preparing a successful plant palette.
- Group plant materials with similar water requirements into common hydrozones.
- Do not use invasive plant materials. Reference the "Do Not Use Plant List" located in the appendices for invasive plant species listed for your park site location. For further information reference the "California Invasive Plant Council Invasive Plant Inventory" at Cal-IPC.org[4]
- Do not use plants that require greater than moderate water usage as defined in Water Use Classification of Landscape Species list (WUCOLS III) as referenced in "A Guide to Estimating Irrigation Water Needs of Landscape Plantings in California" (WUCOLS III) [5].
- All planting designs shall achieve the water conservation requirements of the "Water-Efficient Landscape Ordinance" For a copy of the County's Ordinance contact Land Development Division Los Angeles County Department of Public Works Phone: (626) 458-4921Fax: (626) 458-4949

POTABLE WATER PLANT MATERIALS

The plant materials list included in the appendix consists of drought tolerant and low to moderate water-use plants that are appropriate to use in County facilities. The preferred plant materials (indicated with an X) are hardy. If the park is irrigated with recycled water, cross reference the plant palette with the Recycled Water Plant Materials List.

PLANT MATERIALS TOLERANT OF RECYCLED WATER

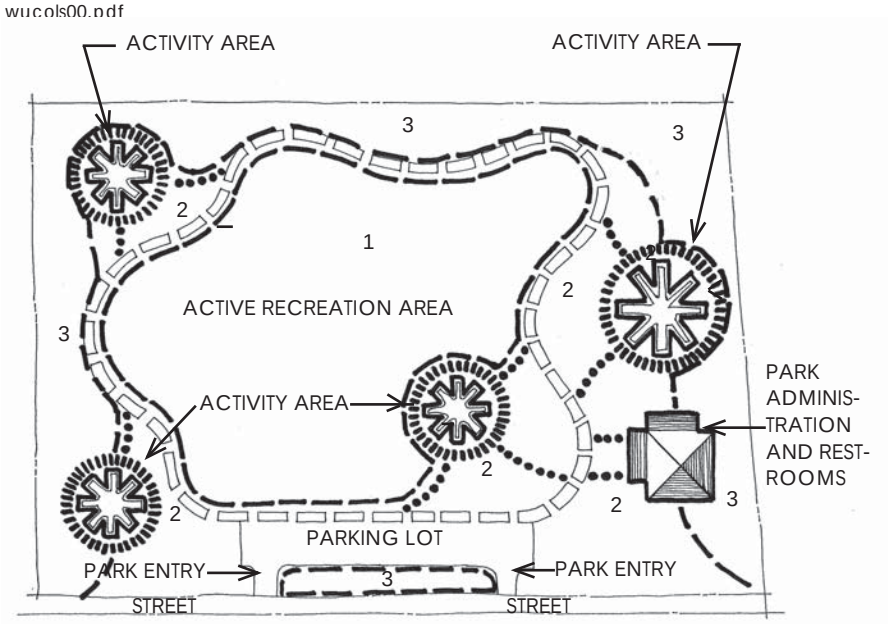
For landscapes irrigated with water having high levels of salinity, an integral element for evaluating biological criteria will include assessing the plant material species for their tolerances to salinity. Investigate the salinity-related parameters of your landscape's irrigation water and soil. Reference the "Salinity Management Guide,"[6] and "Salt Management Guide for Landscape Irrigation with Recycled Water in Coastal Southern California a Comprehensive Literature Review"

3 Department of Parks and Recreation Planning and Development Agency: (213) 639-6706

4 http://www.cal-ipc.org

5 http://www.owue.water.ca.gov/docs/wucols00.pdf

6 The "Salinity Management Guide" is available on an interactive, user friendly CD-ROM. For a complimentary copy of the CD please contact Tammy Russo at trusso@nwri-usa.org



Legend

1. Active Sports Areas (turf required)
2. Passive Recreation Areas (turf typically required)
3. Potential Planted Areas (remaining non-pedestrian areas suitable for planted areas)

Exhibit 33: Parkland Activity Use Analysis Example

[7]. Evaluate the soil salinity parameters by:

- Obtaining salinity-related parameters for irrigation water, by either requesting a report from the water jurisdictional agency serving the park, or submitting water samples to a commercial analytical laboratory, and by;
- Collecting soil samples from the subject landscape and submitting them to a commercial soil analysis laboratory, along with analytical information received from the water provider.

Submit all laboratory recommendations with the construction documentation package.

PLAN REQUIREMENTS

- Provide a list of plant materials proposed for the project. The plant legend must include the following information:

1. Plant symbol for trees, shrubs, groundcovers and vines
2. Genus and common name
3. Container size
4. Quantity
5. WUCOLS III regional plant water needs

The planting plan shall also include a Hydrozone Table (see Table 10). This table must include the following information:

1. Hydrozone Number (in relationship to the hydrozones in the Planting Plan). Identify all hydrozones by a heavy dashed line and numeric hydrozone labeling system.
2. Water Needs and Plant Factor (as defined by WUCOLS III)
3. Square footage of each hydrozone area
4. Irrigation valve numbers
5. Gallons per minute for each hydrozone

Mature existing trees are significant community resources due to their cultural, aesthetic, or historic relevance. To preserve these resources, a tree protection zone must be included on all demolition, construction or grading plans and implemented during construction.

2.6.2 Irrigation

The Department of Parks and Recreation must comply with California Code of Regulations Title 23. Waters Division 2. Department of Water Resources Chapter 2.7. Model Water Efficient Landscape Ordinance. [8] This ordinance shall apply to the following projects:

- New construction and rehabilitated landscapes for public agency projects with a landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check, and/or design review;
- All existing landscapes installed before January 1, 2010, with a dedicated or mixed-use water meter, and having an area of one (1) acre or more, including golf courses, green belts, common areas, parks, and publicly owned landscapes; and
- All existing landscapes installed before January 1, 2010, without a water meter, and one (1) acre or greater in area.

NEW IRRIGATION SYSTEMS

Design Considerations

- The irrigation system shall be designed to prevent runoff, drainage from low head, over spray, and other similar inefficient conditions where irrigation water flows onto non-targeted areas, such as adjacent properties, non-irrigated areas, paved areas, roadways or structures.
- Irrigation head spacing shall be designed to provide 120% coverage and shall not be farther than the maximum design radius for the specified nozzle.
- All irrigation systems shall be designed to allow for summer-peak water amounts to be applied between the hours of 10 p.m. and 6 a.m. Daytime watering shall be limited to seed germination, plant establishment, and turf renovation.
- The irrigation system shall be designed to ensure the dynamic pressure at each irrigation head is within the manufacturer's recommended pressure range for optimal performance.
- When designing a new irrigation system for an existing park the static water pressure, dynamic or operating pressure, and the water supply flow rate shall be measured at the point of connection by the water purveyor. This information shall be obtained during the design phase and shall also be field verified by the Contractor prior to installation.

