

# CITY OF ALBUQUERQUE PARKS AND RECREATION DEPARTMENT DESIGN GUIDELINES

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# INTRODUCTION

## i. Mission Statement

Parks, open space, streetscapes, medians and trails make up the green infrastructure of the City of Albuquerque. This living network supports the numerous activities and functions that allow our city to flourish in the desert.

The social benefits are inestimable: health and mental refreshment through physical activity, games, playgrounds and sports; festivals, gatherings and concerts; opportunities for hiking and biking; the beauty and cool shade of tree canopy and vegetation.

The community likewise receives abundant environmental rewards from our investment in green spaces: infiltration of water through this extensive system to help clean water and recharge both the aquifer and the Rio Grande; absorption and dissipation of stormwater; cooling the urban heat island effect; providing habitat for the complex ecosystem that characterizes a major riparian zone within the desert.

We at Parks and Recreation are proud to foster the growth and health of these important spaces. We strive to continuously improve the lives of our city residents by creating places that fulfill multiple natural functions while creating environments that not only consider the health, welfare and safety of the users, but that are also universally accessible, appeal to every age and ability, use water responsibly, are maintenance friendly, meet the growing and changing recreational needs of the population, and are aesthetically pleasing and reflect the unique characteristics of our beautiful location.

## ii. Design and Review Process for City Parks

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The process described below is the typical sequence of reviews conducted with the City of Albuquerque Parks and Recreation Department project manager and the consultant. This process encompasses the majority of projects and will serve as a general framework for providing direction regarding the specifics of the design and construction documents. The outline below is the basic format and can be adapted as needed for special case scenarios. Private sector development, renovation, or special use areas should follow this process to the closest extent possible. Other services and procedures may be required depending on the scope of the project.

Nothing in this document shall be construed as a requirement or endorsement for the consultant to provide services for which they are not qualified or appropriately licensed. The consultant shall exercise their professional judgement regarding design specifics. All projects shall conform to local, state and federal codes, laws and ordinances.

1. Scoping/Programming meeting – This meeting will occur during the scope and fee negotiation phase, and prior to the execution of a consultant’s scope of services document. The City project manager will convey the basic program features and scope to the consultant. The City will also provide any available information regarding the site. This information may include existing conditions, topographic surveys, easements, zoning, record drawings, special-use criteria, neighborhood, historic and other site specific concerns.
2. Pre-Design meeting – The consultant will prepare a site analysis for this meeting. The intent at this time will be to review site conditions, including physical and social characteristics that may affect the design of the park. See he consultant will also prepare conceptual designs for this meeting. These conceptual designs will be sketch quality, fairly abstract diagrams that demonstrate the location, arrangement, size and spacing of

site amenities and program elements. The intention is to identify the opportunities and constraints of various layouts and identify possible conflicts between the program and existing site conditions. The number of designs presented will be relative to the complexity of the site and program, at least two, but no more than five. (see *“APPENDIX 1A: Pre-Design Checklist” on page 41*).

3. Schematic Design – The consultant will prepare schematic design drawings which will set up the preliminary arrangement of programmatic and physical components, including hardscape elements, accessibility, circulation, irrigation head layout, planting scheme, furnishings, and play equipment. This is intended to be a collaborative process and based on the complexity of the project, there may be several iterations of schematic design solutions. The reviews may include sketch quality drawings or hard-line drawings.

Once a schematic design is resolved, the consultant shall prepare a final line drawing. If the project scope includes a public meeting, the consultant will prepare rendered presentation graphics.

4. Design Development / 65% Construction Documents - The consultant will prepare a set of drawings that will create the framework for the final drawings and that start filling in the specifics of the design. A meeting will be held to review the progress of the 65% construction drawings, and will ascertain that the schedule and budget of the project is on track and the intent of the design is being followed. The typical components of this submittal and the expectation of detail may be found in Section 2 of these guidelines.

The consultant shall be familiar with the ***City of Albuquerque Standard Specifications*** for Public Works Construction Latest Update, including Standard Drawings for construction details, and cite appropriate references in the plans as appropriate.

The consultant shall be familiar with the ***City of Albuquerque Code of Ordinances***.

5. 95% Construction Documents – The consultant will prepare and submit a set of construction drawings to the 95% complete stage. The drawings shall be prepared to a level that is considered biddable and buildable. A meeting will be held to review the submittal to ascertain that all details and specifications required are included in the drawings. This will allow the City to identify any particulars that need clarification or correction.

A preliminary cost estimate shall also be prepared by the consultant at this stage.

If the project will be publicly bid, the consultant shall prepare and submit a contract manual and associated bidding documents to the Contract Services Division of the Department of Municipal Development.

6. Final for Construction Documents and Pricing / Bidding – After approval of the 95% plans, specifications and estimate, the consultant will prepare and submit the final construction documents.

If the project will be built by an On-Call contractor or Class II (City) Crews , the consultant will provide plan sets to the City for distribution and contractor pricing. If the project will be bid, the consultant will coordinate the distribution of plan sets, participate in the pre-bid meeting, review the bids, prepare a bid tabulation and a recommendation of award, and verify the contract and agreement documents.

7. Pre-Construction meeting – Prior to the start of construction, all parties will meet to review the specifics of the construction process (see *“APPENDIX 1B: PRE-CONSTRUCTION MEETING CHECKLIST” on page 43*).

## 8. Planning Department and Shared-Use Design Review Process

If the construction of the project involves work within the right-of-way then the project must be submitted to the Design Review Committee (DRC) for approval. Review by other disciplines within the Planning Department may be required based on the scope of the project. When the scope includes elements that require a building permit (shade structures, retaining walls, etc.) the plan set will need to include a site grading and drainage plan that is approved prior to construction by the **Hydrology Division**. Details for construction of the permitted elements shall be sealed by an appropriate design professional licensed to provide such services.

### iii. Other Public Landscapes

Public parks are not the only landscapes with which the Parks and Recreation Department may be concerned. Design, construction and maintenance may be involved with a wide variety of public landscape. The appropriate sections of the guidelines shall be applied as necessary to these projects.

These landscapes may include:

- Streetscapes
- Medians
- Trails
- Bikeways
- Open Space
- Public Housing
- Community Centers
- Senior Centers
- Libraries
- Public Safety Facilities
- Administration Facilities
- Transit Facilities
- Stormwater Drainage Facilities

Some landscapes require special treatment and their own additional guidelines. These projects should follow the design guidelines where applicable or conform to specific design recommendations, industry standards, local and national codes, and the requirements of other agencies where applicable.

These may include:

- Aquatics facilities / Splash Pads
- Public art installations
- Little Leagues
- Shared-use facilities with APS, AMAFCA, Bernalillo County
- Maintenance complexes / yards
- Sports stadiums
- Airport landscapes
- Golf courses
- Balloon Fiesta Park

## SECTION 1 – GENERAL PARK CONSIDERATIONS

### Green Infrastructure

Parks perform vital physical services for the City of Albuquerque. Their permeable surfaces provide a huge area of infiltration for water, playing a major part in stormwater management as required by the EPA for water quality in the Rio Grande. The presence of vegetation, especially trees, helps to offset the heat island effect of urban paved areas, an especially important consideration in this desert climate. Park design should seek to maximize porous surfaces and tree canopy.

### Aesthetics

Parks enhance the urban environment and serve the recreation needs of the public. Each site is unique in its location, character, and relationship to the neighborhood / community. Distinctive and character defining elements shall be enhanced. Plant material shall be provided for shade, visual screening, wind protection, and to add visual quality. The entire park site should be taken into account during the design phase. The design context may range from formal to natural appearing, reflect the existing context, and coherently organize the proposed uses.

### Health, Safety, and Welfare

Public safety in parks is paramount. The design should take careful consideration of the safety implications of the arrangement, alignment, orientation, and interface of the programmatic elements. Visibility into the park is required. Structures, plantings, and grades shall not create blind spots within the park.

Mental and physical health benefits of parks are obvious and necessary. Park design should include multiple and varied opportunities for physical movement and mental refreshment.

### Accessibility and Inclusion

Park designs should strive for universal accessibility. Accessible routes and amenities should be integrated within the general circulation patterns. Parks should include elements which may be enjoyed by all ages and abilities.

### Active and Passive Use

Active and passive uses should be appropriate for the size, demographics, neighborhood preferences, and designation within the City-wide park system. Active areas that require turf should be sized to be at least as large as the minimum size requirements for the programmed use in order to make irrigation and maintenance cost-effective. Passive areas should provide shade and seating. Keep in mind that at some point, most active users become passive users.

### Responsible Water Use

Parks shall be designed to be inherently water efficient. Irrigation, grading, hardscape, soils, and plant material are all components of a cohesive design that maximizes the benefit of a limited resource. Every effort should be made to capture and infiltrate water on-site.

### Maintenance

Park designs shall accommodate standard maintenance practices. If unique or specialized maintenance requirements are anticipated due to unique site characteristics, these should be reviewed with Park Management to determine preferred solutions.

## SECTION 2 – GENERAL DOCUMENT REQUIREMENTS

### Schedules

Submit schedule to City Project Manager after Pre-Design Meeting.  
Update schedule and re-submit as necessary.

### Meetings

Meeting notes shall be submitted to the City Project Manager for approval after every meeting, including public meetings.

### Concept Design

The first step in a typical project will be review of concept designs. This submittal will vary based on the program and scope of the project. The consultant may prepare the following graphics to communicate the design concepts: bubble diagrams that demonstrate spatial relationships between programmatic elements, sketch-quality concept plans that show a variety of design options, and perspective sketches. These drawings are intended to be quickly produced and serve as the basis for discussions with the City project manager regarding the basic design intents.

### Schematic Design (SD)

After review of the conceptual designs, the consultant will prepare schematic design plans that demonstrate further development of specific solutions. Schematic design is a process of refining the solutions through interim review between the consultant and City project manager. Preliminary schematic design plans may be hand drawn or computer drafted. At the end of the schematic design phase the consultant will prepare a final plan that shows the basic design solution for the entire park. If the project scope includes public presentation, the consultant will prepare a rendered plan and other graphics to be able to describe the design intent.

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### Design Development (DD) and Construction Documents (CDs)

The typical park project will include three submittals of the plan sets. These will occur at 65% (DD - design development), 95%, and Final for Review. The plan set typically includes the sheets listed below. Specific information should be shown on the sheets as indicated. Additional sheets may be included as determined by the scope. The scale of the plans should be 1"=20' whenever possible, except for vicinity maps or orientation drawings. Plan sets shall follow the requirements for construction documents identified in the City of Albuquerque Development Process Manual (DPM). The list below indicates additional detail pertinent to typical park projects. Submit 6 full size sets and 2 half size sets unless otherwise instructed. If the project scope necessitates review by the planning department Design Review Committee (DRC), the consultant will prepare submittal documents as required for review and approval.

### Cover Sheet (see "*APPENDIX 2a: Sample Cover Sheet*" on page 44)

- Title
- Consultant information
- Vicinity map with Zone Atlas map number
- Legal description
- Total park area
- Turf area calculations
- List of plan sheets
- Date
- Standard City of Albuquerque signature title block

## General Notes

- This sheet lists the general notes used on all park projects. The most current list of notes will be provided to the consultant by the City (see *"APPENDIX 2b: General Notes" on page 45*).

## Demolition Plan / Existing Conditions

- Identify the primary existing site features affected by the planned construction
- Identify the condition of existing trees and any proposed removals
- Identify existing utilities
- Identify the impact of the design on the existing irrigation system (renovation projects)
- Identify legal constraints (Right-of-way, easements, setbacks, etc...)

## Grading Plan

- Identify slopes, spot elevations, and proposed contours to a level of detail necessary to accurately construct the project.

## Construction Plan

- Identify materials, arrangement and connections with keyed notes and hatches.
- Identify access points and routes for maintenance vehicles

## Layout Plan

- Identify coordinate points with plan notation and a legend
- Identify critical dimensions
- AutoCad files shall be provided to the contractor for establishment of additional coordinate points or dimensions

## Irrigation Plan

- Identify point of connection and show equipment, mainline and lateral pipe routing, valve / zone configuration, head layout, and pipe sizing
- Show screened plantings
- Show contours
- Show coverage arcs
- Include a valve schedule identifying valve numbers, head type, and total zone volume
- Include a run-time schedule demonstrating that the system can apply 1/2" of precipitation within an 8 hour watering window

## Planting Plan

- Show trees, shrubs, ground covers, and mulch materials
- Include a planting legend with common and botanical names, installation size and condition, mature size, and quantity

## Details

### Electrical

### Project Information Form

- The current version of the Project Information Form will be provided to the consultant

## Final Construction Documents

- Final construction documents shall be provided to the City in hard-copy and digital format. The digital format shall include AutoCad and pdf file formats

- Autocad files shall include all x-refed files and any other image files necessary to allow the City to print a working plan set

Record Drawings:

Record drawings shall be compiled by the consultant based on as-built information provided by the contractor.

Record drawings shall be submitted in digital format as follows:

- A pdf file of all the plan set sheets. Sheets shall be formatted to print at full size.
- AutoCad files of all the sheets, drawings, x-refs, fonts, attachments and images used on the plan sheets zipped into the same file.
- A pdf of the color-coded irrigation plan formatted to print on 11"x17" paper.
- A Project Information Form (see *"APPENDIX 2c: Project Information Form" on page 49*).

In addition to the digital files, the consultant will provide 2 sets of laminated, color coded irrigation plans. These laminated plans shall be produced at 11"x17". One will be kept in the irrigation controller and the other will be maintained in the City's reference file.

Materials

## SECTION 3 – DEMOLITION AND PRESERVATION

3.1 Guideline: Assess site materials to be removed for possible reuse, recycling or salvage. Identify any existing materials to be salvaged and the party responsible for delivery and storage.

Rationale: Certain existing items (furnishings, irrigation equipment, paving materials, play equipment, etc.) may be in a condition that allows them to be reused on-site or in other parks.

Review: Pre-design, DD and 95% CD.

Review the condition of existing site materials during the pre-design phase. Review specific recommendations during the design development and 95% construction document phases. Verify items and responsibility for delivery and storage, at the pre-construction meeting.

### Trees

3.2 Guideline: Evaluate appropriate pruning for trees designated to remain.

Rationale: Trees may need to be pruned to accommodate new or revised park amenities, or may just need general clean-up. Pruning is readily achieved during renovation activities. Pruning should be specified to follow ISA (International Society of Arboriculture) guidelines.

Review: Pre-design, DD and 95% CD.

Review the condition of existing trees to remain during the pre-design phase. This review may include input from the City Forester. Review specific pruning recommendations during the design development and 95% construction document phases. Verify pruning specifics at the pre-construction meeting.

3.3 Guideline: Prevent or minimize presence of construction vehicles, machinery, and other construction observations that may damage existing tree roots, under canopy of trees designated to remain. Use lightweight fencing with minimal ground penetration at the drip line of trees to be safeguarded.

Rationale: Heavy equipment causes soil compaction and damage to tree roots resulting in eventual death of tree. It is tempting for vehicles to utilize tree shade during summer construction so trees may have to be explicitly fenced for protection.

Review: Pre-design and 95% CD.

Make sure demolition drawing indicates existing trees to remain, and note specific protection requirements.

Reference: Best Practices - Tree Protection Notes (see *"APPENDIX 3a: Tree Protection Notes" on page 50*).

3.4 Guideline: Minimize turf removal within the drip line of trees. When necessary, this removal should be done by hand to avoid damage to surface roots. The consultant should review the surface rooting condition and note any special considerations on the plan.

Rationale: Removal of existing turf to accommodate new mulch has the potential to damage surface roots. Some species are more sensitive to surface disturbance.

Review: SD, DD, 95% CD

Review the conceptual surface treatments during the schematic design phase. Review specific solutions and notation of root protection during the design development and 95% construction document phases.

3.5 Guideline: Do not grade (cut or fill) under drip line of existing trees. If this must be done, take appropriate measures (e.g. tree well, raised planter area) to mitigate disturbance.

Rationale: Grading within the extent of the roots (generally recognized as the drip line) can greatly affect the health of a tree in a negative way.