7 http://www.salinitymanagement.org/

8 http://www.owue.water.ca.gov/landscape/ord/updatedOrd.cfm/

Table 10: Sample Hydrozone Table

Hydrozone	Water Needs	WUCOLS III Plant Factor	Square footage	Irrigation Valve Number	GPM
1	VL (Very Low)	.2	1200	1	40
2	L (Low)	.3	1565	3	36
3	M (Medium)	.5	2570	4	22
4	M (Medium)	.6	1225	2	25

- Relevant information such as soil type and infiltration rate shall be determined and referenced when designing irrigation systems.
- The design of the irrigation system shall conform to the hydrozones delineated on the landscape planting plan.
- The irrigation system must be designed and installed to meet the irrigation efficiency criteria as described in the Model Water Efficient Landscape Ordinance regarding the Maximum Applied Water Allowance Section 492.4.[9]
- Contact the local water purveyor for peak water operating demands on the water supply system, or water restrictions that may impact the efficiency of the irrigation system.
- In mulched planting areas, the use of low volume irrigation shall be required to maximize water infiltration into the root zone.
- Narrow or irregularly shaped areas including turf areas less than eight feet (8') in width, shall be irrigated with a low volume irrigation system.
- Overhead irrigation shall not be permitted within 24 inches of any non-permeable surface.
- Where there is turf allowable irrigation within the setback from non-permeable surfaces is subsurface drip line,
- In planting areas allowable irrigation within the setback from non-permeable is low volume bubblers
- The surfacing of the setback may be mulch, gravel, or other porous material with no irrigation. These restrictions may be modified if:
    - The landscape area is adjacent to permeable surfacing and no runoff occurs; or
    - The adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping.
- Slopes greater than twenty-five percent (25%) shall not be irrigated with an irrigation system having a precipitation rate exceeding 0.75 inches per hour. This restriction may be modified if the landscape designer specifies an alternative design or technology, and clearly demonstrates that no runoff or erosion will occur.
- Trees shall be placed on irrigation control valves separate from shrubs and groundcovers and be irrigated by a "Root Watering System".
- No additional irrigation is required for trees planted in turf areas.
- Individual hydrozones that mix high, moderate or low water-use plants shall not be permitted.
- No drip irrigation shall be permitted except as noted.

Equipment

- All new irrigation systems shall include the following components:
    - Dedicated Irrigation Water Meter
    - Reduced Pressure BackFlow Prevention device
    - Flow Sensor
    - Master Valve
    - Booster Pump (where necessary)
    - Pressure Regulator (where necessary)
    - Manual Control Valves (shut-off valves)
    - Weather Based Irrigation Controller
    - Sensors (rain, freeze, wind, etc)
    - Remote Control Valves
    - Spray Heads and Bubblers for Shrub Areas
    - Triple Swing Joints in Turf Areas
    - Double Swing Joints in Planting Areas
    - Check Valves
    - Quick Couplers
    - Pipes and Fittings

The design criteria for the aforementioned equipment is described as follows:

- Water Meter - If a park has a water meter specifically dedicated to the landscape irrigation system, water bills can be examined to evaluate if water use is less than

Table 11: Conforming Irrigation Watering Schedule

Month	Weekly ETo	Valve #1 (Plant Factor - 0.2) Cycles per week - 3	Valve #2 (Plant Factor - 0.5) Cycles per week - 3	Valve #3 (Plant Factor - 0.3) Cycles per week - 3
		Min. per cycle below	Min. per cycle below	Min. per cycle below
Jan	.51	4	8	5
Feb	.63	4	10	6
Mar	.86	5	13	8
Apr	1.09	7	17	10
May	1.28	8	20	12
Jun	1.35	8	21	13
Jul	1.44	9	22	14
Aug	1.37	9	21	13
Sep	1.16	7	18	11
Oct	.9	6	14	9
Nov	.6	4	9	6
Dec	.44	3	7	4

9 http://www.water.ca.gov/wateruseefficiency/docs/MWELO09-10-09.pdf

the Maximum Applied Water Allowance (MAWA).

- Reduced Pressure BackFlow Prevention Device - This device shall be included on all irrigation systems.
- Flow Sensors - The installation of flow sensors which detect and report high water flow conditions are recommended.
- Master Valve is installed at the point where the irrigation system connects to the water supply and is wired to a special "master valve circuit" on the irrigation controller. If a leak should occur or a valve does not close, the master valve will shut off the water to the system.
- Booster Pump / Pressure Regulator- If the static water pressure is above or below the required dynamic water pressure of the irrigation system, pressure-regulating devices such as in line pressure regulators, booster pumps or other devices shall be installed to meet the required dynamic pressure of the irrigation system.
- Pressure Regulator (where necessary) - An inline regulators is used to maintain the desired water pressure and is necessary when there is pressure fluctuation that will damage the system.
- Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be required and located along the mainline, to create isolated repair zones and to minimize water loss in case of an emergency (such as a main line break) or routine repair.
- Smart Controller - All County park irrigation systems shall be installed with weather based irrigation controllers. Controller installations shall be by a certified installer.
- Sensors (rain, freeze, wind, etc.)- Sensors, either integral or auxiliary, that suspend or alter irrigation operation during unfavorable weather conditions shall be required on all irrigation systems, as appropriate for local climatic conditions.
- Remote Control Valves - Each remote control valve shall irrigate a hydrozone with similar site, slope, sun exposure and soil conditions, as well as plant materials with similar water requirements.
- Spray Heads - Spray heads and other emission devices shall have matched precipitation rates, unless otherwise directed by the manufacturer's recommendations. These devices shall be selected based on what is appropriate for the plant type and their sizes at maturity within a specified hydrozone.
- Bubblers - The use of low volume bubbler irrigation systems is encouraged for shrub and groundcover plantings. All low volume irrigation shall be installed with double swing joints on risers.
- Double Swing Joints - All spray heads adjacent to high pedestrian traffic areas shall be equipped with double swing joints or other riser and pop-up head protection components.
- Check Valves- Check valves or anti-drain valves shall be required at all low points in the irrigation system. Check valves shall also be used for all slope irrigation systems.
- Quick Couplers - Provide irrigation quick-couplers outside the perimeter of play areas. The distance between quick couplers shall be a maximum of fifty feet (50'). Provide quick couplers as directed by the facility program.
- Pipes and Fittings - Upstream of remote control valves (main lines): For pipe sizes up to and including 1-1/2" pipe, use Schedule 40 PVC or Schedule 80 for exposed pipes such as fixed risers. For 2" pipe up to and including 4" pipe use Class 315 PVC or Schedule 80 PVC. Downstream of remote control valves (lateral lines): For pipe sizes up to and including 1-1/2" pipe use Schedule 40 PVC pipe. For 2" size and larger use Class 315 PVC pipe. Use Schedule 80 PVC pipe for sleeves.

PLAN REQUIREMENTS

- The Irrigation Plan shall include a complete twelve (12) month "Conforming Irrigation Watering Schedule" . This schedule must include the following information:

1. Number of watering days per week (# of Cycles)
2. Minutes per cycle per valve, the amount of minutes shall be based on the following three (3) items:
   - The entire precipitation rate of each valve
   - The evapotranspiration (ETo) of the project's location - this information is found in the Model Water Efficient Landscape Ordinance
   - The Plant factor found in WUCOLS

(see Conforming Irrigation Watering Schedule example on Table 11)

2.7 Stormwater Management

2.7.1 Grading and Drainage

- New and existing park projects must comply with state, county and local (if applicable) regulations, codes, and ordinances pertaining to Stormwater Management.
- Avoid water sheet flow over sidewalks or walking paths.
- Minimize impervious surfaces where possible.
- Design the topography of park sites to minimize grading and reduce soil disturbance.
- Park site shall be designed to balance soil cut and fill where fea-

sible.

- Manufactured sediment traps (e.g. gabion cages, grass barriers, ornamental rock check dams, and raised curbs) shall be used to intercept stormwater runoff caring silt and other debris from landscape areas to drainage devices.
- Grade all planted or turf areas at a minimum slope of two percent (2%).
- Avoid grading turfed slopes steeper than the maximum mowing slope of 5:1.
- Crown playing fields including baseball, softball, and soccer fields a minimum of two percent (2%).
- Hard court surfaces shall be graded at one percent (1%).
- Include level areas for formal or informal spectator seating adjacent to the athletic field sidelines.
- Gradients shall not exceed a two percent (2%) cross slope on walkways.
- Do not exceed 20:1 or five percent (5 %) longitudinal slope gradient on walks.
- All walkways exceeding a slope gradient of 20:1 or five percent (5 %) slope shall be provided with handrails per ADA regulations and the California Title 24 Building Code.
- Ensure compliance with ADA and California Title 24 Building Code (Title 24).
- Place on-site stormwater devices in areas outside of active recreation use areas.

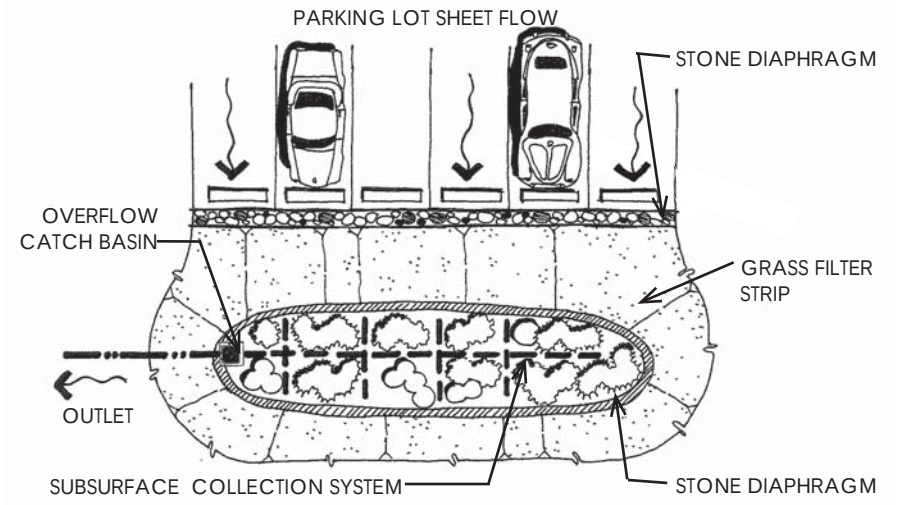


Exhibit 34: Bioretention with Drainage System

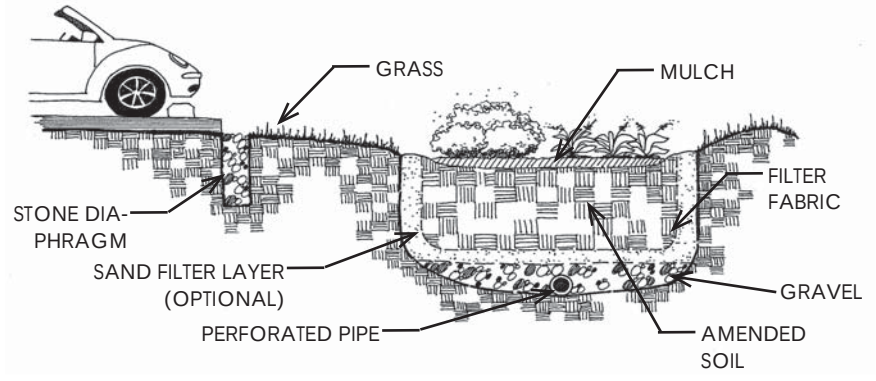


Exhibit 35: Bio-retention with drainage system.

Parking lot run-off is directed toward a filter strip and pretreated prior to infiltration.

- As a general rule, provide a 150 cubic foot drain sump per 1,500 square feet of play area surface.
- All play area sumps shall follow the County Standard Details, with a drain pipe connecting all sumps within the play area to a sump outside the play area.
- Where feasible, an overflow drain pipe shall be used to connect the play area drain sump outside the play area to the nearest storm drain. An alternate drainage outlet may be routed through the play area curb,to the storm drain or to a rip-rap outfall.
- All drainage drop inlets shall be concrete boxes furnished with metal grate covers.
- Do not locate drain inlets or clean outs within or immediately adjacent to playing fields.
- Do not use drop inlets smaller than sixteen inches (16") square or diameter for landscape areas, and twenty-four inches (24") minimum for all other areas.
- Incorporate the following decorative LID BMPs, where feasible:
  - Bioretention Area
  - Dry Stream Beds
  - Vegetated Buffers
  - Vegetated Swales
  - Porous Pavers
  - Planter Boxes

2.7.2 LID Site Design Strategies

- Low impact development (LID)[10] is an approach to stormwater management that emphasizes the use of small scale, natural drainage features integrated throughout the park site to slow, clean, infiltrate and capture urban runoff and precipitation, thus reducing water pollution, replenishing local aquifers and increasing water reuse.[11]

10 http://www.huduser.org/Publications/PDF/practLowImpctDevel.pdf

11 "Low Impact Development: Technical

- LID strategies shall be implemented and incorporated at the earliest possible stage of a project. This approach is an integral part of the design and layout of the site. Good LID site design takes advantage of the services provided by the site's natural systems. The natural systems that LID seeks to preserve and even restore are an undeveloped site's hydrologic functions, vegetation, and soils. LID site planning and design practices approach stormwater as a resource that shall be conserved. In undisturbed landscapes, storm drainage is typically handled by vegetation canopy, ground cover plants, soil absorption, and streams and waterways. In a modified landscape, storm drainage must be added to mitigate result of adding non-permeable surfaces and structures.
- All projects must comply with the County of Los Angeles Green Building Ordinance - Low Impact Development Manual[12]

PARKING LOT DRAINAGE

For new parking lot and road construction all run-off shall be directed toward a pretreatment and infiltration LID Best Management Practice (BMP). See exhibits 34, 35 and 36 for examples of Bioretention Areas.

Guidance Manual for Puget Sound," p.1. January 2005. Accessed on 8/5/08, www.psp.wa.gov/downloads/LID/LID_manual2005.pdf

12 http://dpw.lacounty.gov/wmd/LA_County_LID_Manual.pdf

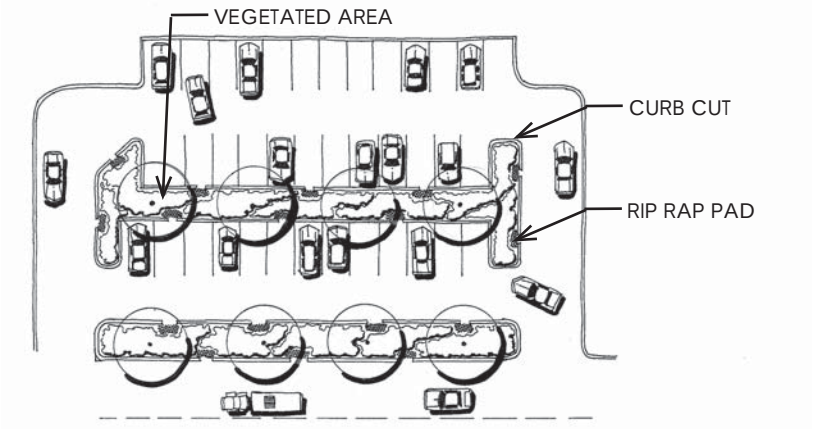


Exhibit 36: Curbed Parking with Lot Bio-retention

2.8 Utilities

In an effort to reduce the use of non-renewable energy in our park sites the County of Los Angeles Department of Parks and Recreation is committed to using solar technology, LED or both in all new park buildings, parking lots, security lighting, and recreation facility lighting.