Review: SD, DD, 95% CD

Review the concept grading during the schematic design phase to discuss options for redesign or removal. Review specific grading solutions during the design development and 95% construction document phases.

3.6 Guideline: Limit disturbance when trenching for irrigation within the root zone of existing trees by using appropriate trenching methods. The plans should include notation regarding the allowable techniques for trenching and procedures for cutting roots.

Rationale: Trenching within the root zone can greatly affect the health of a tree. Several trenching methods typically used to limit root damage include hand excavation, use of an air knife, and boring. Where there are no alternatives, root cutting should be accomplished with a sharp tool to limit fraying. Root pruning may also be appropriate. Plan notation that specifies the preferred techniques will help inform the contractor understand and execute the City's preferences.

Review: DD, 95% CD

Review specific notation during the design development and 95% construction document phases.

Reference: Best Practices - Tree Protection Notes (see *"APPENDIX 3a: Tree Protection Notes" on page 50*).

3.7 Guideline: Limit new paving within the root zone of existing trees.

Rationale: New paving may require excavation, fill, compaction or other work detrimental to the health of the tree's roots. New paving also alters the oxygen availability.

Review: DD, 95% CD

Review new paving locations during the design development and 95% construction document phases.

#### Soil

3.8 Guideline: Perform a soil test to identify structural and fertility characteristics. When structural features will be included in the park, a geotechnical analysis should be performed to determine the structural characteristics of the soil. A soils chemical analysis will recommend specific amendments, fertilizers, or conditioners to increase fertility.

Rationale: These tests indicate specific conditions and any remediation that should be accomplished.

Review: Pre-design, DD, 95% CD

Perform the appropriate soils testing during the pre-design phase. Review remediation solutions during the design development and 95% construction document phases.

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#### Plan Graphics

Show all existing features to remain, existing utilities, easements, and right-of-way on demolition/existing conditions plan.

Show all approximate canopies, trunk location, and species of all existing trees on demolition/existing conditions plan.

Include general tree preservation notes in the demolition plan. The City Project Manager will provide the consultant with the most recent notes.

## SECTION 4 – GRADING AND DRAINAGE

4.1 Guideline: Avoid creating ponding or soggy areas in turf grass. A 2% grade generally allows for adequate drainage. Grades less than 2% should be limited to sports fields or small areas within passive use spaces. Where concentrated drainage has the potential to flow across turf areas that have a less than 2% grade, the design should consider subsurface drainage or a paved valley gutter.

Rationale: Water ponding in turf creates areas that are difficult to mow and maintain the expected turf quality.

Review: SD, DD, 95% CD

Review concept grading at schematic design phase. Review specific grading solutions at design development and 95% construction document phases.

4.2 Guideline: Grade recreational fields that are designed for sports activities at a 1.5% gradient, either crowned or with a uniform slope.

Rationale: National guidelines for grades on recreational fields recommend a 1.5% gradient to allow for drainage and maintain the playability of the field.

Review: Scoping/ Programming, Pre-design, DD, 95% CD

Review inclusion of recreational fields at programming and pre-design phases. Review specific grading solutions at design development and 95% construction document phases.

4.3 Guideline: Do not exceed a 6:1 slope on irrigated turf grass.

Rationale: Turf on slopes greater than 6:1 is difficult to mow and irrigate efficiently.

Review: SD, DD, 95% CD

Review concept grading at schematic design phase. Review specific grading solutions at design development and 95% construction document phases.

4.4 Guideline: Design grades and surface treatments to be stable and prevent erosion.

Rationale: Grades of non-turf areas have varying susceptibility to erosion. The design shall incorporate solutions that address the treatment of the slope and surfacing material in order to accommodate exposure to runoff and uses that may cause erosion.

Review: DD, 95% CD

Review specific grading solutions and materials at design development and 95% construction document phases.

4.5 Guideline: Grade all paved surfaces so that ponding does not occur.

Rationale: Water ponding on paved surfaces can be a safety concern.

Review: DD, 95% CD

Review specific grading solutions at design development and 95% construction document phases.

4.6 Guideline: Detain and infiltrate surface water flows wherever possible. The grading and drainage shall comply with the first-flush requirements in the City Drainage Ordinance.

Rationale: On-site collection, detention, and filtration of storm water is a desirable solution if the areas are properly designed to avoid unsafe or unsightly conditions.

Review: DD, 95% CD

Review specific grading solutions at design development and 95% construction document phases.

Reference: City of Albuquerque Drainage Ordinance

4.7 Guideline: Balance the cut and fill volumes where possible.

Rationale: Balancing cut and fill generally reduces costs and the environmental impact of grading operations.

Review: DD, 95% CD

Review cut and fill volume calculations at design development and 95% construction document phases.

4.8 Guideline: Grade paths to 5% slopes or less with a 2% cross slope. Ramps (between 5% and 8.33%) and stairs in primary circulation paths are permissible, but should be limited to situations where alternative solutions are limited.

Rationale: Avoiding ramps and stairs increases the universal accessibility of the site. It also avoids costly solutions. Not all sites and designs can completely eliminate the need for stairs and ramps.

Review: DD, 95% CD

Review arrangement of site features at schematic design phase. Review specific grading and circulation solutions at design development and 95% construction document phases.

4.9 Guideline: Capture any runoff from paved surfaces that are over-sprayed by irrigation, or divert flows to remain on-site.

Rationale: It is a violation of the Waste Water ordinance to allow irrigation water to runoff into the public right-of-way.

Review: DD, 95% CD

Review specific runoff capture solutions at design development and 95% construction document phases.

Reference: Best Practices – Detail for a trench drain across sidewalk at the bottom of a slope.

4.10 Guideline: Do not allow drainage to flow into or across a play area.

Rationale: Stormwater flow into or across a play area can cause displacement of loose fill surfacing, deposit of debris that could compromise the surfacing, or add to the compaction of loose materials.

Review: DD, 95% CD

Review specific drainage solutions at design development and 95% construction document phases.

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4.11 Guideline: Grade park so that there are no blind areas and there is clear visibility from streets. Law enforcement officers should have clear sight lines from patrol cars to amenities such as play areas and picnic shelters.

Rationale: Landforms that result in blind areas from off-site create areas for undesirable activities.

Review: SD, DD, 95% CD

Review landform concepts at schematic design. Review grading design at design development and 95% construction document phases.

#### Plan Graphics

Show storm sewer inlets on grading and drainage plans.

#### Submittals

Grading and drainage plans are to be submitted to hydrology for review at least 3 weeks before start of construction if there is substantial change in off-site flows.

5.1 Guideline: Include permeable paving systems in the design where feasible.

Rationale: Permeable paving systems provide filtration and infiltration. Consultants should consider the characteristics of the material and specific site conditions when specifying permeable pavement.

Review: Pre-design, SD, DD, 95% CD

Review possible inclusion of permeable pavement during the pre-design and schematic design phases. Review specific details at design development and 95% construction document phases.

## SECTION 5 – CONSTRUCTION

5.2 Guideline: Limit use of colored concrete and surface texture treatment (exposed aggregate, form liners, etc.) in areas where it is likely to be vandalized.

Rationale: Concrete, especially on non-horizontal surfaces, is prone to graffiti. The City graffiti removal services generally are unable to match integral concrete color or specialized treatments, and often paint over colored concrete with grey paint.

Review: SD, DD, 95% CD

Review hardscape detailing during the schematic design phase. Review specification details during the design development and 95% construction document phases.

5.3 Guideline: A concrete edge should be provided at the boundary of all turf grass. Where turf is adjacent to gravel or other loose mulch material, provide a 6" wide mow strip. At all vertical surfaces (fences, walls, poles, etc...) provide a mow strip that has a minimum clear horizontal distance of 6" from the face of the vertical surface to the turf edge.

Rationale: A concrete edge allows turf to be mowed with larger equipment. It also reduces the need for hand trimming. Some park conditions may eliminate the need for a concrete edge and will be considered on a case-by-case basis.

Review: SD, DD, 95% CD

Review turf edge treatment during the schematic design phase. Review specific details during the design development and 95% construction document phases.

Reference: Best Practices – Details for a treatment of turf edges.

5.4 Guideline: Avoid acute angles in concrete.

Rationale: Acute angles are inherently weaker and lead to greater cracking.

Review: DD, 95% CD

Review layout and alignment of concrete during the design development and 95% construction document phases.

5.5 Guideline: Reinforce concrete courts (basketball, tennis, skate pads, etc...) with welded wire mesh (WWM) or fiber and saw cut control joints.

Rationale: These courts generally have joints that are spaced further apart than other paving. The reinforcement helps reduce cracking. Saw cutting results in joints that are more true-to-line.

Review: DD, 95% CD

Review court construction details during the design development and 95% construction document phases.

5.6 Guideline: Use 3000 psi concrete for most applications in parks. Higher rated concrete may be necessary for structural concrete or where vehicular traffic is expected.

Rationale: Experience has shown that 3000 psi is generally sufficient for concrete strength in most park uses.

Review: DD, 95% CD

Review construction details, or references to CoA standard details during the design development and 95% construction document phases.

5.7 Guideline: Provide expansion joints in concrete not to exceed 20' spacing, and control joints not to exceed 5' spacing. The actual spacing of joints may vary based on the overall dimensions of the paved area or on the design intent.

Rationale: 20' and 5' spacing is noted in the City Standard Drawings and generally recognized as the standard spacing dimensions for concrete paving.

Review: DD, 95% CD

Review construction details, or references to CoA standard details during the design development and 95% construction document phases.

5.8 Guideline: Specify that boulders that are used to retain gravel don't have gaps larger than the gravel size. The design should consider the shape, size and material of the boulder to reduce the likelihood of gravel displacement.

Rationale: The shape and size of some boulders creates gaps that allows smaller mulch material to spill through. This can be avoided by the shape and size of the boulders as well as the size of the mulch.

Review: DD, 95% CD

Review boulder and mulch specification and construction details during the design development and 95% construction document phases.

#### Plan Graphics

Show the designed location of joints in the plans. Joint location should be confirmed in the field prior to concrete construction.

6.1 Guideline: Strive for universal access throughout the park.

Rationale: Parks should be inviting and functional for all users to the greatest extent possible. Exceeding the minimal accessibility requirements allows for greater use.

Review: Pre-design/scoping, SD, DD,95% CD

Review arrangement of site features and conceptual circulation during the pre-design and schematic design phases. Review design specifics during the design development and 95% construction documents phases.

## SECTION 6 – CIRCULATION AND ACCESS

6.2 Guideline: Provide an accessible ramp to and within any play areas with engineered wood fiber surfacing.  
Rationale: Engineered wood fiber mulch is recognized as meeting minimal accessibility standards in play areas. There is an offset from the adjacent concrete to the top of the surfacing which acts as a barrier to accessibility. A ramp allows access to the surfacing.

Review: DD, 95% CD

Review specification details during the design development and 95% construction document phases.

Reference: Best Practices – Details for play area access ramps.

6.3 Guideline: Design all accessible internal circulation paths to be a minimum of 6' wide.

Rationale: 6' allows two wheelchairs to pass each other.

Review: SD

Review layout and dimensions during the schematic design phase.

6.4 Guideline: Design circulation paths to have slopes less than 5% and a 2% cross slope. Stairs and ramps are acceptable where necessary, but should be located where the rails don't act as a barrier to internal pedestrian or maintenance circulation.

Rationale: Parks strive for universal access. While ramps are considered accessible routes, they can be more difficult to maneuver than paths that are less than 5% with a 2% cross slope. Railings can act as barriers to other internal circulation.

Review: Pre-design, SD, DD, 95% CD

Review arrangement of site features and conceptual circulation during the pre-design and schematic design phases. Review design specifics of grading and hardscape during the design development and 95% construction document phases (see *"APPENDIX 6a: Accessible Routes for Parks Checklist" on page 51*).

6.5 Guideline: Coordinate accessible ramps with across-street access ramps to create continuous accessible routes.

Rationale: Locating accessible ramps across from other accessible points creates greater access from the surrounding neighborhood.

Review: Pre-design, SD, DD, 95% CD

Review arrangement of site features and conceptual circulation during the pre-design and schematic design phases. Review ramp specifics during the design development and 95% construction document phases.

6.6 Guideline: Review location and spacing of arroyo crossings at the pre-design meeting.

Rationale: Arroyos are formidable accessibility barriers. Where arroyos run through parks, the design should consider circulation patterns and amenities when locating crossings.

Review: Pre-design, SD, DD, 95% CD

Review arrangement of site features and conceptual crossing points during the pre-design and schematic design phases. Review bridge or crossing details during the design development and 95% construction document phases.

### Parking

6.7 Guideline: Provide **accessible parking** either on-street or on-site. Review site conditions to determine feasibility of location. If parking a lot is included, follow ADA guidelines for number and placement of handicap spaces to be included.

Rationale: Whenever possible, all users should be able to access the park.

Review: DD, 95% CD

Review during the design development and 95% construction document phases.

6.8 Guideline: Minimize or eliminate on-site parking based on the viability of on-street parking. Parking solutions are influenced by the size of the park, amenities, historic designation, grade, and designation of the surrounding streets.

Rationale: On-site parking may provide a safer access scenario than on-street parking. However, on-site parking takes away park space that can be used for other amenities and is expensive to construct.

Review: Programming/Scoping, Pre-design, SD

Review parking options during the programming and pre-design phases. Review layout, size, location and alignment of parking during the schematic design phase.

6.9 Guideline: Consider the use of permeable paving for parking based on site specific criteria and project budget.

Rationale: Permeable paving systems provide filtration and infiltration. Consultants should consider the characteristics of the material and specific site conditions when specifying permeable pavement.

Review: SD, DD, 95% CD

Review applicability of permeable pavement during the schematic design phase. Review specific details during the design development and 95% construction document phases.

#### Maintenance Access

6.10 Guideline: Design for at least one maintenance access point, that is a minimum 12 feet wide. Additional points shall be provided as necessary to allow maintenance access to the entire park. This maintenance access shall include a roll curb / access ramp, and a 3000 psi, 6" thick concrete paved route through any loose mulch materials.

Rationale: The maintenance access point provides a place for Park Management to enter the site with mowers or other equipment at a location where they do not have to jump a curb. Driving through loose mulch material causes displacement and potential damage to the landscape.

Review: SD, DD, 95% CD

Review location and alignment during the schematic design phase. Review design specifics during the design development and 95% construction document phases.

6.11 Guideline: Locate the maintenance access point where maintenance vehicles do not impede traffic while opening gate / removing bollards.

Rationale: Park Management needs to be able to pull out of traffic to open the pipe gate or remove bollards.

Review: SD

Review location and alignment during the schematic design phase.

6.12 Guideline: Prevent unauthorized use of the maintenance access route with a pipe gate or removable bollards.

Rationale: Pipe gates or removable bollards deter non-authorized vehicles from causing damage.

Review: DD, 95% CD

Review access control specifics during the design development and 95% construction document phases.

6.13 Guideline: Concrete paving that is within the maintenance access route shall be 3,000 psi and be 6" thick.

Rationale: Large trucks typically use the maintenance access route and require stronger concrete.

Review: DD, 95% CD

Review specification details during the design development and 95% construction document phases.

6.14 Guideline: Provide access and ramps for governing agency maintenance vehicles in parks that are joint use facilities in detention basins. The consultant shall verify the access requirements of the governing agency.

Rationale: The governing agency needs to access the bottom of a detention basin to perform routine maintenance.

Review: SD, DD, 95% CD

Review joint-use agency requirements, location and alignment during the schematic design phase. Review grading and access specifics during the design development and 95% construction document phases.

6.15 Guideline: Designate a route for delivery of replacement wood fiber for any play areas that use this material for surfacing. This route shall be 8' wide, 6" thick concrete and have a minimum vertical and horizontal clear zone of 15 feet.

Rationale: Vehicles that deliver replacement materials are heavy and typically need a paved surface to the play area.

Review: SD, DD, 95% CD

Review location and alignment during the schematic design phase. Review design specifics during the design development and 95% construction document phases.