2.8.1 New Electrical and Lighting Utility Design

- Electrical design for park facilities shall comply with the current adopted edition of all applicable city, county, state, federal codes and standards.
- The design shall provide for the efficient use of energy through proper equipment selection and system controls.
- Oversize electrical panel by 30% for future expansion.
- Power, telephone and lighting panels shall not protrude into any aisles or corridors. No panels shall be installed in fire corridors unless panels are mounted in closets with fire rated doors.
- Lighting and appliance panel boards must have no fewer than one spare circuit breaker for every five active circuits.
- All exterior receptacles must have rainproof enclosures with lockable cover.
- All parking lot and walkway poles shall be thirty feet (30') in height.
- Light poles must be on concrete bases. Top of concrete base must be no less than thirty-six inches (36") in height measured from finish surface or grade, and have a minimum two percent (2%) pitch away from pole center.
- Provide an in-ground concrete junction box within five feet (5') of each light. (Not applicable to solar lighting.
- Provide time programmable switches with battery backup device for all exterior lights.
- Provide interior restroom movement sensors (adjustable by field agency) for all restroom lighting systems.

2.8.2 Security Lighting

- Use solar lighting wherever possible.
- Exterior security lighting shall be provided for all new projects at the following County Park venues:
  - Parking Lots
  - Restroom Buildings
  - Primary circulation routes
- Use high efficiency lighting with low cut off angles and downlighting.
- Use reflective-type lighting fixtures to reduce or eliminate glare.
- Allow no direct-beam exterior lighting at the property line.

2.8.3 Recreational Field Lighting

- Ballfield lighting shall be provided as specified in the project facility program.
- Fixtures shall use reflector shield systems to reduce off-field light spill.
- All light pole standards within or near a playing area that are not protected by a fence shall have six foot (6') high pole pads.

2.8.4 HVAC

- HVAC sizing shall be based on facility requirements, as determined during the initial mechanical design phase.

2.8.5 Telecommunication Systems

- Telecommunication systems in park facility buildings shall include computer internet access and multiple telephone lines, based on Departmental requirements as described in the facility program.

2.8.6 Smoke/Fire Detection Systems

- Follow all governing agency codes and requirements for proper smoke and fire detection systems.
- Provide an fire alarm system with a central alarm panel near the lobby in all new buildings.
- Provide a smoke detection system, cross zoned and interlocked to shut down ventilation systems and dampers as required. Alarms shall transmit signal to the central alarm panel.
- Provide a heat sensor on the discharge side of air handlers. Two (2) smoke sensors are required in the supply duct, and two (2) smoke sensors are required in the return duct to shut down unit and transmit an alarm to the local Fire Department.
- Provide water flow alarms, one (1) for each sprinkler riser, installed and connected to the central alarm panel.
- For kitchens that serve the public refer to the County of Los Angeles Environmental Health “Retail Construction Guidelines[13] for all codes and design requirements.

13 http://publichealth.lacounty.gov/eh/docs/GUIDELINES%20RETAIL%20CONSTRUCTION%20REQUIRMENTS.pdf

Park Design Standards 3

3.0 Chapter Introduction

The Park Design Standards will provide specific information regarding the Department's preferences for:

- Construction Materials, Furnishings and Standard Details
- Plant Materials and Standard Details
- Irrigation Materials and Standard Details

The Park Design Standards Chapter will be developed as Phase 2 of the Park Design Guidelines and Standards document.

Appendices

Appendices

- Plant Regions and Categories
- Preffered Plant List - Potable Water
- Preffered Plant List - Recycled Water
- Do Not Use - Plant List
- County of Los Angeles Parkland Standards and Classifications
- References and Resources

Plant Regions and Categories

The following information is an excerpt from the Water Use Classification of Landscape Species (WUCOLS III) list found in the publication: A Guide to Estimating Irrigation Water Needs of Landscape Plantings in California. This information has been included to assist in understanding the Preferred Potable Water and Preferred Recycled Water Plant List to follow. The park designer is expected to reference the Guide to Estimating Irrigation Water Needs of Landscape Plantings in California document when preparing planting plans for park projects, to estimate the water requirements of the plants specified. For plant suitability to a particular climate zone the designer should reference California climate zones as described in the University of California Publication, 3328, Generalized Plant Climate Zones of California and Sunset Western Garden Book.

REGIONS

Since there are substantially different climate zones in California, species are evaluated for six (6) regions which represent different climatic conditions.

Region 1 - North-Central Coastal (California Climate Zones 14, 15, 16 and 17)

Concord	Napa	San Francisco
Cupertino	Novato	San Jose
Healdsburg	Oakland	San Luis Obispo
Livermore	Petaluma	Santa Cruz
Los Altos Hills	Salinas	Santa Rosa

Region 2 - Central Valley (California Climate Zones 8, 9 and 14)

Auburn	Los Banos	Redding	Visalia
Bakersfield	Marysville	Roseville	
Chico	Merced	Sacramento	
Colinga	Modesto	Stockton	
Fresno	Red Bluff	Tracy	

Region 3 - South Coastal (California Climate Zones 22, 23 and 24)

Anaheim	Laguna Beach	Oxnard	Santa Monica
Camarillo	La Mesa	Santa Ana	Ventura
Fallbrook	Long Beach	Santa Barbara	Vista
Fullerton	Los Angeles	San Diego	Whittier
Irvine	Mission Viejo	San Juan Capistrano	

Region 4 - South Inland Valleys and Foothills (California Climate Zones 18, 19, 20 and 21)

Altadena	El Monte	Perris	San Fernando
Azusa	Escondido	Pomona	Santa Paula
Chino	Hemet	Ramona	Sun City
Corona	Ojai	Riverside	Thousand Oaks
Covina	Pasadena	San Bernardino	Van Nuys

Region 5 - High and Intermediate Desert (California Climate Zone 11)

Apple Valley	Gorman	Mojave	Victorville
Barstow	Independence	Olancha	
Bishop	Joshua Tree	Palmdale	
Boulder City	Lancaster	Pear Blossom	
China Lake	Lone Pine	Tehachapi	

Region 6 - Low Desert (California Climate Zone 13)

Borrego Springs	Desert Hot Springs	Jacumba	Thermal
Blythe	Death Valley	Needles	
Brawley	El Centro	Palm Desert	
Coachella	Indian Wells	Palm Springs	
Desert Center	Indio	Rancho Mirage	

CATEGORIES OF WATER NEEDS

Plant species are evaluated as needing High, Moderate, Low, and Very Low amounts of irrigation water. Expressed as a percentage of reference evapotranspiration (ETo), these categories are quantitatively defined as follows:

High (H)	=	70% - 90% ETo
Moderate (M)	=	40% - 60% ETo
Low (L)	=	10% - 30% ETo
Very Low (VL)	=	<10% ETo
-	=	Inappropriate
?	=	Unknown

Preferred Plant List - Potable Water

Botanical Name	Common Name	Regional Evaluation				Notes
		3	4	5	6	
TREES						
Acacia cognata	Bower Wattle	M	M	-	-	Drought Tolerant / Can be short lived
Acacia pendula	Weeping Acacia	M	M	-	L	Drought Tolerant / Can be short lived
Acacia stenophylla Shoe	Shoestring Acacia	L	L	-	L	Drought Tolerant / Can be short lived
Arbutus unedo	Strawberry Tree	L	L	M	M	
Calocedrus Decurrens (aka Libocedrus)	Incense Cedar	M	M	M	-	California native Drought Tolerant
Cedrus atlantica 'glauca'*	Blue Atlas Cedar	L	M	M	M	Drought Tolerant
Cedrus deodara	Deodar Cedar	L	M	M	M	
Cercis canadensis	Eastern Redbud	M	M	-	-	Drought Tolerant
Cercis occidentalis	Western Redbud	L	L	-	-	California native / Drought Tolerant
Cinnamomum camphora	Camphor Tree	M	M	-	M	Drought Tolerant
Cornus nuttallii	Western Dogwood	-	M	-	-	California native / Drought Tolerant
Fraxinus oxycarpa 'Raywood'	Raywood Ash	M	M	M	-	Invasive roots
Geijera parviflora	Australian Willow	L	M	M	M	Drought Tolerant
Ginko biloba	Maidenhair Tree	M	M	M	?	Male variety only
Ilex vomitoria	Yaupon	L	L	M	M	
Jacaranda mimosifolia	Jacaranda	M	M	-	M	
Lagerstroemia indica*	Crepe Myrtle	M	M	M	M	Striking bark
Laurus nobilis	Sweet Bay	L	L	M	M	Drought Tolerant / Culinary bay leaf
Leptospermum laevigatum -	Australian Tea Tree	L	L	-	-	Drought Tolerant
Ligustrum lucidum*	Glossy Privet	M	M	M	M	Reseeds
Lophostemon confertus	Brisbane Box	M	M	-	-	Drought Tolerant
Magnoila grandiflora	Evergreen Magnolia	M	M	-	H	White flower
Melaleuca linariifolia	Flax Leaf Paperbark	L	L	-	-	
Melaleuca quinquenervia	Punk Tree	M	M	-	M	Drought Tolerant
Melaleuca styphelioides	Prickly-leaved Paperbark	L	M	-	M	Drought Tolerant
Metrosideros excelsa	New Zealand Christmas Tree	M	M	-	-	Drought Tolerant
Picea breweriana	Weeping Spruce	?	?	?	?	California native
Pinus canariensis	Canary Island Pine	L	M	M	M	
Pinus halapensis	Aleppo Pine	L	L	L	L	
Pistachia chinensis	Chinese Pistache	M	M	M	M	Drought Tolerant
Pittosporum sp.	various	?	?	-	?	Drought Tolerant / Sensitive to severe frost / Water requirements vary - refer to WUCOLS III
Platanus acerifolia	London Plane Tree Sycamore	M	M	H	H	
Platanus racemosa	California sycamore	M	M	H	H	Drought Tolerant
Podocarpus gracilior	Fern Pine	M	M	?	M	Drought Tolerant
Prunus cerasifera 'atropur-purea'	Purple Leaf Plum	M	M	M	M	
Prunus ilicifolia	Hollyleaf Cherry	VL	VL	-	-	Drought Tolerant / California native
Quercus agrifolia	Coast Live Oak	L	L	-	M	Drought Tolerant / California Native

Botanical Name	Common Name	Regional Evaluation				Notes
		3	4	5	6	
Quercus ilex	Holly Oak	L	L	M	M	Drought Tolerant
Quercus tomentella	Island Oak	L	-	-	-	Drought Tolerant / California Native
Quercus suber	Cork Oak	L	L	L	L	Source of cork
Quercus various varieties	Deciduous and Evergreen	?	?	?	?	Drought Tolerant / Water requirements vary - refer to WUCOLS III
Umbellularia californica	California Bay	M	M	-	-	Drought Tolerant
SHRUBS / PERENNIALS						
Abelia floribunda	Mexican Abelia	M	M	-	-	
Abelia x grandiflora	Glossy Abelia	M	M	-	-	
Adenanthos sp.	NCN	?	?	?	?	Drought Tolerant
Anisodontea sp.	Cape Mallow	M	M	-	M	Drought Tolerant
Arctostaphylos sp	Manzanita	L	L	-	-	Drought Tolerant / County native
Artemisia sp.	Sagebrush/Wormwood	L	L	L	L	Drought Tolerant
Bougainvillea sp.	Bougainvillea	L	L	-	M	Drought Tolerant
Buxus microphylla japonica	Japanese Boxwood	M	M	M	M	
Carissa macrocarpa various varieties	Natal Plum	M	M	-	M	Drought Tolerant / Fruiting shrub
Ceanothus gloriosus	Pt. Reyes Ceanothus	VL	L	L	-	Drought Tolerant / California native
Ceanothus griseus	Carmel Creeper	VL	L	L	-	Drought Tolerant / California native
Ceanothus cultivars	Wild Lilac	L	L	L	-	California native
Cercis canadensis	Forest pansy	M	M	-	-	
Cercis occidentalis	Western Redbud	L	L	-	-	California native
Chaenomeles sp	Flowering Quince	M	M	L	M	Many varieties
Coleonema sp.	Breath of Heaven	M	M	-	-	Drought Tolerant
Correa sp.	Australian Fuchsia	L	L	-	M	Drought Tolerant
Dianella tasmanica	Blueberry	M	M	-	?	Drought Tolerant
Dietes sp.	Fortnite Lily	M	M	-	M	Drought Tolerant
Dodonea viscose 'purpurea'*	Purple Hopseed Bush	L	M	-	M	Drought Tolerant / Sensitive to severe frost
Escallonia various varieties	No Common Name	M	M	-	M	Wide variety of sizes
Euonymous fortunei and cultivars	No Common Name	M	M	M	-	
Euryops pectinatus	Bush Daisy	L	L	M	M	Drought Tolerant / Dark green or grey green foliage
Garrya elliptica	Coast Silktassel	L	M	-	-	California native
Heteromeles arbutifolia	Toyon	L	L	-	-	Drought Tolerant / California native
Lavandula angutifolia	English Lavender	L	L	M	M	
Lavandula stoechas	Spanish Lavender	L	L	M	M	Drought Tolerant
Lavatera assurgentiflora	Tree Mallow	L	L	-	M	Drought Tolerant / California Native
Leptospermum scoparium	New Zealand Tea Tree	M	M	-	-	Drought Tolerant / Sensitive to severe frost
Mahonia aquifolium	Oregon Grape	M	M	M	M	Drought Tolerant / California native
Myrtus communis	Common Myrtle	L	M	M	M	Drought Tolerant
Nandina domestica	Heavenly Bamboo	L	M	M	M	Drought Tolerant / Many varieties; not a bamboo

Botanical Name	Common Name	Regional Evaluation				Notes
		3	4	5	6	
Phormium tenax and cultivars	New Zealand Flax	L	M	-	M	Drought Tolerant
Photinia fraserii	Photinia	M	M	M	M	
Pinus mugo	Mugo Pine	-	M	M	-	Drought Tolerant
Pittosporum various varieties	various	?	?	?	?	Water requirements vary - refer to WUCOLS III
Rhamnus alaternus	Italian Buckthorn	L	M	-	-	Drought Tolerant
Rhamnus californica	California Coffee Berry	VL	L	-	M	Drought Tolerant / California native
Rhaphiolepis indica and cultivars*	Yeddo	M	M	M	M	
Ribes sanguineum var. glutinosum	Red Flowering Currant Hawthorne	L	M	-	-	Drought Tolerant / California native
Rosa sp.	Rose	M	M	H	H	Many varieties
Rosmarinus officinalis* & cultivars	Rosemary	L	L	M	M	Drought Tolerant / Prostrate and upright forms
Salvia leucantha	Mexican Sage	L	L	-	M	Drought Tolerant
Westringia fruticosa	Coast Rosemary	L	L	-	M	Drought Tolerant
Xylosma congestum	Shiny Xylosma	M	M	M	M	
GROUNDCOVERS AND VINES						
Acacia redolens “Low Boy”	Low Boy Acacia	L	L	L	L	Drought Tolerant / Can be short lived
Aptenia cordifolia	No Common Name	L	L	-	H	Drought Tolerant
Arctostaphylos densiflora	Vine Hill Manzanita	L	L	-	-	Drought Tolerant
Arctostaphylos uva-ursi	Bearberry	L	L	-	-	Drought Tolerant / California native
Bougainvillea spectabillis	Bougainvillea	L	L	-	M	Drought Tolerant
Baccharis pilularis	Dwarf Coyote Bush	L	L	-	-	Drought Tolerant / California native
Cotoneaster sp. groundcover	Cotoneaster	M	M	M	M	Drought Tolerant
Dymondia margaretae	No Common Name	L	L	-	-	
Gazania sp.	Gazania	M	M	M	M	
Juniperus sp.	various	L	M	M	M	Drought Tolerant / Many varieties
Lantana montevidensis and cultivars	Lantana	L	L	-	M	Drought Tolerant
Myoporum parvifolium ‘prostratum’ and cultivars	Prostrate Myoporum	L	L	-	M	Plant in non-traffic areas
Santolina chamaecyparisus	Lavender Cotton	L	L	L	L	Drought Tolerant
Senecio mandraliscae	No Common Name	L	M	-	-	Drought Tolerant
Thymus serphyllum and other varieties	Creeping Thyme	M	M	M	M	Drought Tolerant
Rosa banksiae	Lady Banks Rose	M	M	M	M	
PERENNIALS, ORNAMENTAL GRASSES AND FERNS						
Acanthus mollis	Bear’s Breach	M	M	-	M	
Achillea sp.	Yarrow	?	?	?	?	Drought Tolerant / California native / Water requirements vary - refer to WUCOLS III
Agapanthus africanus	Lily of the Nile	M	M	-	M	Drought Tolerant
Aqulegia sp.	Columbine	M	M	M	M	Drought Tolerant / California native / Can be short lived

Botanical Name	Common Name	Regional Evaluation				Notes
		3	4	5	6	
Armeria maritima	Sea Thrift	M	M	M	M	Drought Tolerant / California native
Centuarea cineraria	Dusty Miller	M	M	-	M	Drought Tolerant
Erigeron karvinskianus	Fleebane	M	M	M	M	Drought Tolerant
Eschscholzia californiaca	California Poppy	L	L	L	L	Drought Tolerant / California native
Fescue glauca	Blue Fescue	M	M	M	M	Drought Tolerant
Gaillardia x grandiflora	Blanket Flower	M	M	M	M	
Hemerocalis sp	Day Lily	M	M	M	M	Many varieties
Heuchera sanquinea	Corral Bells	M	M	M	M	California native
Penstemon wild sp.	Penstemon	L	L	L	L	Drought Tolerant / California native
Polystichum munitum	Western Sword Fern	M	H	-	H	California native
Sedum sp.	Stonecrop	L	L	L	L	Drought Tolerant
Stachys byzantina	Lamb's Ears	M	M	-	M	Drought Tolerant
Tulbaghia violacea	Society Garlic	M	M	-	M	Sensitive to frost
Zauschneria californica (aka Epilobium)	California Fuchsia	VL	L	M	M	Drought Tolerant / California native; many varieties

Preferred Plant List - Recycled Water

The following plant materials list consists of drought tolerant, low water use plants that are appropriate to use in the County of Los Angeles, and are the preferred plant material to use for recycled water.

Botanical Name	Common Name	Regional Evaluation				Notes
		3	4	5	6	
TREES						
Acacia greggii *	Catclaw Acacia *	L	L	L	L	Drought Tolerant / California native / Can be short lived
Acer buergerianum	Trident Maple	M	-	-	-	
Acer campestre	Hedge Maple	?	?	-	-	
Arbutus unedo	Strawberry Tree	L	L	M	M	
Butia capitata	Pindo Palm	L	L	L	L	
Casuarina cunninghamiana	River She-Oak	L	L	M	M	
Casuarina stricta	Beefwood	L	L	M	M	Drought Tolerant
Cedrus deodara	Deodar Cedar	L	M	M	M	Drought Tolerant
Cercis occidentalis	Western Redbud	L	L	-	-	Drought Tolerant / California native
Cercocarpus betuloides	Hardtack - Mountain Mohogany	VL	VL	VL	-	Drought Tolerant / California native
Cordyline indivisa	Blue Dracaena	?	?	?	?	Drought Tolerant
Cupressocyparis X leylandi	Leyland Cypress	M	-	M	M	
Cupressus sempervirens	Italian Cypress	L	L	M	M	Drought Tolerant
Jacaranda acutifolia	Jacaranda	M	M	-	M	Drought Tolerant
Juniperus californica	California Juniper	L	L	L	L	Drought Tolerant / California native
Melaleuca spp.	Melaleuca	?	?	-	?	Drought Tolerant
Metrosideros excelsa	New Zealand Christmas Tree	M	M	-	-	Drought Tolerant
Phoenix dactylifera	Date Palm	L	L	M	M	
Pinus cembroides	Mexican Pinon Pine	?	?	?	?	Drought Tolerant
Platanus racemosa	California Sycamore	M	M	H	H	Drought Tolerant / California native
Prunus ilicifolia	Hollyleaf Cherry	VL	VL	-	-	California native
Prunus lyonii	Catalina Cherry	L	L	-	-	California native
Quercus agrifolia	Coast Live Oak	L	L	-	M	Drought Tolerant / California native
Quercus rubra	Northern Red Oak	-	M	-	-	Drought Tolerant
Quercus virginiana	Southern Live Oak	M	M	M	M	Drought Tolerant / California native
Sophora japonica	Japanese Pagoda Tree	M	M	M	M	
Ziziphus jujuba	Jujube, Chinese Date	L	M	M	M	
SHRUBS / PERENNIALS						
Acacia redolens	Redolen Acacia	L	L	L	L	Drought Tolerant / California native