## SECTION 7 – IRRIGATION

### Basic Criteria

7.1 Guideline: Provide automated irrigation systems for all cool and warm season turf grass areas, shrubs, planted groundcovers, and trees not planted in cool season turf grass.

Rationale: An automated irrigation system provides Parks Management with the ability to maintain landscapes to the user expectation and demands.

Review: Pre-design, SD, DD, 95% CD

Review the irrigation strategy during the pre-design phase, basic orientation of heads and equipment during the schematic design phase, and construction specifics during the design development and 95% construction document phases.

Reference: Preferred Irrigation Materials (see *"APPENDIX 7a: Preferred Irrigation Materials" on page 52*).

7.2 Guideline: Confirm the expected static pressure prior to design development.

Rationale: Static pressure will determine the hydraulic design of the irrigation system. A projected static pressure can usually be provided by the Albuquerque Bernalillo County Water Utility Authority (ABCWUA). If an existing service exists, confirming the existing static pressure is preferable to obtaining the projected static pressure.

Review: Schematic design

Review the static pressure during the schematic design phase to determine the necessity for a booster pump.

7.3 Guideline: Check the availability of a communication signal from the central irrigation controller to the proposed location of the satellite controller.

Rationale: The satellite controllers communicate by radio or cell phone service with the central controller. Determining which communications method is available will determine which model of controller needs to be specified. This test is commonly available (for a fee) by the irrigation supplier.

Review: Schematic design

Review the available communications method during the schematic design phase.

7.4 Guideline: Design irrigation to pass a water audit for all areas of cultivated turf areas (cool or warm season grasses) irrigated by pop-up or rotary heads.

Rationale: The water audit criteria is established by **City Ordinances**.

Review: Pre-design

Review the irrigation strategy during the pre-design phase. Consultants may create a computer model demonstrating the theoretical distribution uniformity during the design process to aid in spacing, head and nozzle specification.

Reference: City of Albuquerque water audit criteria in the Water Waste Ordinance.

7.5 Guideline: Native vegetation areas that are not designed for active recreation and are not regularly mowed, may incorporate rotor irrigation to help plant establishment and provide supplemental water. These areas are not required to pass a water audit.

Rationale: Native vegetation areas are generally not watered regularly and typically do not need the same precision of watering efficiency. Depending on the location and site specifics, the irrigation to these areas is generally necessary only for establishment and minimal supplemental watering.

Review: Pre-design

Review the irrigation strategy during the pre-design phase.

7.6 Guideline: Design the irrigation system to be able to apply 1/2" of water in an 8 hour watering window for

cool season turf grass areas. Generally, this requires pop-up or rotary heads that have high precipitation rates. Rationale: The minimum watering window is established by City ordinance, but user demands often require that parks be watered in a shorter amount of time. 1/2" of water has been established as the maximum amount of precipitation that may be needed. Designing the system to meet this maximum demand ensures that the system will work within any constraints.

Review: Pre-design, SD, DD, 95% CD

Review the irrigation strategy during the pre-design phase, basic zoning during the schematic design phase, and water demand specifics during the design development and 95% construction document phases.

Reference: ***City of Albuquerque Water Waste Ordinance***

7.7 Guideline: Consider alternative irrigation application when design situations require unique solutions.

Rationale: The specific conditions of a park (configuration, slopes, historic character, existing trees, etc...) may require variations from the standard water application systems. These alternative application systems are anomalies within the city-wide system and sometimes present maintenance challenges. Alternative systems will be considered on a case-by-case basis.

Review: Pre-design, SD, DD, 95% CD

Review the irrigation strategy during the pre-design phase, basic configurations during the schematic design phase, and design specifics during the design development and 95% construction documents phases.

7.8 Guideline: Design for minimal impact on the performance of the existing irrigation systems in renovation projects where the entire irrigation system is not being affected. Location of new amenities should be designed to fit within the existing head spacing to the greatest extent possible. If existing heads are changed to a new model, arc pattern, or nozzle the design should consider rezoning these heads.

Rationale: The inclusion of new site amenities may necessitate adjustment of the existing irrigation system. Often in these cases, the project budget is insufficient for complete irrigation renovation. In such cases, the designer should evaluate the existing irrigation system, and minimize the necessary adjustments. Adjustments that change the arc pattern of the heads affect the distribution uniformity of the system. Including these heads on zones (or adding new zones) with the same arc pattern maintains a similar distribution uniformity as the pre-renovation condition.

Review: SD, DD, 95% CD

Review the existing irrigation system and location of new site amenities during the schematic design phase. Review zoning and pipe routing design specifics during the design development and 95% construction document phases.

## Design Specifics

7.9 Guideline: Locate the point-of-connection equipment (backflow prevention device, master valve, flowmeter, controller, etc...) where it can be easily accessed by maintenance personnel, close to the service tap and meter, outside of turf areas, and where it is least visually obtrusive. Locate the tap and point-of-connection equipment at the high side of the site when possible.

Rationale: The point-of-connection equipment requires frequent maintenance access. This equipment can also be large and unsightly. Locating this equipment on the high side of the park helps avoid pressure loss due to elevation.

Review: Pre-design, SD

Review the available water source(s) during the pre-design phase. Review point-of-connection equipment location during the schematic design phase.

7.10 Guideline: Provide all irrigation systems with an automatic controller that communicates with the City's central control system.

Rationale: All controllers need to be able to communicate with the City's central control system.

Review: DD

Review the controller specification during the design development phase.

Reference: Best Practices – Details for controller installation.

7.11 Guideline: Consider providing enclosures (chain-link fence) around point-of-connection equipment on parks in locations where high vandalism is anticipated. Enclosure dimensions and openings should allow for easy access to equipment. If the controller is to be located within the enclosure, verify that the fencing does not interfere with the communication of the satellite to the central controller.

Rationale: Enclosures provide an added level of protection of the point-of-connection equipment. However, enclosures can be unsightly and add expense.

Review: Pre-design, DD, 95% CD

Review the site characteristics that may warrant an enclosure during the pre-design phase. Review enclosure specifications and details during the design development and 95% construction document phases.

7.12 Guideline: Provide booster pumps in locations where the existing static water pressure is insufficient to operate the system. Booster pumps should be variable speed and located in lockable, heated enclosures.

Rationale: Booster pumps are sometimes necessary if the existing water pressure is too low to properly operate the system. Pumps are also high maintenance equipment and should be only used when necessary. Variable speed drives allow for varying water flows.

Review: Pre-design, DD, 95% CD

Whenever possible, field verify existing static pressure since information provided by the ABCWUA may be inaccurate. Review booster pump specifications and details during the design development and 95% construction document phases.

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7.13 Guideline: Design irrigation heads to have square or equilateral triangular spacing to the greatest extent possible.

Rationale: Square or equilateral head spacing generally provides for the highest distribution uniformity. Specific site conditions may require alternative arrangement of heads or adjustments to some heads within the standard module.

Review: SD

Review the basic orientation of heads and associated turf edges during the schematic design phase. Consultants may verify the effect of alternative arrangement and spacing with a theoretical computer model.

7.14 Guideline: Design the irrigation system to minimize different types of heads and nozzles.

Rationale: Maintaining different head types and nozzles can be challenging.

Review: SD

Review the basic layout of head and nozzle types during the schematic design phase. Consultants may verify the effect of alternative arrangement and spacing with a theoretical computer model.

7.15 Guideline: Space irrigation heads at, or closer than, the throw radius published by the manufacturer.

Head spacing should not be compressed more than 90% of the listed radius. Head spacing should not exceed the listed radius.

Rationale: The throw radius listed by the manufacturer is generally the average distance as tested in a laboratory setting. The actual radius will be affected by site specific criteria including elevation, wind, slope, etc. Closer spacing generally increases distribution uniformity and reduces the likelihood of under-watering. However, closer spacing may result in overspray at edges, and heavier precipitation at overlap locations.

Review: DD

Review the head spacing module during the design development phase. Consultants may verify the effect of alternative spacing with a theoretical computer model.

7.16 Guideline: If two different heads or nozzles (with different precipitation rates) are used within contiguous turf areas, the heads of the different areas should be designed to water back-to-back.

Rationale: Different heads or nozzles have varying precipitation rates. Areas within contiguous turf that have one type of head or nozzle can be watered separately from other areas. This separation allows Parks Management to water each area independently based on the varying precipitation rates. The design should limit the number of different head / nozzle types to reduce confusing arrangements.

Review: DD

Review the head spacing modules and interface during the design development phase.

7.17 Guideline: Use six inch pop-up heads.

Rationale: Six inch pop up head generally put the nozzle above the turf.

Review: DD

Review the head specification during the design development phase.

7.18 Guideline: Zone heads with like arcs and nozzles together, except when using matched precipitation rate (MPR) nozzles.

Rationale: Heads that have different arc patterns and/or nozzles will have varying precipitation rates. Combining heads with different precipitation rates on the same zone may significantly affect the distribution uniformity.

Review: DD

Review the zoning during the design development phase.

7.19 Guideline: The design should take microclimate conditions into account. If the variations are significant, the design should separate zones to allow for variable watering practices.

Rationale: Turf grass in different microclimates will have varying water demands. By zoning these areas separately, the irrigation system can be managed to water based on specific environmental conditions.

Review: DD

Review the zoning during the design development phase.

7.20 Guideline: The zoning design should take the site's topography into account.

Rationale: Zoning heads parallel to the slope allows run times to be adjusted to account for down-hill drainage. Differentiating zones based on sloped / flat terrain allows for varied cycle-and-soak programs which may reduce runoff.

Review: DD

Review the zoning during the design development phase.

7.21 Guideline: Use pressure compensating bubblers for trees and shrubs in non-turf areas. Bubbler flow rates should meet the water demand of the individual species. If tree and shrub water demands vary significantly, the design should consider watering trees and shrubs with separate zones.

Rationale: Bubblers provide water at the plant location and reduce runoff. Bubblers are preferred to drip irrigation due to reduced maintenance and vandalism. Trees and shrubs may have different watering demands that are best met with separate zones. However, separate zones can be more expensive and more difficult to maintain.

Review: DD

Review bubbler layout and zoning during the design development phase.

7.22 Guideline: Use pressure compensating bubblers for trees in warm season turf grass areas. Trees in cool season grass do not require bubblers.

Rationale: The irrigation required to maintain cool season turf grass is generally sufficient to maintain tree health. Warm season turf grasses require less supplemental water, and therefore may not be sufficient for trees.

Review: DD

Review bubbler layout and zoning during the design development phase.

7.23 Guideline: Design bubblers that water trees so that they are triangulated around the trunk. On slopes, 2 bubblers may only be required on the high side of the tree.

Rationale: Triangulating bubblers provides for more even water distribution.

Review: DD

Review bubbler layout and zoning during the design development phase.

Reference: Best Practices – Details for bubbler installation and arrangement (City Specifications). For trees outside of turf areas, use Temporary Bubbler Configuration for the first year (see *“APPENDIX 7b: Temporary Bubbler Configuration” on page 53*)

7.24 Guideline: Design mainline and lateral pipe sizing to account for pressure loss due to friction and elevation changes. Piping shall be sized to avoid water velocity greater than 5 feet/second.

Rationale: Undersizing pipe will lead to excess pressure loss and degradation of the pipe.

Review: 95% CD

Review pipe sizing during the 95% construction document phase. The consultant should calculate the pressure loss of the system to ensure that all heads and bubblers will be within their recommended operating pressure.

7.25 Guideline: Consider using looped mainlines on large systems to reduce friction loss.

Rationale: Looped mainlines balance the flow of water in either direction of the loop, thereby reducing friction loss in large systems.

Review: DD, 95% CD

Review mainline routing during the design development and 95% construction document phases. The consultant should calculate the pressure loss of the system to ensure that all heads and bubblers will be within the manufacturer’s recommended operating pressure.

7.26 Guideline: Design mainline and lateral pipe routing to consider the future drip line of new trees. Pipe routing should be a minimum 10’ from the trunk of a tree. Routing within this area should be minimized.

Rationale: Growing tree roots can damage piping. 10’ is generally considered the area around the trunk where the damage is most likely to occur.

Review: DD

Review pipe routing with respect to new during the design development phase.

7.27 Guideline: Design mainline and lateral pipe routing to consider the root zones of existing trees. To the greatest extent possible, pipe routing should avoid root zones. It should be noted on the plans that all trenching within the root zone of existing trees should be done by hand, with an air knife, or boring.

Rationale: Trenching through the root zone of an existing tree could significantly compromise the health of the tree.

Review: DD

Review pipe routing with respect to existing trees during the design development phase.

7.28 Guideline: Minimize mainline and lateral pipe crossings in the design.

Rationale: Per CoA Standard Specifications, both mainline and lateral piping are installed at an 18” depth.

Crossings require that one pipe run be installed deeper to ensure at least 4" spacing between pipe.

Review: DD, 95% CD

Review pipe routing during the design development and 95% construction document phases.

7.29 Guideline: Design mainline and lateral pipe layouts in straight lines with standard T, 45 and 90 degree fittings. Per CoA Standard Specifications, long runs of pipe should have some minimal snaking to allow for expansion and contraction. The mainline layout should use two 45-degree fittings instead of 90-degree fittings.

Rationale: Straight pipe runs and standard fittings decrease the likelihood of pipe and fitting failure, are easier to install and maintain. Using two 45-degree fittings instead of 90-degree fittings in mainline pipe reduces friction loss.

Review: DD, 95% CD

Review pipe routing during the design development and 95% construction document phases.

7.30 Guideline: Use restraint fittings for mainline pipe 3" and larger (Leemco or equal). Thrust blocks are not required on restraint type fittings.

Rationale: Restraint type fittings have proven to need less maintenance and have less incidence of failure than o-ring and gasket fittings with thrust blocks, on large diameter pipe.

Review: DD, 95% CD

Review materials noting and specification during the design development and 95% construction document phases.

7.31 Guideline: Design irrigation equipment and components to meet all requirements for non-potable water if new or renovated parks use (or are intended for future use of) non-potable water.

Rationale: Per the Uniform Plumbing Code, all non-potable water systems shall use the materials that indicate non-potable water.

Review: Pre-design, DD, 95% CD

Review availability of non-potable water, or the City's intention to provide non-potable water, during the pre-design phase. Review materials noting and specification during the design development and 95% construction document phases.

7.32 Guideline: Locate valves and boxes in accessible areas for maintenance, outside of use areas, in a straight line, a minimum of 10 feet from trees or shrubs, and outside the future drip line of trees.

Rationale: Valves should be located in places where maintenance personnel can easily access them, are clear of obstructions, and outside of active turf use areas.

Review: DD, 95% CD

Review valve locations during the design development and 95% construction document phases.

7.33 Guideline: Provide quick couplers in the irrigation system in areas that may require hose watering applications. These may include: infields of ball fields, large concrete surfaces, tennis courts, basketball courts, skate areas, patio / picnic areas, and off-leash dog exercise areas.

Rationale: Quick couplers allow maintenance personnel to connect a hose to the irrigation system. Using a hose is advantageous for the applications noted.

Review: DD, 95% CD

Review quick coupler preferences and locations during the design development and 95% construction document phases.

7.34 Guideline: Use air relief valves where build-up of air pockets is likely. Locate air relief valve at the high point of the mainline.

Rationale: Air pockets are likely to occur on large systems and where significant elevation changes occur. Air

pockets become compressed when the master valve opens. This compression increases the dynamic water pressure in the system, sometimes to a level greater than the equipment can tolerate. Air relief valves release these air pockets and reduce water pressure spikes.

Review: DD, 95% CD

Review air relief valve necessity and locations during the design development and 95% construction document phases.

7.35 Guideline: Use check valves on bubblers where significant low head drainage is likely.

Rationale: Check valves prevent the drainage of the lateral lines through low heads. Check valves can be installed in-line on the lateral, or in the bubbler riser assembly.

Review: DD, 95% CD

Review check valve necessity and locations during the design development and 95% construction document phases.

7.36 Guideline: Consider the use of isolation valves on large systems.

Rationale: Isolation valves allow maintenance personnel to shut off portions of the system for repair, while leaving the remainder of the system operational.

Review: DD, 95% CD

Review isolation valve necessity and locations during the design development and 95% construction document phases.

#### Plan Graphics

Provide a sample watering schedule demonstrating that the system can apply 1/2" in 8 hours for irrigated turf grass areas. This schedule will serve as a guide to establish the time it takes to apply the maximum precipitation amount (100% operation condition).

Provide valve / zone schedule that identifies the valve size / type, head type / model number, head quantity, gpm per head, total gpm, operating pressure, precipitation rate, and run time to apply 1/2" precipitation.

## SECTION 8 – PLANTING

### General

8.1 Guideline: Parks are the green public places for our desert city.

Rationale: When residents are being asked to give up their private lawns and high water usage plants for water-wise xeric landscapes, it becomes more important for public spaces to provide the relief of living vegetation to the extent that our water resources responsibly allow.

Review: Pre-design

Carefully evaluate the active and passive recreational value of any turf areas. Provide shade with large, high-canopy trees. Place ornamental vegetation where it can be easily enjoyed. Try to have vegetation serve both practical and aesthetic purposes. The benefits should outweigh the cost of water and maintenance.

### Preparation

8.2 Guideline: Specify deep tining, or other soil loosening operations, for all planting areas (including planned turf areas) after all concrete is in place and construction equipment traffic in these areas has ceased.

Rationale: Heavy equipment compacts the soil which can be enormously detrimental to the establishment of trees, turf and other vegetation.

Review: DD, 95% CD

Include appropriate soil preparation notes in the drawing set.

### Trees

8.3 Guideline: Situate new trees planted in turf areas at least 10 feet from any concrete or other hard surface.

Rationale: Locating trees at least 10 feet from hard surfaces allows mower access.

Review: DD

Review tree locations during the design development phase.

8.4 Guideline: Place new trees so that at maturity they do not interfere with permanent, fixed site features (walls, shade structures, play equipment, etc.) or clear site triangles at vehicular intersections.

Rationale: Tree branching can cause damage to adjacent structures, and roots can cause heaving damage to pavements. Consultants should be familiar with the growth habits of individual species and position them appropriately.

Review: DD

Review tree species and locations during the design development phase.

8.5 Guideline: Preserve large, healthy, significant, memorial, and historic trees whenever possible. Relocate smaller, healthy trees if feasible.

Rationale: Trees are considered part of the infrastructure of a park, and a considerable amount of time is invested in them. Removing trees for new construction or renovation potentially eliminates a significant character defining element of the park and replacement trees will take many years to achieve a similar effect.

Review: Pre-design, DD

Review existing tree species and condition during the pre-design phase. Review detailed protection or limited removal specifics during the design development phase.

8.6 Guideline: Provide shade over paved surfaces with deciduous trees, including parking areas. The design should account for an appropriate tree rooting volume.

Rationale: Shade from deciduous trees reduces heat absorption by paving material and the subsequent heat-island effect.

Review: DD

Review tree species and locations during the design development phase. Review details for tree planting if alternate systems of providing adequate rooting volume are to be implemented.

8.7 Guideline: Evaluate existing trees for senescence and plant new trees that will replace the canopy as those trees age and die.

Rationale: The planting design of renovation projects should consider the succession of the tree canopy.

Review: Pre-design, DD

Review existing tree species and condition during the pre-design phase. Review new tree planting species and locations during the design development phase.

8.8 Guideline: Avoid multi-trunk trees in turf areas.

Rationale: Multi-trunk trees can be difficult to mow around, and can have weaker branching structure.

Review: DD

Review tree species and locations during the design development phase.

#### Shrubs / Perennials

8.9 Guideline: Select and space shrubs and perennials appropriately for future maintenance. Allow for mature spread, minimal or no pruning, and space to minimize snagging of wind-blown trash. Plantings should not obstruct visibility or accessibility, or interfere with circulation on paths. In addition, avoid poisonous or dangerously thorny plants.

Rationale: Pruning and removing debris from shrubs can require extensive maintenance. Shrubs that block views can create unsafe conditions.

Review: DD

Review species and locations during the design development phase.

8.10 Guideline: Place shrubs and perennials in groupings that have similar water requirements.

Rationale: Shrubs and perennials are often watered on the same bubbler zone to avoid confusing irrigation configurations.

Review: DD

Review species and locations during the design development phase.

8.11 Guideline: Locate shrubs and perennials at varying distances from tree trunk to allow for future watering of the mature root zone of the tree.

Rationale: Bubblers for shrubs provide supplemental water as the root zone of a tree expands.

Review: DD

Review species and locations during the design development phase.

## Turf

8.12 Guideline: Design turf grass areas for active or passive use, not for decoration. The preferred size of active use turf is 200' x 250', however 80' x 120' will suffice for a practice field. Passive uses include areas shaded by trees with benches and picnic tables, and vantage points from which play on fields may be observed.

Rationale: The watering demands of turf preclude its use in areas where it has little value to the park users.

Review: SD

Review turf configuration and design during the schematic design phase.

8.13 Guideline: Configure turf grass areas for the most efficient irrigation layout possible. Turf grass dimensions and setback from the back-of-curb shall follow City of Albuquerque Waste Water Ordinance.

Rationale: Small, isolated, or odd shaped turf areas can be difficult to water efficiently. The ordinance requires turf to be set-back a minimum of 8'-0" from the back of curb. This is applicable to new construction and irrigation renovation projects where other factors (historic designation) do not supersede the ordinance.

Review: SD

Review turf configuration and design during the schematic design phase.

Reference: City of Albuquerque Water Waste Ordinance.

## Mulch / Surfacing

8.14 Guideline: Cover non-turf landscaped areas with a minimum 4" depth of mulch. Natural areas are not required to have mulch.

Rationale: Mulches help reduce soil erosion and dust, cool soil around plantings, aid in water retention in soils, and help control weeds.

Review: SD

Review mulch specifications during the design development phase.

27

8.15 Guideline: Use organic material for mulch rings around trees in turf. Organic mulches may be acceptable in other approved applications.

Rationale: Organic mulches tend to be more maintenance intensive, but they can create a cooler ambient temperature for the soil and the park in general. They can break down and make beneficial contributions to the soil.

Review: DD

Review mulch specification during the design development phase.

8.16 Guideline: Use inorganic material for mulch where maintenance will be problematic. Areas that are subject to disturbance (wind or foot traffic for example) or that are difficult to access will be challenging to maintain.

Rationale: Inorganic mulches tend to be more easily maintained, but they can be hot and cause glare. Inorganic mulches do not break down.

Review: DD

Review mulch specification during the design development phase.

8.17 Guideline: Mulch material should be stable on slopes. On very steep slopes, consider the use of stone plating or gabion mattresses to prevent erosion.

Rationale: The characteristics and sizes of different mulches vary. The design should consider the degree of slope, the likelihood of pedestrian traffic, storm water flow, and how adjacent hardscape may be affected when specifying mulches.

Review: DD

Review mulch specification during the design development phase.

8.18 Guideline: Stone that may be lifted by hand and is larger than 2" is not preferred around the perimeter of a park.

Rationale: Large gravel or crushed stone tends to be thrown or otherwise used for vandalism.

Review: DD

Review stone mulch specification during the design development phase.

8.19 Guideline: Weed barrier fabric is preferred under mulch in most cases. Weed barrier fabric should be 4 ounce minimum strength, overlapped at least 6" and turned down at edges. Non-woven fabrics are preferred. Fabric should not be installed under bark mulch around trees planted in turf areas.

Rationale: Weed barrier fabric helps control weeds. However, it can become a maintenance burden with insufficient mulch depth, slopes that exceed the stability of the mulch, incorrect installation or where blowing sand is prevalent. Weed seed that blows in may germinate on top of the fabric. Non-woven fabrics tend to have higher permeability.

Review: DD

Review weed barrier fabric specification during the design development phase.

## SECTION 9 - SITE AMENITIES

### General

9.1 Guideline: Include site amenities in the park design to support and enhance the user experience. The location, quantity and style of furnishings should be appropriate to the context and use of the park. Shade, provided by mature trees or structures, should be an integral component of the design. In new park construction, a structure provides immediate shade while the trees mature. Visually, site amenities should enhance the aesthetics and character of the park, and take advantage of historic precedents where applicable.

9.2 Guideline: Note the location of any easements when designing placement of permanent structures.  
Rationale: Most easement agreements prohibit certain types of construction that will interfere with the use of the easement, such as vehicular entry or access to underground utilities.

Review: DD, 95% CD

### Furnishings

9.3 Guideline: Furnishings should be made of durable, low maintenance materials. These may include powder coated metal, stainless steel, aluminum, recycled plastic, or other approved materials. Recycled plastic should be used with caution, as it needs adequate structural support to prevent warping and breakage, and some types degrade badly in strong sunlight.

Rationale: Furnishings are highly susceptible to vandalism and damage, and are continuously exposed to harsh sunlight and extreme climate conditions. The preferred materials have proven better able to withstand abuse and weathering. Some furnishings made of recycled plastic have lacked sufficient structural support and have been broken. Concrete furnishings, while durable, are magnets for graffiti, and plastic coated metal mesh can be burned. Wood is not preferred as it is not durable in this climate and will dry out and splinter.

Review: DD

Review furnishing specifications during the design development phase.

Reference: Best Practices – List of preferred furnishings manufacturers and model numbers (see Appendix S9a: Preferred Site Furnishings and Amenities).

9.4 Guideline: Benches with center arm-rests should be considered in areas that have a high rate of vagrancy.

Rationale: Center arm-rests deter sleeping on benches.

Review: DD

Review furnishing specifications during the design development phase.

9.5 Guideline: Furnishings shall comply with ADA guidelines. An appropriate number of benches (at least one) should have an adjacent open paved space to accommodate a wheelchair. An appropriate number of tables (at least one) should accommodate disabled users.

Rationale: Park design should strive for universal accessibility.

Review: DD

Review furnishing specifications during the design development phase (see *APPENDIX 9b: Site Furnishings ADA Checklist* and *APPENDIX 9c: Shelters and Picnic Areas Checklist*).

9.6 Guideline: Locate furnishings where they do not interfere with the operation of irrigation heads.

Rationale: Furnishings can disrupt the distribution of water from rotor or spray heads.

Review: DD

Review furnishings and head locations during the design development phase.

9.7 Guideline: Include bike racks in the design. The location and quantity should be determined by the park size and user characteristics.

Rationale: The City of Albuquerque encourages the use of bicycles as a form of carbon neutral transportation and part of a healthy lifestyle.

Review: DD

Review bike rack specification and location during the design development phase.

9.8 Guideline: Drinking fountains are not encouraged, and barbeque grills should not be included in urban parks.

Rationale: Drinking fountains are difficult to maintain and are prone to vandalism. Barbeque grills are difficult to maintain and can lead to inappropriate disposal of coals and ash.

Review: Pre-design

Review inclusion of drinking fountains and barbeque grills during the pre-design phase.

Reference: Best Practices – List of preferred furnishings manufacturers and model numbers.

## Shade Structures

9.9 Guideline: Shade structures should have adequate clear distance from adjacent amenities (walls, furnishings, trees etc...) to deter people from climbing onto the roof.

Rationale: Climbing on the roof of a shade structure is dangerous and can cause significant damage. Locating amenities away from shade structures discourages climbing onto the roof.

Review: DD, 95% CD

Review shade structure location with regard to adjacent amenities during the design development and 95% construction document phases.

9.10 Guideline: Metal roofs on shade structures are preferred. Tensile fabric shade structures are allowable, but are more susceptible to vandalism and weather damage. Wood structures are not preferred but may be used in certain circumstances.

Rationale: Shade structures are susceptible to weathering and vandalism. Metal roofs have proven to be less prone to damage. Fabric degrades over time in sunlight, may be ripped free in high winds, and may be cut or burned. Smaller fabric panels are preferable because they are less expensive and easier to replace. Wood will have to be replaced more often than metal.

Review: DD, 95%CD

Review shade structure specification during the design development and 95% construction document phases.

9.11 Guideline: Shade structure drawings are required to be stamped by a structural engineer registered in New Mexico.

Rationale: Shade structures require a building permit. Manufactured structures often include stamped engineering drawings which can be obtained when the structure is ordered. Stamped drawings are required for permitting.

Review: 100%CD, Permitting

Review shade structure construction documents during the final construction document phase or during the permitting phase during the construction.

## Trash Receptacles

9.12 Guideline: Locate trash receptacles near areas where people congregate, by dog bag dispensers, and near park access points. Place receptacles an adequate distance from benches and other furnishings so that unpleasant odors and unsightly aesthetics don't disrupt the user experience. Locate receptacles where they can be readily accessed by maintenance personnel. At least 20% of the receptacles should be placed in accessible locations.

Rationale: Trash receptacles should be located where they are convenient to use but not where they can be unpleasant to experience. They must be easily accessible to maintenance crews and small maintenance vehicles so that they may be quickly and efficiently serviced.

Review: DD

Review trash receptacle locations during the design development phase.

9.13 Guideline: Do not locate trash receptacles within the throw of spray or rotor heads.

Rationale: Spray and rotor irrigation can saturate the trash within the receptacle and make it difficult to remove. The receptacle can also disrupt the spray pattern and affect distribution uniformity.

Review: DD

Review trash receptacle locations during the design development phase.

9.14 Guideline: Specify trash receptacles with a side opening access panel and self-locking mechanism.

Rationale: A side opening access panel allows park maintenance personnel to easily remove the inner can. The self-locking mechanism helps ensure that the access panel remains closed and that the trash can is inaccessible.

Review: DD

Review trash receptacle specification during the design development phase.

Reference: Best Practices – List of preferred furnishings manufacturers and model numbers.

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9.15 Guideline: Provide dog refuse bag dispensers and appropriate signage in parks that have high dog usage. Ascertain that a neighborhood volunteer is available to replace bags.

Rationale: Dog refuse bag dispensers help control pet waste which can be a serious health hazard and contribute to the pollution of surface waters.

Review: DD

Review dog refuse bag dispensers specification and locations during the design development phase.

Reference: Best Practices – List of preferred furnishings (see *"APPENDIX 9a: Preferred Site Furnishings and Amenities" on page 54*).

## Restrooms

9.16 Guideline: Restrooms are the exception rather than the rule in parks.

Rationale: Restrooms require a very high level of maintenance and are prone to vandalism.

Review: Pre-design

Review inclusion of restrooms during the pre-design phase.

9.17 Guideline: Portable restroom accommodations may be included in parks that receive heavy use, or in parks for special events. They should be located appropriately for the access of park users and maintenance personnel. The size and number of facilities will reflect projected usage.

Rationale: Portable restrooms are less expensive to operate than permanent facilities, and may be moved as necessary.

Review: Pre-design

Review inclusion of portable restroom accommodations during the pre-design phase.

9.18 Guideline: Provide designated locations and appropriate infrastructure at certain parks (e.g. Little Leagues, soccer complexes) where portable restrooms may be provided by the user group. Place portable restroom accommodations on a concrete pad with screened enclosures.

Rationale: Some facilities regularly have portable restrooms that are provided by the users.

Review: Pre-design

Review inclusion of portable restroom accommodations during the pre-design phase. Review provisions for appropriate infrastructure in the pre-design phase.

## Signage

9.19 Guideline: Specify a park name sign and a sign with park ordinances, usage rules and hours of operation. Signage should have contact numbers for reporting violations. Signage may also include a QR code for additional information.

Rationale: More information creates a safer park and a better park system.

Review: Pre-design, DD

Review condition of existing signage (for renovation projects) during the pre-design phase. Review location and required language of park signage during the design development phase. The City will provide all required ordinance citations during the design development phase.

Reference: Best Practices – Details and language for sign installation (see *“APPENDIX 9d: Park Sign Template” on page 57*).

## SECTION 10 – ACTIVE AREAS

### General

10.1 Guideline: Buffer active use areas from parking lots, adjacent roadways, and internal vehicular circulation routes with a minimum 30' off-set spacing, or fencing.

Rationale: Active areas have a higher likelihood of the user or equipment going into a vehicular area. A buffer or fencing helps reduce the conflict between pedestrians and vehicles.