Botanical Name	Common Name	Regional Evaluation				Notes
		3	4	5	6	
Agave spp.	Agave	L	L	-	L	Drought Tolerant / Sensitive to severe frost Agave attenuata is limited to region 3
Aloe spp.	Aloe	L	L	-	L	Sensitive to severe frost
Artemisia pycnocephala	Sandhill Sage	L	L	L	L	Drought Tolerant / California native
Buxus japonica	Japanese Boxwood	M	M	M	M	Drought Tolerant
Carissa macrocarpa	Natal Plum	M	M	-	M	Drought Tolerant
Ceanothus gloriosus	Pt. Reyes Ceanothus	VL	L	L	-	Drought Tolerant / California native
Ceanothus thrysiflorus	Blue Blossom	VL	L	L	L	Drought Tolerant / California native
Coleonema spp.	Breath of Heaven	M	M	-	-	Drought Tolerant
Dietes irioides	Fortnight Lily	M	M	-	M	Drought Tolerant
Eriogonum fasiculatum	California Buckwheat	VL	L	L	L	Drought Tolerant / California native
Escallonia rubra	Escallonia	M	M	-	M	
Euonymus japonica	Evergreen Euonymus	M	M	M	M	
Fremontia californicum	California Flannel Bush	VL	L	-	-	Drought Tolerant / California native
Heteromeles arbutifolia	Toyon	L	L	-	-	Drought Tolerant / California native
Isomeris arborea	Bladderpod	?	?	?	?	Drought Tolerant / California native
Juniperus virginiana “Skyrocket”	Skyrocket Juniper	L	M	M	M	Drought Tolerant
Lavatera assurgentiflora	Tree Mallow	L	L	-	M	Drought Tolerant / California native
Leucophyllum frutescens	Texas Ranger	L	L	L	L	Drought Tolerant
Leucophyta brownii	Cushion Bush	?	?	-	-	
Myoporum parvifolium	Myoporum	L	L	-	M	Drought Tolerant / Many forms
Myrtus communis	Tree Myrtle	L	M	M	M	Drought Tolerant
Rhamnus californica	Coffeeberry	VL	L	-	M	Drought Tolerant / California native
Rhapiolepis indica	Indian Hawthorn	M	M	M	M	Drought Tolerant once established
Rhus spp.	Sumac	?	?	?	?	Drought Tolerant / California native- Sensitive to severe frost / Water requirements vary - refer to WUCOLS III
Rosmarinus officinalis	Rosemary	L	L	M	M	Drought Tolerant
Senna (Cassia) artemisioides	Feathery Cassia	L	L	L	L	Drought Tolerant / Sensitive to severe frost
Simmondsia chinensis	Jojoba	VL	VL	L	L	Drought Tolerant / California native- Sensitive to severe frost
Yucca aloifolia	Spanish Bayonet	L	L	L	L	Drought Tolerant / Sensitive to severe frost
GROUNDCOVERS AND VINES						

Botanical Name	Common Name	Regional Evaluation				Notes
		3	4	5	6	
Baccharis spp.	Coyote Brush/Desert Broom	L	L	-	-	Drought Tolerant / California native
Bougainvillea spectabilis	Bougainvillea	L	L	-	M	Drought Tolerant / Sensitive to severe frost
Gazania spp.	Gazania	M	M	M	M	Drought Tolerant
Lonicera hildebrandiana	Giant Honeysuckle	M	M	M	M	Drought Tolerant
Oenothera speciosa	Evening Primrose	L	L	M	M	Drought Tolerant / Dies quickly of root rot if overwatered
Plumbago auriculata	Cape Plumbago	M	M	-	M	Drought Tolerant
Portulaca grandiflora	Rose Moss	?	?	?	?	Drought Tolerant
PERENNIALS, ORNAMENTAL GRASSES AND FERNS						
Bromus carinatus	California Brome	?	?	-	?	Drought Tolerant / California native
Deschampsia elongata	Slender Hairgrass	L	L	-	-	Drought Tolerant
Drosanthemum hispidum	Rose Iceplant	L	L	-	L	Drought Tolerant
Elymus glaucus	Blue Wildrye	L	L	M	M	Drought Tolerant / California native
Festuca californica	California Fescue	M	M	M	M	California native
Muhlenbergia rigens	Deer Grass	L	M	M	M	Susceptible to fungi
Sporobolus airoides	Alkali Sakaton	?	?	?	L	California native
Stipa pulchra	Purple Needlegrass	VL	L	L	L	California native
Zoysia tenuifolia	Zoysia Grass	M	M	M	M	

Do Not Use - Plant List

The following list consists of plant material we consider inappropriate for our parkland. These plants may be invasive[1], short lived, delicate, require intensive maintenance or a strong attractant to bees. Do not use the plants listed.

Acacia dealbata - Silver Wattle

Acacia cyclops - Western Coastal Wattle

Acacia dealbata - Silver Wattle

Acacia decurrens - Green Wattle

Acacia longifolia - Golden Wattle

Acacia melanoxylon - Black Acacia, Blackwood Acacia

Acacia paradoxa - Kangaroothorn

Agrostis avenacea - Pacific Bentgrass

Agrostis stolonifera - Creeping Bentgrass

Albizia lophantha - Plume Acacia

Asparagus asparagoides - Bridal Creeper

Asparagus asparagoides - Bridal Creeper

Atriplex semibaccata - Australian Saltbush

Bellis Perennis - English Daisy

Bromus sp. - Brome (Bromus carinatus - California Brome is acceptable)