Review: SD

Review spacing and arrangement of active areas during the schematic design phase.

### Play Areas / Equipment

10.2 Guideline: Play area equipment shall meet all current national safety and accessibility guidelines.

Rationale: Safety and accessibility guidelines shall be met for health, safety and welfare reasons.

Review: DD, 95% CD

Review the play area design and equipment during the design development and the 95% construction document phases.

Reference: ADA, ASTM, CPSC, *Accessibility Guidelines for Play Areas*

10.3 Guideline: Include 'age appropriate' signage in play areas. The sign should be located where it is visible within each play area, but does not block views or interfere with the equipment use zone. Where appropriate, signs should be bilingual in both English and Spanish.

Rationale: The national play area safety guidelines include signage that indicates the ages for which the playground equipment is appropriate. Most play equipment manufacturers have standard signs.

Review: DD, 95% CD

Review the play area signage specification during the design development and the 95% construction document phases.

Reference: ASTM, CPSC

10.4 Guideline: Specify certified engineered wood fiber surfacing for play areas as the default safety surfacing. Poured-in-place materials and other approved synthetic surfaces are allowable in special situations.

Rationale: Engineered wood fiber surfacing typically meets impact attenuation and accessibility requirements. It is less expensive than other surfacing materials, and is generally easier to maintain. Engineered wood fiber surfacing shall be specified to be certified by IPEMA or other certifying entity. Poured-in-place surfacing provides greater accessibility and can be used where loose material is not an option. However, it can be expensive and a maintenance burden. Sand no longer meets the safety standards for some fall heights and is not considered accessible. It may be appropriate in play areas where impact attenuation is not required or where sand play is a programmatic element.

Review: DD

Review the surfacing specification during the design development phase.

Reference: ADA, ASTM, CPSC - Best Practices – Details for play area surfacing installation.

10.5 Guideline: Provide a handicap access ramp into play areas where there is a grade difference to the surface, or where loose fill is used as a safety surface.

Rationale: Engineered wood fiber meets accessibility requirements. However, there is typically an offset from the top of the surfacing to the adjacent concrete paving that constitutes an accessibility barrier. A ramp allows accessible circulation.

Review: DD

Review the surfacing specification, ramp design and location during the design development phase.

Reference: Best Practices – **Details** for play area access ramps.

10.6 Guideline: Specify an adequate containment system for all edges surrounding a play area when loose material is used as the surfacing. This is typically accomplished with a concrete containment wall, or a turn-down edge on walks. In play area designs where the surfacing transitions to a shallower depth, a containment wall with a depth of less than 18” may be appropriate.

Rationale: Loose material can be removed to expose and under-cut adjacent paving. A containment system of at least 18” depth prevents this occurrence.

Review: DD, 95% CD

Review the containment perimeter specification and detailing during the design development and the 95% construction document phases.

Reference: Best Practices – Details for containment system and play area surfacing.

10.7 Guideline: Play area surface shall be designed to be level when loose material is used as play area surfacing. Subsurface grades may slope to allow drainage below finish grade.

Rationale: Loose surfacing acts as a fluid material, achieving a level plane. If the play area has a gradient, the loose material will migrate out of the play area at the low point. The perimeter containment can be higher than the low point as long as the surface is designed to be level.

Review: DD, 95% CD

Review the grading of the play area and surrounding elements during the design development and the 95% construction document phases.

10.8 Guideline: The spacing of equipment within a play area should exceed the minimum designated use zone.

Rationale: Construction of the perimeter hardscape and placement of equipment within a play area have the potential to vary from the design intent. Allow one or two feet extra for each zone.

Review: DD, 95% CD

Review the placement of play equipment and surrounding elements during the design development and the 95% construction document phases.

10.9 Guideline: Consider providing shade in the play area design.

Rationale: Play areas can get hot in the summer sun and exposure to UV rays is not recommended for young skin. Options for providing shade over the equipment create a more hospitable play environment.

Review: DD

Review the play area design and options for shading during the design development phase.

10.10 Guideline: Include seating at appropriate locations around the play area.

Rationale: Seating located near the play area provides opportunities for adults to sit and monitor children at play.

Review: DD

Review the play area design and options for seating during the design development phase.

10.11 Guideline: Consider possibly problematic design issues and materials when selecting play equipment. All approved play equipment / components are not necessarily appropriate for public parks in Albuquerque.

Rationale: Materials such as wood are prone to rapid degeneration, and exposed steel slides become too hot to use in our climate. Clear components such plastic window panels are subject to graffiti and damage due to scratching. Crawl tubes may offer hiding/sleeping places for vagrants.

Review: DD

Review the play area equipment during the design development phase.

## Dog Parks / Equipment

10.12 Guideline: Design dual-gate, vestibule style entries with self-closing gates for dog parks.

Rationale: Dual, self-closing gates help prevent dogs escaping.

Review: DD, 95% CD

Review the entry design and gate detail during the design development and the 95% construction document phases.

Reference: Best Practices – Details for entry vestibule.

10.13 Guideline: Design dog parks with at least two segregated areas, if space permits. These two areas are often designated as ‘small dog’ and ‘large dog’ areas.

Rationale: Dogs and their owners have different socialization habits. Having segregated areas allow dogs with different temperaments to avoid conflicts.

Review: DD

Review the internal segregation system during the design development phase.

10.14 Guideline: Include benches, tables, trash receptacles, dog-waste bag dispensers (‘Mutt Mitts’), and shade structures whenever possible. A dog watering station is much appreciated where feasible.

Rationale: These furnishings provide a comfortable, sanitary environment for owners and dogs.

Review: DD

Review the furnishings and equipment design during the design development phase.

10.15 Guideline: Use engineered wood fiber as surfacing material for dog parks.

Rationale: Engineered wood fiber helps control dust, weeds, and mud. It is also relatively inexpensive to install and replace, and is considered accessible. It is a fluid material, so the grading design should avoid erosive conditions. Dogs may also dig into the material or chew on it. However, at this time it is the best material available for this use.

Review: DD

Review the surface material specification and grading design during the design development phase.

10.16 Guideline: Perimeter and internal fencing should be a minimum of 4’ tall. Acceptable materials include chain-link, vinyl coated chain link, welded wire, or tubular steel. Hardware cloth with a mesh of ½” may be installed along the bottom of the fence to prevent migration of wood fiber to the other side.

Rationale: 4’ tall fencing is the minimum height that contains most dogs. The fencing material should maintain the character of the park.

Review: DD

Review the fencing specification during the design development phase.

10.17 Guideline: Install signage indicating the specific rules and regulations of the dog park at all entrances, and on the outside of the transition between segregated areas.

Rationale: Research has shown that more signage encourages more compliance with rules, such as picking up after your dog.

Review: 95% CD

Review sign location and specific language during the 95% construction document phase.

Reference: Best Practices – Typical language for signs for dog park usage (see *“APPENDIX 10a: Dog Park Sign” on page 58* and *“APPENDIX 10b: Small Dog Sign” on page 59*).

## Skateparks / Equipment

10.18 Guideline: Provide appropriate perimeter buffering for the skatepark.

Rationale: For safety reasons, skateparks have unique requirements for perimeter buffering from adjacent vehicular areas and park uses.

Review: DD

Review relationship of a skatepark to adjacent areas during the design development phase.

10.19 Guideline: Skateparks should have benches, tables, trash receptacles and shade structures that are close to, but located out of the primary skating areas.

Rationale: These furnishings provide a comfortable, sanitary environment for users.

Review: DD

Review the furnishings and equipment design during the design development phase.

10.20 Guideline: Install signage indicating the specific rules and regulations of the skatepark at all entrances.

Rationale: Research has shown that more signage encourages more compliance with rules.

Review: Review sign location and specific language during the 95% construction document phase.

Reference: Best Practices – Typical language for signs for skatepark usage.

## Courts / Equipment

10.21 Guideline: Follow industry standards regarding size, orientation, construction, striping, equipment, buffer zones and fencing for all courts (basketball, tennis, pickleball, racquetball, etc.).

Rationale: Standard official court designs are prescribed for each specific sport

Review: DD, 95% CD

Review court design and construction specifics during the design development and the 95% construction document phases. See ***Summary of Accessibility Guidelines for Recreation Facilities***

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10.22 Guideline: Basketball courts may be full, half, or smaller depending on site-specific conditions and user or neighborhood preferences.

Rationale: Basketball courts are primarily used for shooting or smaller pick-up games, so a full court may not be necessary or desired.

Review: DD

Review court and goal layout during the design development phase.

10.23 Guideline: Divide adjacent tennis courts with an internal fence.

Rationale: Internal dividing fences between courts help control errant balls.

Review: DD

Review court design fencing during the design development phase.

10.24 Guideline: Install signage indicating the specific rules and regulations of the courts at all entrances.

Rationale: Research has shown that more signage encourages more compliance with rules.

Review: Review sign location and specific language during the 95% construction document phase.

Reference: Best Practices – Typical language for signs for court usage (see ***"APPENDIX 10c: Tennis Court Sign" on page 60***).

10.25 Guideline: Do not install backboards at tennis courts in neighborhood parks.

Rationale: Backboards can be noisy and a nuisance in neighborhood parks.

Review: Pre-design

Review appropriateness of backboards during the pre-design phase.

## Sports Fields

10.26 Guideline: Follow industry standards regarding size, orientation, grade, construction, striping, equipment and fencing for all fields (soccer, football, softball, baseball, etc.).

Rationale: Users prefer to play on the standard field designs that are prescribed for each specific sport.

Review: DD, 95% CD

Review field design and construction specifics during the design development and the 95% construction document phases.

10.27 Guideline: Design appropriate perimeter buffering for all play fields. Install appropriate fencing where errant balls could create safety hazards.

Rationale: Active play requires a buffer zone for the safety of players and other park users. Softball and baseball fields have unique requirements for perimeter buffering and fencing from adjacent vehicular areas and park uses.

Review: DD

Review field design, fencing, and proximity to adjacent uses during the design development phase.

## Other Activities

10.28 Guideline: Consider non-standard activities and equipment on a case-by-case basis.

Rationale: Numerous alternative activities may be appropriate in a park. Disc golf, horseshoes, exercise equipment, bocce, BMX, sledding hills, and rock climbing are some examples of non-traditional activities that may be included in the park.

Review: Pre-design, DD, 95% CD

Review inclusion of non-traditional activities during the pre-design phase. Review specifics of these activities during the design development and the 95% construction document phases.

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10.29 Guideline: Design passive use areas on a case-by-case basis.

Rationale: Numerous alternative passive uses may be appropriate in a park depending on public input and context. Rose gardens, memorials, amphitheaters, scenic overlooks and designated group gathering spaces are some examples of other uses that may be included in the park.

Review: Pre-design, DD, 95% CD

Review inclusion of passive uses during the pre-design phase. Review specifics of these uses during the design development and the 95% construction document phases.

10.30 Guideline: Include explorative / educational areas on a case-by-case basis.

Rationale: Numerous explorative / discovery uses may be appropriate in a park. Nature trails, mazes, didactic elements, information kiosks, historic markers, viewing areas, wildlife attractions, artwork, and botanical demonstrations are some examples of non-traditional uses that may be included in the park.

Review: Pre-design, DD, 95% CD

Review inclusion of explorative / educational areas during the pre-design phase. Review specifics of these uses during the design development and the 95% construction document phases.

## SECTION 11 – ELECTRICAL AND LIGHTING

### Electrical

11.1 Guideline: Locate exact source of electricity and indicate on drawings. Identify whether power source is three phase or single phase.

Rationale: Knowing location of power source allows intelligent informed placement of infrastructure and allows more accurate pricing at an earlier stage.

Review: Pre-design, 95%CD

Review electrical service source at beginning of project and check at 95% construction document phase.

11.2 Guideline: Electrical service should be underground where possible.

Rationale: Overhead lines are unsightly and susceptible to vandalism.

Review: 95% CD

Review electrical service locations and routing during the 95% construction document phase.

11.3 Guideline: Locate electrical service equipment in non-hidden locations near vehicular access whenever possible. Protect with bollards if necessary.

Rationale: Electrical service equipment should be located where it is easily accessed by maintenance personnel and meter readers. It should also be located where it is less likely to be vandalized or damaged by vehicles.

Review: 95% CD

Review electrical service locations during the 95% construction document phase.

### Lighting

11.4 Guideline: Include security, pedestrian, accent, and/or parking lot lighting in parks where appropriate.

Rationale: Lighting illuminates dark areas that are prone to unapproved activity and may allow public observation or surveillance from police vehicles. However, lighting also results in extended use of these areas. Neighborhoods should be consulted when lighting is proposed to avoid conflicts after construction.

Review: Pre-design, DD

Review the inclusion of lighting in the design during the pre-design phase and after receiving input from the neighborhood association.

11.5 Guideline: Install facility field lighting at softball fields and soccer / football fields in community parks, and skateparks if consistent with zoning. Confirm compliance with SU1 zoning if applicable.

Rationale: These facilities are used heavily in evening hours.

Review: Pre-design, DD

Review the inclusion of lighting in the design during the pre-design phase.

11.6 Guideline: Lighting may be installed at tennis courts, soccer / football fields, and dog parks located within neighborhoods when appropriate and consistent with zoning codes. Confirm compliance with SU1 zoning if applicable

Rationale: These facilities can be heavily used in evening hours. However, when these facilities are located in neighborhood parks, lighting may be inappropriate. Neighborhoods should be consulted when lighting is proposed to avoid conflicts after construction.

Review: Pre-design

Review the inclusion of lighting in the design during the pre-design phase.

11.7 Guideline: Consult and use industry standards when designing lighting at fields, courts, and skateparks.  
Rationale: These facilities and their varying intensity of use generally have published or industry standard requirements regarding illumination levels.

Review: DD

Review lighting illumination levels during the design development phase.

11.8 Guideline: High-mast lighting should be appropriately shielded.

Rationale: The glare from high-mast lighting can be visually obtrusive. Consider viewsheds and adjacent properties when designing high-mast lighting, and adhere to dark sky ordinances.

Review: DD

Review lighting design and equipment specification during the design development phase (see *“APPENDIX 11a: Preferred Electrical Equipment” on page 61*).

11.9 Guideline: Light fixtures, hardware, fasteners, and equipment should be vandal resistant.

Rationale: Lighting disrupts illegal activities and provides a fine target for vandalism.

Review: DD

Review the lighting equipment specifications during the design development phase.

11.10 Guideline: Use LED lighting when possible.

Rationale: LED lighting uses much less electricity than traditional forms of lighting. It also lasts a very long time compared to traditional lamp types, reducing the maintenance burden of lamp replacement. LED lights may be dimmed and set on timers, making it a good choice in some residential situations. The LED light itself presents a very small target for vandals. Until recently, LED lighting was prohibitively expensive, but it is becoming increasingly affordable.

Review: DD

Review the lighting equipment specification during the design development phase.

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11.11 Guideline: Specify aluminum wiring and associated equipment where appropriate. Label equipment with stickers that identify the wiring as aluminum to deter theft.

Rationale: Aluminum wiring is less susceptible to theft. Aluminum wiring has different conductive properties than copper wiring which need to be accommodated in the plans and specifications.

Review: 95% CD

Review the lighting wiring specification during the 95% construction document phase.

11.12 Guideline: Electrical routing plans should show accurate routing locations of wiring and conduit. Routing shall be shown to avoid conflicts with built features, existing trees, or other amenities that may make repairs difficult.

Rationale: Electrical plans may show generic wiring routing that may be problematic during construction. Showing routing accurately to how the wiring and conduit will be installed help avoid changes in the field.

Review: 95% CD

Review the wiring and conduit routing during the 95% construction document phase.

## **SECTION 12 – APPENDICES**

## APPENDIX 1A: PRE-DESIGN CHECKLIST

<p>Site Analysis</p> <p>All Sites:</p> <p style="padding-left: 40px;">General existing conditions:</p> <p>Context</p> <p style="padding-left: 40px;">Neighborhoods, other agencies</p> <p style="padding-left: 40px;">Surrounding land use</p> <p style="padding-left: 40px;">Zoning, Design Overlay Zone</p> <p style="padding-left: 40px;">Drainage</p> <p style="padding-left: 40px;">Topography</p> <p style="padding-left: 40px;">Council District</p> <p style="padding-left: 40px;">Neighborhood character</p> <p style="padding-left: 40px;">Soils and climate</p> <p>Site</p> <p style="padding-left: 40px;">Survey</p> <p style="padding-left: 40px;">Zoning / zone atlas page</p> <p>Topography – slope issues</p> <p style="padding-left: 40px;">Drainage</p> <p style="padding-left: 40px;">Vegetation</p> <p style="padding-left: 40px;">Access</p> <p style="padding-left: 40px;">Easements / restrictions</p> <p style="padding-left: 40px;">Property lines</p> <p style="padding-left: 40px;">Right of way</p> <p style="padding-left: 40px;">Agreements (joint use, maintenance, etc.)</p> <p style="padding-left: 40px;">Historic / archeological</p> <p style="padding-left: 40px;">Utilities: underground /exposed / electrical connection / water connection - condition</p> <p style="padding-left: 80px;">Static water pressure</p>	<p>For park renovations:</p> <p>Built features</p> <p style="padding-left: 40px;">Hardscape</p> <p style="padding-left: 40px;">Drainage and storm drain location</p> <p style="padding-left: 40px;">Existing points of connection</p> <p style="padding-left: 40px;">Fire hydrant location</p> <p>Circulation and access</p> <p style="padding-left: 40px;">parking</p> <p style="padding-left: 40px;">maintenance access</p> <p style="padding-left: 40px;">accessibility concerns</p> <p style="padding-left: 40px;">internal circulation routes</p> <p style="padding-left: 40px;">access ramps, stairs</p> <p style="padding-left: 40px;">fencing</p> <p style="padding-left: 40px;">bridges</p> <p>Irrigation</p> <p style="padding-left: 40px;">Point of connection (poc)</p> <p style="padding-left: 40px;">condition of poc equipment (controller etc.)</p> <p style="padding-left: 40px;">condition of field equipment (laterals, heads)</p> <p style="padding-left: 40px;">static water pressure</p> <p style="padding-left: 40px;">water fines</p> <p style="padding-left: 40px;">deficiencies</p> <p>Vegetation</p> <p style="padding-left: 40px;">Trees – species, age, condition, roots</p> <p style="padding-left: 40px;">Shrubs and other plants</p> <p style="padding-left: 40px;">Mulches</p> <p style="padding-left: 40px;">Tribute trees</p> <p>Site Amenities</p> <p style="padding-left: 40px;">Shade structures</p> <p style="padding-left: 40px;">Picnic tables, benches</p> <p style="padding-left: 40px;">Trash receptacles</p> <p style="padding-left: 40px;">Dog waste bag dispensers</p> <p style="padding-left: 40px;">Signage</p>	<p><b>41</b></p>
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Active areas	Review requirements, permits and procedures:
Playground	EPC
Skate park	DRC
Courts (tennis, basketball etc.)	LUCC
Sports fields	NPDES (for Projects 1 acre or larger)
Other activities	Building permits
Dog park	Neighborhood meeting
Skate park	Xeriscape rebate
Electrical and lighting	Water audit
Electric service	Bid documents
Lighting	
Soils	Design considerations:
Geotechnical testing, if necessary	Programming
Amendments, decompaction etc.	Active
	Passive
Budget:	Grading for
Amount	Drainage
Source	Water conservation
	Aesthetics / play value
Construction contracting method:	Irrigation
Bid	Circulation
On-call	Universal accessibility
City crews	Materials palette
	Fencing
Preliminary schedule:	Lighting
Start date	Parking
months to completion	
approximate dates of milestones & deliverables	

## APPENDIX 1B: PRE-CONSTRUCTION MEETING CHECKLIST

### Scope and Schedules

- Scope of Phase
- Contract Deadlines
- Construction Milestones
- Progress Meeting Schedule
- Pay Requests

### Requirements, Permits and Procedures:

- Dust Control Permit
- Topsoil Disturbance Permit (for Projects 3/4 acre or larger)
- NPDES SWPPP (for Projects 1 acre or larger)
- Building Permit
- Construction Easements
- Other existing or pending easements

### Traffic Control Plan

### Utility Coordination

### Inspections

### Change Orders

### Notice to Proceed

### Project Close Out-Record Drawings

### Acceptance

### Special Concerns:

- Soils
- Existing Vegetation
- Existing Structures
- Construction Limits/Staging Areas
- Material Sourcing Issues



## APPENDIX 2b: General Notes

### GENERAL NOTES

1. THE SPECIFICATIONS USED FOR THIS PROJECT, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, ARE THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION, UPDATE NO. 9.
2. THE CONTRACTOR WILL BE RESPONSIBLE FOR DISPOSING OF ALL DEBRIS, INCLUDING, BUT NOT LIMITED TO HAZARDOUS WASTE AT DISPOSAL SITES APPROVED BY GOVERNMENTAL AGENCIES REGULATING THE DISPOSAL OF SUCH MATERIALS.
3. THE CONTRACTOR SHALL NOTIFY THE NEW MEXICO ONE CALL SYSTEM 260-1990 TWO (2) WORKING DAYS PRIOR TO COMMENCING WORK IN NEW AREAS.
4. SUBGRADE PREPARATION UNDER SIDEWALKS AND DRIVE PADS, AND SUBGRADE AND SUBBASE PREPARATION UNDER CURB AND GUTTER IS CONSIDERED INCIDENTAL TO THE CONSTRUCTION OF SUCH, AND NO DIRECT PAYMENT SHALL BE MADE FOR THOSE ITEMS OF WORK.
5. ALL EXCAVATION WILL BE GOVERNED BY FEDERAL, STATE AND LOCAL LAWS, RULES, AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
6. ALL SIGNS AND CODING WILL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" CURRENT EDITION PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION.
7. FOR WORK WITHIN THE CITY RIGHT OF WAY, THE CONTRACTOR WILL OBTAIN A BARRICADING PERMIT FROM THE CONSTRUCTION COORDINATION DIVISION.
8. THE CONTRACTOR WILL REPLACE ANY STRIPING THAT HAS BEEN RUINED OR REMOVED IN THE COURSE OF CONSTRUCTION.
9. THE CONTRACTOR IS TO EXERCISE CARE TO AVOID DISTURBING ANY EXISTING UNDERGROUND UTILITIES. IT WILL BE HIS RESPONSIBILITY TO COORDINATE WITH THE UTILITY COMPANIES IN ORDER TO PREVENT ANY SERVICE DISRUPTION. SEE SECTION 18 "UTILITIES", CITY OF ALBUQUERQUE, STANDARD SPECIFICATIONS FOR CONTRACTOR REQUIREMENTS.
10. WHEN ABUTTING NEW PAVEMENT TO EXISTING INTERSECTING STREETS, SAW CUT EXISTING PAVEMENT TO A STRAIGHT LINE AND AT RIGHT ANGLES AND REMOVE ANY BROKEN OR CRACKED PAVEMENT. NO DIRECT PAYMENT WILL BE MADE FOR SAW CUTTING.
11. ALL GAS VALVES, GAS MANHOLES, ELECTRICAL MANHOLES, TELEPHONE MANHOLES, AND UTILITY POLES WILL BE ADJUSTED TO GRADE BY EACH UTILITY COMPANY. CONTRACTOR WILL COORDINATE THROUGH CITY UTILITY COORDINATOR.
12. WHEN REMOVAL OF EXISTING CURB AND GUTTER OR SIDEWALK IS REQUIRED, REMOVE BACK TO NEAREST SUITABLE JOINT UNLESS OTHERWISE DIRECTED BY THE CITY FIELD ENGINEER.
13. CONTRACTOR WILL MAKE ALL WATER VALVES AND MANHOLES ACCESSIBLE TO THE CITY AT ALL TIMES.
14. ALL SUBGRADE AND SUBBASE MATERIAL ENCOUNTERED IN PAVEMENT REMOVAL AND REPLACEMENT THAT IS DETERMINED BY THE FIELD ENGINEER TO MEET THE SPECIFICATIONS CAN BE REUSED. HOWEVER, THE MATERIAL WILL BE PROCESSED AND COMPACTED TO MEET MOISTURE CONTENT AND PERCENT COMPACTION REQUIRED BY THE SPECIFICATIONS.
15. CONTRACTOR WILL NOT PAVE OVER ANY SURFACE FEATURE, I.E., GAS VALVE, MANHOLE COVER, ETC. WITHOUT PRIOR APPROVAL FROM THE CITY FIELD ENGINEER.
16. CONTRACTOR WILL CONFINE HIS WORK WITHIN THE CONSTRUCTION EASEMENT LIMITS AND/OR RIGHT-OF-WAY, OR PROVIDE COPIES OF AGREEMENTS WITH ADJACENT LANDOWNERS TO THE CITY OF ALBUQUERQUE.
17. ALL WATER VALVES AND FIRE HYDRANTS REMOVED TO BE SALVAGED AND RETURNED TO THE C.O.A.
18. MINIMUM BOTTOM WIDTH OF TRENCHES FOR RIGID PIPE SHALL BE EQUAL TO THE OUTSIDE

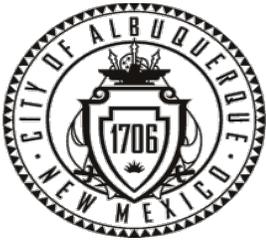
- DIAMETER PLUS 16 INCHES. BEDDING MATERIAL SHALL BE CLASS II, III, OR IV UNLESS OTHERWISE SPECIFICALLY NOTED ON THE PLANS.
19. MINIMUM BOTTOM WIDTH OF TRENCHES FOR NON-RIGID PIPE SHALL BE EQUAL TO THE OUTSIDE DIAMETER PLUS 12 INCHES. BEDDING MATERIAL SHALL BE CLASS I, II, OR III.
  20. THE CONTRACTOR AGREES TO TAKE NECESSARY SAFETY PRECAUTIONS AS REQUIRED BY FEDERAL, STATE AND LOCAL AUTHORITIES TO PROTECT PEDESTRIAN AND VEHICULAR TRAFFIC IN THE CONSTRUCTION AREA, WHICH INCLUDE BUT ARE NOT LIMITED TO: MAINTAINING ADEQUATE WARNING SIGNS, BARRICADES, LIGHTS, GUARD FENCES, WALKS AND BRIDGES.
  21. ALL STRUCTURAL CONCRETE WILL BE 3000 PSI UNLESS OTHERWISE NOTED ON PLANS.
  22. ALL REINFORCING STEEL WILL BE GRADE 60.
  23. ALL EXPOSED EDGES ON CAST-IN-PLACE CONCRETE STRUCTURES WILL HAVE A 1" CHAMFER UNLESS OTHERWISE NOTED.
  24. ALL SPLICES IN REINFORCING STEEL TO BE 2-FOOT 6-INCH MINIMUM UNLESS OTHERWISE NOTED.
  25. THE REPLACEMENT OF THE EXISTING UTILITIES AND THE INSTALLATION OF NEW UTILITY LINES WILL BE COMPLETED IN ADVANCE OF STARTING THE PAVEMENT WORK. TEMPORARY PAVEMENT WILL BE PLACED IN ALL TRENCHES REQUIRED FOR THE UTILITY REPLACEMENTS IN THOSE AREAS THAT MUST MAINTAIN TRAFFIC UNTIL THE FINAL PAVEMENT WORK STARTS IN EACH AREA. TEMPORARY STRIPING SHALL BE THE CONTRACTOR'S RESPONSIBILITY. MAINTENANCE OF THE TEMPORARY PAVING AND STRIPING WILL BE AT THE CONTRACTOR'S EXPENSE.
  26. TACK COAT FOR SURFACE COURSE REQUIREMENTS WILL BE DETERMINED BY THE FIELD ENGINEER.
  27. THE CONTRACTOR WILL CONTACT THE CITY OF ALBUQUERQUE TRAFFIC DIVISION 857-8025, ONE (1) WEEK IN ADVANCE OF ANY CHANGES REQUIRED IN THE TRAFFIC SIGNALIZATION OF THIS PROJECT. ALL WORK ASSOCIATED WITH NEW TRAFFIC SIGNALIZATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
  28. ALL NEW STREET PAVING, DRIVEWAYS, SIDEWALKS, AND CURB AND GUTTERS, ABUTTING EXISTING AREAS SHALL MATCH THE ELEVATION OF THOSE AREAS.
  29. PERMANENT PAVEMENT STRIPING AND MARKINGS WILL BE PLACED BY THE CONTRACTOR. ROAD SHALL NOT BE OPENED TO TRAFFIC UNTIL IT IS STRIPED. ALL STRIPING, PAVEMENT MARKINGS INCLUDING CROSSWALKS, ARROWS AND LINE MARKINGS ARE TO BE CONSTRUCTED OF HOT PLASTIC OR COLD PLASTIC IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
  30. ALL EXCAVATED MATERIAL THAT IS NOT REQUIRED TO BE REUSED MUST BE REMOVED FROM THE PROJECT AREA WITHIN FOUR DAYS OF EXCAVATION. SPOIL PILES WILL BE ALLOWED ONLY AS DIRECTED BY THE CITY FIELD ENGINEER.
  31. THE CONTRACTOR WILL COORDINATE THE CONSTRUCTION ACTIVITIES WITH ALL OTHER CONTRACTORS AND UTILITY COMPANIES WORKING IN THE SAME AREA. THE CONTRACTOR MAY BE REQUIRED TO RESCHEDULE THEIR ACTIVITIES TO ALLOW UTILITY CREWS TO PERFORM THEIR REQUIRED WORK. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR DELAYS OR INCONVENIENCE CAUSED BY UTILITY COMPANY WORK CREWS. A CONTRACT EXTENSION MAY BE ALLOWED AS DELINEATED IN CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS.
  32. ALL CONSTRUCTION EASEMENTS ON PRIVATE PROPERTY WILL BE OBTAINED BY THE CITY OF ALBUQUERQUE PRIOR TO THE BEGINNING OF CONSTRUCTION.
  33. EXISTING MEDIAN CURB AND GUTTER AND STANDARD CURB AND GUTTER, NOT DISTURBED BY CONTRACTOR, BUT OUT OF ALIGNMENT, DISPLACED VERTICALLY, BADLY BROKEN AND/OR DETERIORATED, WILL BE REPLACED AS DIRECTED BY THE FIELD ENGINEER AND PAID FOR AT CONTRACT UNIT PRICES.
  34. ALL TRAFFIC CONTROL DEVICES REQUIRED FOR DRIVEWAY CLOSURES, UTILITY CONSTRUCTION OR FOR OTHER REASONS AND NOT SHOWN ON THE SIGNING PLANS WILL BE FURNISHED BY THE CONTRACTOR AND WILL BE PAID AS SPECIFIED IN THE TECHNICAL SPECIFICATIONS AND BID PROPOSAL. PRIOR TO PLACING THE TRAFFIC CONTROL DEVICES, THE CONTRACTOR WILL NOTIFY THE AFFECTED OWNERS

IN ACCORDANCE WITH THE SPECIFICATIONS. CONTRACTOR MUST MAKE PROVISIONS TO PROVIDE ACCESS TO PROPERTIES. REFER TO SECTION 19 OF THE SPECIFICATIONS.