Callistemon citrinus - Crimson Bottlebrush

Callistemon viminalis - Weeping Bottlebrush

Carpobrotus sp. - Iceplant

Centaurea sp. - Knapweed / Starthistle

Chrysanthemum coronarium - Crown Daisy

Cirsium sp. - Thistle

Cistus ladanifergum - Rockrose

Convolvulus arvensisfield - Bindweed

Cortaderia Selloana - Pampasgrass

Cotoneaster Lacteus - Parney's Cotoneaster

Cotoneaster Pannosus - Silverleaf Cotoneaster

Crocosmia X crocosmiiflora - Montbretia

Cynodon dactylon - Bermudagrass

Cytisus sp. - Broom

Digitalis purpurea - Foxglove

Dimorphotheca sinuate - African Daisy

Dipsacus sp. - Teasel

Echium candicans - Pride-Of-Madeira

Elaeagnus Angustifolia - Russian-Olive

Erodium sp. - Filaree

Eucalyptus camaldulensis - Red Gum

Eucalyptus globulus - Tasmanian Blue Gum

Euphorbia sp. - Spurge

Festuca arundinacea - Tall Fescue

Ficus carica - Edible Fig

Foeniculum vulgare - Fennel

Fraxinus uhdei - Tropical Ash

Fraxinus velutina 'Modesto' - Velvet Ash

Genista Monspessulana - French Broom

Geranium sp. - Geranium

Grevillea robusta - Silk Oak

Hedera helix, H. canariensis - English Ivy, Algerian Ivy

Helichrysum petiolare - Licoriceplant

Hypericum sp. - Hypericum

Iris Pseudacorus - Yellowflag Iris

Leucanthemum Vulgare - Ox-Eye Daisy

Linaria sp.- Toadflax

Lobularia maritima - Sweet Alyssum

Lolium multiflorum - Italian Ryegrass

Lotus corniculatus - Birdsfoot Trefoil

Ludwigia sp. - Primrose

Myoporum laetum - Myoporum

Myosotis latifolia - Common Forget-Me-Not

Nerium oleander - Oleander

Nicotiana Glauca - Tree Tobacco

Olea Europaea - Olive

Onopordum Acanthium - Scotch Thistle

Oxalis sp. - Clover

Parkinsonia aculeate - Mexican Palo Verde

Pennisetum clandestinum - Kikuyugrass

Pennisetum setaceum - Crimson Fountaingrass

Phoenix canariensis - Canary Island Date Palm

Picea pungens glauca - Blue Spruce

Poa Pratensis - Kentucky Bluegrass

Populus fremontii - Western cottonwood

Prunus Cerasifera - Cherry Plum

Pyracantha sp - Firethorn

Pyrus calleryana - Callery Pear

Pyrus kawakamii - Evergreen Pear

Ranunculus Repens - Creeping Buttercup

Retama monosperma - Bridal Broom

Robinia pseudoacacia - Black Locust

Schinus molle - California Peppertree

Schinus terebinthifolius - Brazilian Peppertree

Solanum elaeagnifolium - Silverleaf Nightshade

Spartium junceum - Spanish broom

Spartium junceum - Spanish Broom

Vinca minor - Periwinkle

Washingtonia robusta - Mexican Fan Palm

Zantedeschia aethiopica - Calla Lily

1 For more information refer to the publication "The California Invasive Plant Inventory" by the California Invasive Plant Council (Cal-IPC) http://www.cal-ipc.org/ip/inventory/index.php

County of Los Angeles Parkland Standards and Classifications from County Draft and General Plan

To be used as a reference by Field Agencies in preparing Facility Programs

LOCAL PARK SYSTEM				
FACILITY	ACRES PER THOUSAND POPULATION	SUGGESTED ACREAGE*	SERVICE AREA	TYPICAL PARK FEATURES / AMENITIES
Community Park	4 / 1,000	10 - 20 acres	1 - 2 mile	Passive Park Amenities including but not limited to: informal open play areas, children's play apparatus, family and group picnic areas with overhead shelters, barbecues Active Sports Activities including but not limited to: lighted sports fields, basketball courts and tennis courts Additional amenities may include: aquatics complex, skate park, arena soccer, rollerhockey, community gardens and dog parks Park Facilities including but not limited to: public restrooms, concession building, community buildings, maintenance building and on-site parking and informational kiosks
Neighborhood Park	4 / 1,000	3 - 10 acres	1/2 mile	Passive Park Amenities including but not limited to: informal open play areas, children's play apparatus, family picnic areas with overhead shelters, barbecues Active Sports Activities including but not limited to: practice sports fields, basketball, tennis and volleyball courts Park Facilities including but not limited to: public restroom, on-site parking and informational kiosk
Pocket Park	4 / 1,000	less than 3 acres	1/4 mile	Passive Park Amenities including but not limited to: picnic areas and seating areas Active Park Amenities including but not limited to: children's play apparatus
Park Node	4 / 1,000	1/4 acre or less	no service radius area	Varies - can include: plazas, rest areas, playgrounds, landmarks and public art installations
REGIONAL PARK SYSTEM				
FACILITY	ACRES PER THOUSAND POPULATION	SUGGESTED ACREAGE*	SERVICE AREA	TYPICAL PARK FEATURES / AMENITIES
Community Regional Park	6 / 1,000	20 - 100 acres	up to 20 miles	Passive Park Amenities including but not limited to: informal open play areas, children's play apparatus, family and group picnic areas with overhead shelters and barbecues Active Sports Activities including but not limited to: lighted sports fields, basketball courts and tennis courts Additional features may include one or more of the following features: multiple sports facilities, aquatics center, fishing lake, community building and gymnasium and outstanding views and vistas. Park Facilities including but not limited to: public restrooms, concession building, maintenance building, informational kiosks and on-site parking
Regional Park	6 / 1,000	greater than 100 acres	25+ acres	Passive Park Amenities including but not limited to: group picnic areas with overhead shelters and barbecues Additional amenities may include one or more of the following features: lakes, wetlands, auditoriums, water bodies and campgrounds, water bodies for swimming, fishing and boating, and sports fields
Special Use Facility	6 / 1,000	no size criteria	no assigned service radius area	Generally single purpose facilities. Uses can include passive features such as: wilderness parks, nature preserves, botanical gardens and nature centers Active uses can include: performing arts, water parks, aquatic facilities, skate parks, golf driving ranges and golf courses

*Actual park acreage is determined based on land availability and community needs and demands.

8.15.09

References and Resources

SECURITY AND SAFETY

Crime Prevention Through Environmental Design, Second Edition by *Timothy Crowe M.S. Criminology - Florida State University, NCPI*

21st Century Security and CPTED: Designing for Critical Infrastructure Protection and Crime Prevention by Randall I. Atlas

SUSTAINABLE SITE DESIGN

"The Sustainable Sites Initiative" *http://www.sustainablesites.org/*

"Green Building and Sustainability Guidelines for the County of Los Angeles 2008 Edition" *http://planning.lacounty.gov/green*

US Green Building Council and LEED Standards *http://www.usgbc.org/DisplayPage.aspx?CategoryID=19*

County of Los Angeles Low Impact Development Standards Manual January 2009 *http://dpw.lacounty.gov/wmd/LA_County_LID_Manual.pdf*

PLAYGROUNDS

"Handbook for Public Playground Safety" U.S. Consumer Product Safety Commission, Washington, DC 20207

"Standard Consumer Safety Performance Specification for Playground Equipment for Public Use" ASTM International Designation: F 1487

SALT TOLERANT PLANT MATERIAL

Salt Management Guide for Landscape Irrigation with Recycled Waterin Coastal Southern California

By Kenneth Tanji[1], Stephen Grattan[2], Catherine Grieve[3], Ali Harivandi[4], Larry Rollins[5], David Shaw[6], Bahman Sheikh[7], and Lin Wu[8]

INVASIVE PLANT MATERIAL

California Invasive Plant Council (Cal-IPC) - *http://www.cal-ipc.org/*

California Weed Science Society (CWSS) - http://www.cwss.org/

Weed Research and Information Center (WeedRIC) - *http://wric.ucdavis.edu/*

Weed Science Society of America (WSSA) - *http://www.wssa.net/*

Western Society of Weed Science (WSWS) - *http://www.wsweed-science.org/*

STORMWATER MANAGEMENT

Watershed Management Division Los Angeles County Department of Public Works Watershed section) *http://dpw.lacounty.gov/wmd/LA_County_LID_Manual.pdf*

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2 Stephen Grattan, University of California Cooperative Extension specialist in plant-water relations, Department of Land, Air, and Water Resources, University of California–Davis;
3 Catherine Grieve, Research leader/supervisory plant physiologist specializing in salt tolerance of plants, U.S. Riverside, California Department of Agriculture—Agricultural Research Service, U.S. Salinity Laboratory;
4 Ali Harivandi, University of California Cooperative Extension environmental horticulture advisor in turfgrass,soils, and water, Alameda County, California';
5 LarryRollins, Technical writer specializing in hydrology and geology, Davis, California ;
6 David Shaw, University of California Cooperative Extension advisor in landscape, turfgrass, and Christmas tree industry, San Diego County, California;
7 Bahman Sheikh, Water reuse specialist, independent consultant, San Francisco, California ;
8 Lin Wu Professor emeritus in environmental horticulture, salt tolerance of native and landscape plants, Department of Environmental Horticulture, University of California–Davis