35. ALL UTILITY LINES WHICH ARE NOT SPECIFICALLY DESIGNATED TO BE REMOVED AND REPLACED ON THE PLANS WILL BE MAINTAINED IN SERVICE. SHORING, SHEETING AND OTHER MEANS OF SUPPORT SHALL BE EMPLOYED BY THE CONTRACTOR TO PREVENT DAMAGE OR LOSS OF THESE EXISTING UTILITIES AND THESE SHORING, SHEETING, AND SUPPORTS ARE CONSIDERED INCIDENTAL TO THIS PROJECT. BEAM AND CABLE OR OTHER ADEQUATE SUPPORTS WILL BE USED FOR TEMPORARY SUPPORT OF ALL UTILITY LINES WHICH CROSS THE TRENCH. ANY DAMAGE TO EXISTING UTILITIES WILL PROMPTLY BE REPAIRED AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR WILL NOTIFY THE ENGINEER IMMEDIATELY OF ANY SIGNIFICANT DEVIATION OF EXPOSED UTILITIES FROM THE LOCATIONS SHOWN ON THE PLANS SO THAT CONFLICTS CAN BE RESOLVED IN A TIMELY MANNER.
36. THE CONTRACTOR WILL ASSUME RESPONSIBILITY FOR ANY DAMAGE TO EXISTING COA INFRASTRUCTURE (C & G, PAVING, ETC.) DURING CONSTRUCTION, APART FROM THOSE SECTIONS INDICATED FOR REMOVAL ON THE PLANS, AND WILL REPAIR OR REPLACE SAME AT HIS OWN EXPENSE. HE WILL SUITABLY PROTECT THE CURB AND GUTTER FROM INCIDENTAL SPLASHING DURING THE TACK COAT APPLICATION AND WILL BE RESPONSIBLE FOR CLEANING SAME AT HIS OWN COST SHOULD SPLASHING OCCUR.
37. ALL CONSTRUCTION EASEMENTS ON PRIVATE PROPERTY WILL BE OBTAINED BY THE CITY OF ALBUQUERQUE PRIOR TO THE BEGINNING OF CONSTRUCTION.
38. ALL INTERFERING PORTIONS OF ABANDONED UTILITY LINES WHICH ARE EXPOSED AS A RESULT OF CONSTRUCTION WILL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
39. STATIONS OF STORM DRAIN INLETS ARE TO THE CENTER OF GRATE. ALL STORM DRAIN INLETS WILL BE TYPE "A" UNLESS OTHERWISE NOTED ON THE PLANS.
40. SHORING COSTS WILL BE CONSIDERED INCIDENTAL TO THE TRENCH AND BACKFILL COSTS.
41. THE CONTRACTOR WILL BE RESPONSIBLE FOR SECURING NPDES PERMITS REQUIRED BY APPLICABLE CITY, STATE, AND FEDERAL REGULATIONS.
42. THE TERM REMOVE USED IN THIS PLAN SET INCLUDES THE DISPOSAL OF SAID MATERIAL IN ACCORDANCE WITH CITY OF ALBUQUERQUE SPECIFICATIONS, LATEST EDITION.
43. CONTRACTOR WILL SURVEY AND LOG EXISTING ELEVATIONS OF CURB-AND-GUTTER, SIDEWALK, AND PAVEMENT WHICH WILL BE REMOVED FOR CONSTRUCTION OF IMPROVEMENTS. CONTRACTOR WILL REPLACE REMOVED CURB-AND-GUTTER, SIDEWALK, DRIVE PADS, AND PAVEMENT TO ELEVATIONS PRIOR TO REMOVAL UNLESS OTHERWISE INDICATED ON THE PLANS.
44. THE CONTRACTOR WILL NOTIFY THE FIELD ENGINEER NOT LESS THAN SEVEN (7) DAYS PRIOR TO STARTING WORK, IN ORDER THAT THE CITY SURVEY SECTION MAY TAKE NECESSARY MEASURES TO INSURE THE PRESERVATION OF SURVEY MONUMENTS. THE CONTRACTOR WILL NOTIFY THE ENGINEER IF A MONUMENT IS DISTURBED. REPLACEMENT WILL BE DONE ONLY BY THE CITY OF ALBUQUERQUE SURVEY SECTION AT THE CONTRACTOR'S EXPENSE. WHEN A CHANGE IS MADE IN THE FINISHED ELEVATION OF THE PAVEMENT OF ANY ROADWAY IN WHICH A PERMANENT SURVEY MONUMENT IS LOCATED, CONTRACTOR WILL, AT HIS OWN EXPENSE, HAVE THE CITY SURVEY SECTION ADJUST THE MONUMENT COVER TO THE NEW GRADE UNLESS OTHERWISE SPECIFIED. REFER TO SECTION 4 OF SPECIFICATIONS.
45. CONTRACTOR WILL CONSTRUCT TEMPORARY ASPHALT PAVEMENT AS DIRECTED BY THE FIELD ENGINEER TO PROVIDE ACCESS TO LOCAL BUSINESS, ETC. TEMPORARY PAVEMENT SHALL BE REMOVED AND DISPOSED OF PRIOR TO PLACEMENT OF FULL WIDTH PAVEMENT SECTION. TEMPORARY PAVING SHALL BE PER COA STD. DWG. 2415 AND PAID FOR PER COA STD. SPECIFICATIONS.
46. ALL CLASSES OF SEEDING SHALL BE DRY LAND MIX PLACED AT 1.5 LBS/1000 S.F. WITH FERTILIZER 21-12-12 PLACED AT 5 LBS/1000 S.F.
47. ALL ASPHALTIC CONCRETE SHALL BE MINIMUM 1800 LB. STABILITY AND COMPACTED TO 95% MODIFIED MARSHALL DENSITY UNLESS OTHERWISE NOTED ON THE PLANS.

48. CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL CONSTRUCTION SIGNING UNTIL THE PROJECT HAS BEEN FINAL ACCEPTED BY THE CITY.
49. CONTRACTOR SHALL MAINTAIN A GRAFFITI-FREE WORK SITE. CONTRACTOR SHALL PROMPTLY REMOVE ANY AND ALL GRAFFITI FROM EQUIPMENT, WHETHER PERMANENT OR TEMPORARY.
50. CONTRACTOR SHALL ERECT TEMPORARY CHAIN LINK CONSTRUCTION FENCE. SUCH FENCE SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE CONSTRUCTION PERIOD AND REMOVED ONLY UPON FINAL ACCEPTANCE OF THE PROJECT BY THE CITY.
51. QUANTITIES PROVIDED ON THE PLANS ARE FOR THE CONTRACTOR'S CONVENIENCE ONLY. PLANS SHALL TAKE PRECEDENCE IN ALL CASES.
52. CONTRACTOR SHALL INSTALL ALL FURNISHINGS, FENCES, SPORTS EQUIPMENT, SHADE STRUCTURES, AND OTHER MISCELLANEOUS SITE FURNISHINGS WITH TAMPER PROOF HARDWARE UNLESS OTHERWISE NOTED ON THE PLANS. IN LIEU OF TAMPER PROOF HARDWARE, CONTRACTOR MAY SPOT WELD OR LIQUID WELD HARDWARE UPON PRIOR APPROVAL BY THE OWNER. CONTRACTOR SHALL PROVIDE A SUBMITTAL FOR TAMPER PROOF HARDWARE AND/OR LIQUID WELD PRODUCTS. CONTRACTOR SHALL PAINT TO MATCH ANY SPOT WELDS. CONTRACTOR SHALL CUT OFF BOLT ENDS THAT EXTEND BEYOND 2 THREADS PAST THE NUT. ALL PLAY AREA EQUIPMENT SHALL BE INSTALLED WITH THE MANUFACTURER'S RECOMMENDED HARDWARE.

## APPENDIX 2c: Project Information Form



City of Albuquerque  
Richard J. Berry, Mayor

Parks and Recreation Department  
Barbara Taylor, Director

### Project Information Form

Date of Substantial Completion:	
COA Project #:	
Name of Facility:	
Address:	

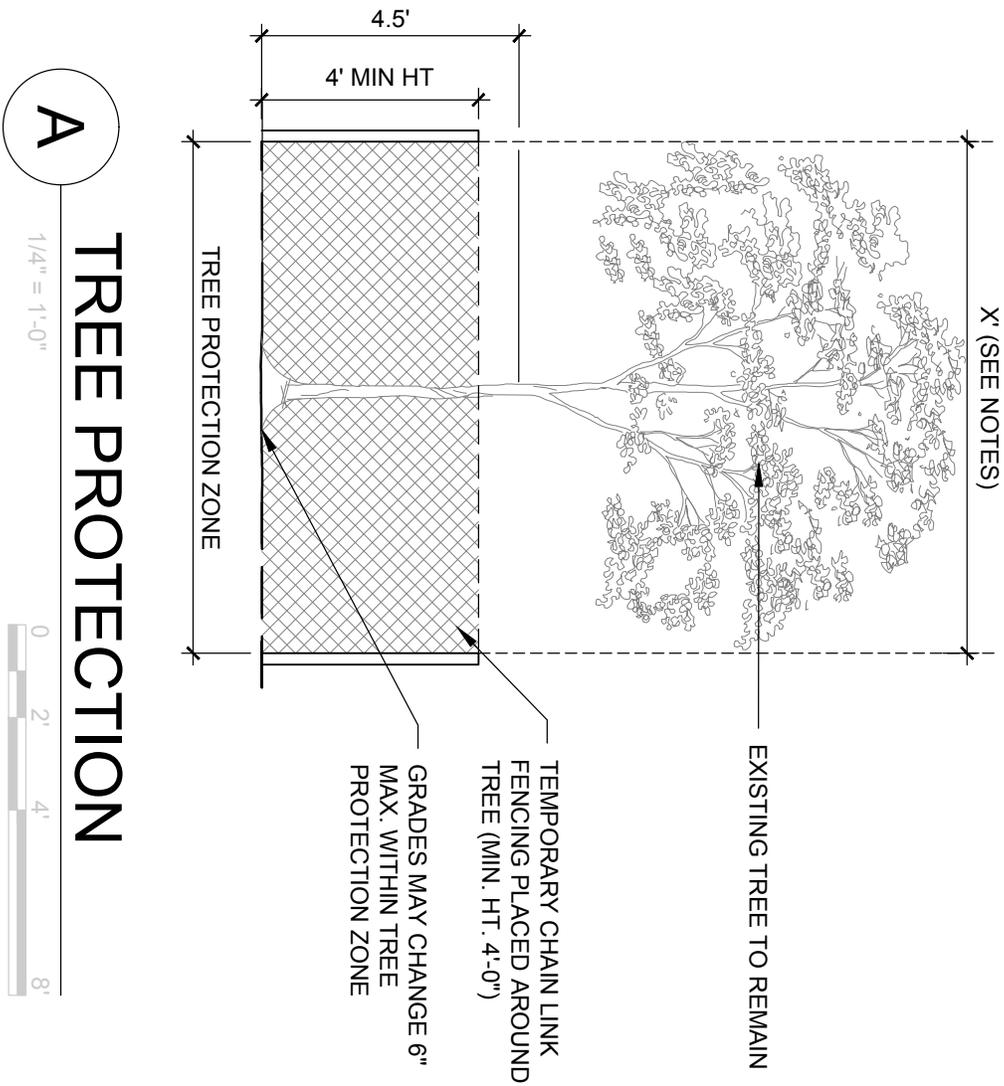
- |                                                                                                                                                                           |                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li><input type="radio"/> Developed Park</li> <li><input type="radio"/> Renovated Park</li> <li><input type="radio"/> Trail</li> </ul> | <ul style="list-style-type: none"> <li><input type="radio"/> Medians</li> <li><input type="radio"/> Land Acquisition/ Receipt of Deed</li> </ul> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|

**Park Summary Information:**

Total Park Acres:		# New Trees Planted:	
Acres Developed/Renovated:		# Existing Trees Retained:	
Acres Irrigated Turf:		Trails Total Square Feet:	
Turf Removal Area:		Trails Total Miles:	
Total Irrigated Landscape Area:			

Amenities	Total
Benches	
Bike Racks	
Picnic Tables	
Play Structures (2 to 5 yrs)	
Play Structures (5 to 12 yrs)	
Shade Structure	
Trash Receptacles	
Recycling Receptacles	
Recycling signs	
Basketball Courts (Full)	
Basketball Courts (Half)	
Off Leash Dog : Square Feet	
Sports Fields	
Skate Facility: Square Feet	
Softball Fields (Lit)	
Softball Fields (Unlit)	
Tennis Courts (Lit)	
Tennis Courts (Unlit)	

**APPENDIX 3a: Tree Protection Notes**



**TREE PROTECTION NOTES**

1. CONTRACTOR SHALL ESTABLISH A ROOT PROTECTION ZONE AROUND THE EXISTING TREE TO REMAIN. THE ROOT PROTECTION ZONE SHALL BE AN AREA DEFINED BY A RADIUS EXTENDING OUTWARD FROM THE TRUNK OF THE TREE A DISTANCE OF ONE LINEAR FOOT FOR EACH INCH DIAMETER OF THE TREE. THE TREE DIAMETER (X) SHALL BE MEASURED AT BREAST HEIGHT (4.5'). A 10 INCH TREE (DBH) WILL HAVE A 10 FOOT RADIUS ROOT PROTECTION ZONE.
2. CONTRACTOR SHALL ERECT PROTECTIVE BARRIERS (FENCING) AT THE PERIMETER OF ROOT PROTECTION ZONE. NO WORK SHALL BEGIN WHERE TREE PROTECTION FENCING HAS NOT BEEN COMPLETED AND APPROVED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING CONSTRUCTION. THE FENCING WILL BE A MINIMUM OF 4' HEIGHT.
3. CONTRACTOR SHALL NOT STORE OR DRIVE EQUIPMENT, VEHICLES OR MATERIALS WITHIN THE ROOT PROTECTION ZONE.
4. CONTRACTOR SHALL PROTECT EXISTING ROOTS FROM DAMAGE WHEN WORKING WITHIN THE ROOT PROTECTION ZONE. THE CONTRACTOR SHALL LIMIT DEMOLITION OR OTHER CONSTRUCTION ACTIVITIES WITHIN THE ROOT PROTECTION ZONE TO THE MINIMUM DISTURBANCE REQUIRED TO COMPLETE CONSTRUCTION.
5. CONTRACTOR SHALL NOT ALLOW CONCRETE TRUCKS TO CLEAN CHUTES OR DUMP EXCESS CONCRETE OR ANY OTHER CEMENTITIOUS PRODUCTS IN ANY PORTION OF THE SITE. CONTRACTOR SHALL CLEAN THE WASTE OF OTHER CEMENTITIOUS MATERIALS FROM THE SURFACE AND THEY SHALL NOT BE TURNED

**APPENDIX 6a: Accessible Routes for Parks Checklist**

**OUTDOOR RECREATION ACCESSIBLE ROUTES**

Number	Description	Y	N	NOTES
1016.2	The surface of outdoor recreation access routes, passing spaces, and resting intervals shall be firm and stable.			
1016.3	The clear width of outdoor recreation access routes shall be 36 inches (915 mm) minimum.			
1016.4	Outdoor recreation access routes with a clear width less than 60 inches shall provide 60"X60" passing spaces at intervals of 200 feet maximum and at intersections of two access routes. Passing spaces and resting intervals shall be permitted to overlap.			
1016.5	Where possible, obstacles (roots, rocks) that cross the full width of outdoor recreation access routes should be separated by a distance of 48 inches (1220 mm) minimum.			
1016.6	No horizontal gaps in surface >.5" and perpendicular to the direction of travel			
1016.7	Slopes Where running slope is between 5% and 8.33%, max length is 50 feet Where running slope is between 8.33% and 10%, max length is 30 feet. Where running slope is between 10% and 12%, max length is 10 feet.			
1016.7.2	The cross slope shall not be steeper than 1:48			EXCEPTION: Where the surface is other than concrete, asphalt, or boards, cross slopes not steeper than 1:20 shall be permitted when necessary for drainage.
1016.8	Resting Intervals shall be provided every 200' 60" long as wide as widest segment of the outdoor recreation access route but 36" min.			
206.2, 206.2.2	Accessible route should connect parking to all site elements and between site elements.			
703	Check for compliance of signage along the AR			

Rev: 4/7/17

## APPENDIX 7a: Preferred Irrigation Materials

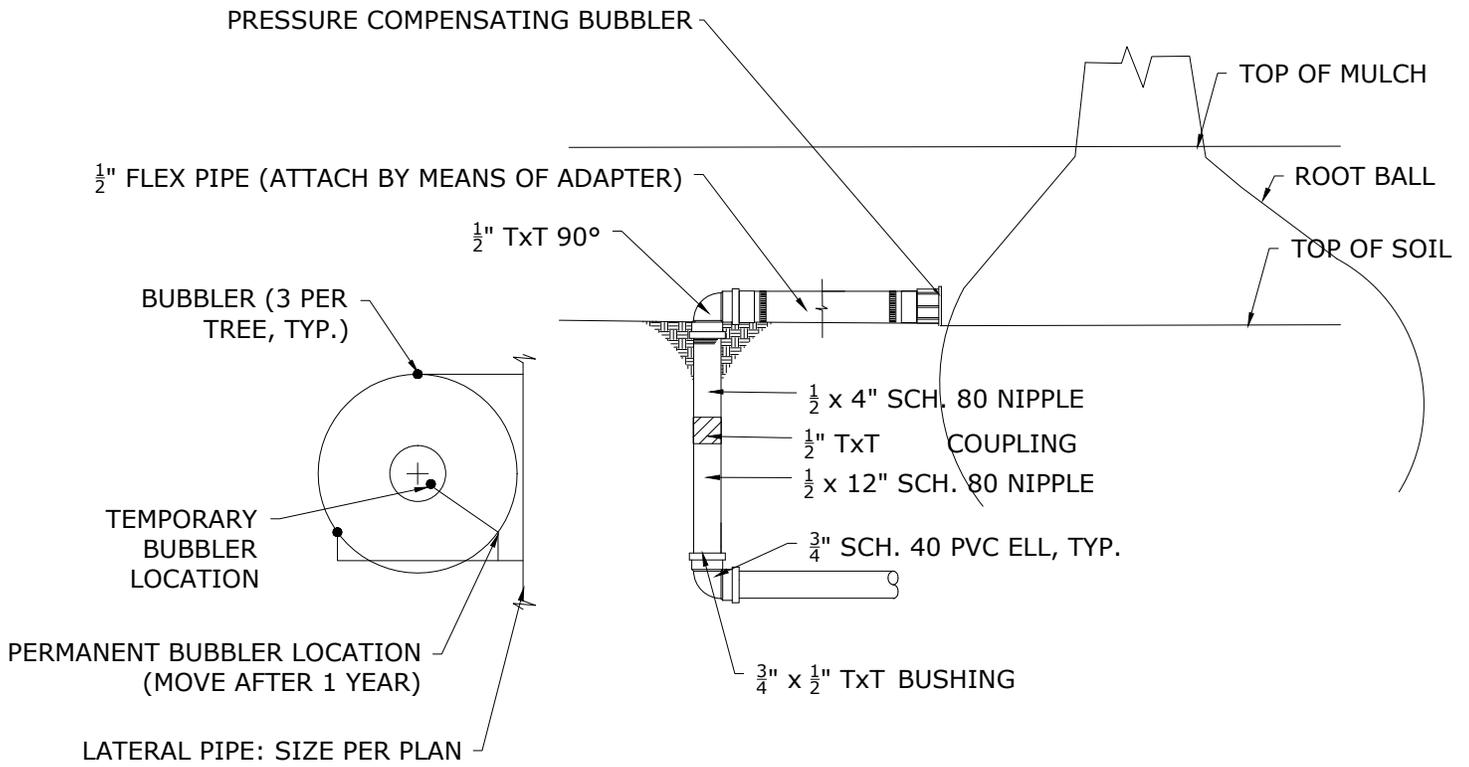
### PREFERRED IRRIGATION MATERIALS

Description	Manufacturer	Part or Model Number
Master valve / flow meter Combo	Arad	
Master valve / flow meter Combo	Bermad	B-IR-910-X
Booster Pump	BoosterpaQ	
Backflow Preventer	FEBCO	825Y (<2") or 880V (>2")
Controller w/ Flow Smart Module	Rainbird	ESP-LXMEF
Flow Sensor	Rainbird	FS100-400 series (B or P)
Controller Enclosure	V.I.T. "Strong Box"	SB-16SS
Controller Enclosure	Rainbird	LXMM
Mechanical Fittings (pipe 3" and larger)	Leemco	Various
Zone Valve	Rainbird	PEB SERIES
Zone Valve	Hunter	
Sprayheads	Rainbird/Hunter	6" Stainless Steel

Other:

Use swing joints on sprinkler heads

## APPENDIX 7b: Temporary Bubbler Configuration



## APPENDIX 9a: Preferred Site Furnishings and Amenities

### PREFERRED SITE FURNISHINGS AND AMENITIES

<b>Description</b>	<b>Manufacturer</b>	<b>Part or Model Number</b>
Bench	Dumor, Victor Stanley	Various
Picnic Table	Dumor, Victor Stanley	Various
Trash Receptacle	Bearsaver	RSO-35
Drinking Fountain	Haws	3202G Freeze Resistant
Hydrant	Woodford	U34A
Dog Agility Equipment	Bark Park	Various
Steel Shade Structure	Superior/Litchfield, Poligon	Various
Cloth Shade Structure	Superior/Litchfield, Poligon	Various
Compound / Standalone Structures	Landscape Structures, Inc., Gametime, Playwell	Various
Exercise equipment	Greenfields Outdoor Fitness, Inc.	Various
Various	Patterson-Williams	Various

APPENDIX 9b: Site Furnishings ADA Checklist

Source	Benches	Yes	No	N/A	Notes:
1011.2.1	48" x 36" clear floor space adjacent to the bench for wheelchair position				
4.37	Seat height: 17" - 19" above ground, min 42" long, 20"-24" in depth				
4.37	Back support min 42" long				
F245	At least 20% of benches should be accessible				
	<b>Picnic Tables</b>				
F245	When multiple provided must have 20% with min. 2 tables compliant				
1011.4, 306	Each accessible picnic table must provide at least one wheelchair space with knee space 27" high, 30" wide and 8" deep with 11" deep at 9" clearance.				
1011.4	Does the wheelchair space have toe clearance 9" high minimum and that extends 17" min and 25" max deep?				
1011.2.1	36" minimum clear space must be provided around the usable portion of table measured from the back edge of the seat.				
1011.2.2	Is the surface of the clear space firm and stable with max slope 2.08% in all directions?				
1011.3.3	<b>Trash Receptacles</b>				
1011.2.1	36" x 48" inches clear for forward approach to the receptacle opening; or 30" x 60" clear for a parallel approach to the receptacle opening.				

Rev: 4/7/2017

## APPENDIX 9c: Shelters and Picnic Areas Checklist

Source                      **ELEMENT: SHELTERS/PICNIC AREAS**

Number	Description	Y	N	Notes
1014.2.1.1	Clear ground space shall be 36" x 48" minimum and shall be positioned for a parallel approach to the shade structure. One full unobstructed side of the clear ground space shall adjoin or overlap an outdoor recreation access route or trail, as applicable, or another clear ground space.			
1014.2.1.1.1	The surface of the clear ground space shall be firm and stable.			
1014.2.1.1.2	The slope of the surface of the clear ground space shall not be steeper than 1:48 in any direction.			EXCEPTION: Where the surface is other than asphalt, concrete, or boards, slopes not steeper than 1:20 shall be permitted where necessary for drainage.
302.3	All horizontal gaps in surface <.5"			
303.2	All vertical changes in surface <.25"			
F245	20% of picnic tables are accessible (min 2)			
206.2.2	There is an accessible route to all shelter amenities			
307.	All protrusions into the general circulation path <4"			
307.4	Is there 80" min. overhead clearance?			
1011.2.1	36" clear space on all usable sides of picnic tables			

Rev: 4/7/17

## APPENDIX 9d: Park Sign Template

24" X 30" BLK/WHT

**PARK INFORMATION**

- Hard Balls (Softball, Baseball, Golf ball, Etc.) Archery, Javelin, Model Airplanes, Prohibited in Park Ord. #10-1-7(C)(1)
- Motorized Vehicles Prohibited in Park Ord. #10-1-1-6(B)
- NO GLASS CONTAINERS Ord. 10-1-1-4
- No Alcoholic Beverages Ord. #12-4-8
- Keep Dogs On Leash Ord. #9-2-2-3(B)
- Curb Your Dog Ord. #9-2-3-8
- No Littering Ord. #10-1-1-7(B)(2)
- Park Closed 10:00 PM to 6:00 AM Ord. #10-1-1-10

*Please Help Keep Your Parks Clean & Safe  
Thanks*

30" X 24"  
WHT/BRN



REDLANDS  
PARK

Park Management Division  
PARKS and RECREATION DEPARTMENT

30" X 24"  
WHT/BRN



HERITAGE HILLS  
PARK

Park Management Division  
PARKS and RECREATION DEPARTMENT

30" X 24"  
WHT/BRN



ALAMOSA  
PARK

Park Management Division  
PARKS and RECREATION DEPARTMENT

30" X 24"  
WHT/BRN



SISTER CITIES  
PARK

Park Management Division  
PARKS and RECREATION DEPARTMENT

24 "

30 "

# DOG OFF-LEASH EXERCISE AREA

PROVIDED BY THE  
CITY OF ALBUQUERQUE  
PARKS & RECREATION DEPARTMENT

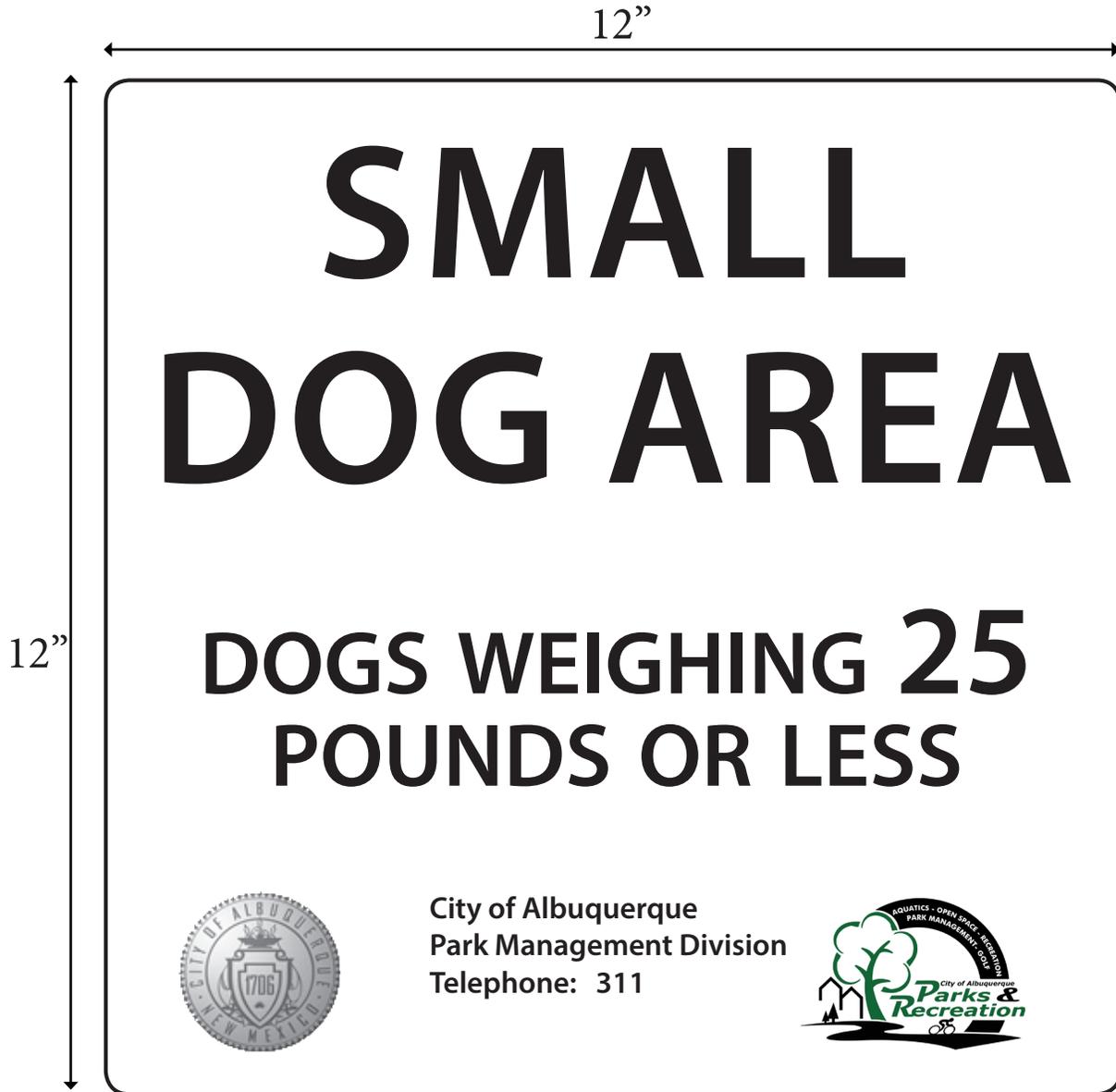
FOR THE ENJOYMENT AND HEALTH OF PETS AND THEIR OWNERS

## OWNERS & PET RULES & RESPONSIBILITIES:

- PARK USERS AND DOG OWNERS ASSUME ALL RISK RELATED TO DOG PARK USE
- PARK HOURS - 6 AM TO 10 PM DAILY
- DOG OWNERS/HANDLERS MUST HAVE A LEASH IN THEIR POSSESSION AT ALL TIMES
- DOGS MUST BE KEPT ON A LEASH UNTIL INSIDE THE DOUBLE-GATED ENTRY. ENTER THE FIRST GATE WITH THE LEASH ON AND REMOVE IT PRIOR TO ENTERING THE SECOND GATE. DO THE REVERSE WHEN LEAVING.
- DOGS MUST BE UNDER VOICE CONTROL AND IN SIGHT OF OWNERS/HANDLERS AT ALL TIMES
- ANY DOG EXHIBITING AGGRESSIVE BEHAVIOR MUST BE LEASHED AND REMOVED IMMEDIATELY
- OWNERS MUST CLEAN UP AND PROPERLY DISPOSE OF WASTE LEFT BY THEIR DOG(S)
- DOGS MUST BE LICENSED AND VACCINATED WITH TAGS DISPLAYED ON A COLLAR
- PUPPIES USING THE PARK MUST BE OLDER THAN SIX (6) MONTHS
- LIMIT OF THREE (3) DOGS PER PERSON PER VISIT
- OWNERS MUST COVER ANY HOLES THEIR DOG DIGS
- A FEMALE DOG THAT IS IN HEAT SHALL NOT BE PERMITTED IN THE OFF-LEASH DOG EXERCISE AREA
- CHILDREN UNDER THE AGE OF 12 ARE NOT ALLOWED INSIDE THE OFF-LEASH DOG EXERCISE AREA UNLESS ACCOMPANIED BY AN ADULT. PARENTS MUST REFRAIN FROM BRINGING TODDLERS AND SMALL CHILDREN TO THE PARK AND AT NO TIME BE ALLOWED TO RUN WITH, OR CHASE AFTER DOGS IN THE PARK
- NO FOOD OR DRINKS ALLOWED WITHIN THE FENCED AREA
- EACH OWNER/HANDLER IS LEGALLY AND FINANCIALLY RESPONSIBLE FOR THE ACTIONS OF HIS OR HER DOG(S) IN THE OFF-LEASH EXERCISE AREA



PARKS & RECREATION DEPT PARK MANAGEMENT DIVISION 857-8650  
ANIMAL WELFARE DEPARTMENT 768-1975



# REGULATIONS

THESE COURTS ARE FOR TENNIS ONLY  
TENNIS SHOES ONLY ON TENNIS COURTS  
PLEASE KEEP BICYCLES, ROLLER BLADES,  
SKATEBOARDS, SOCCER etc. OFF COURTS.

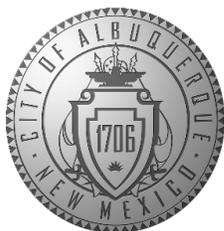
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PLAY LIMITED TO 1 1/2 Hrs.  
IF OTHERS ARE WAITING

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COURTS MUST BE VACATED IF NEEDED  
FOR CITY APPROVED EVENTS

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REPORT VIOLATIONS TO 224-6682  
VANDALISM TO 857-8650  
PARKS and RECREATION DEPT.

## APPENDIX 11a: Preferred Electrical Equipment

### PREFERRED ELECTRICAL EQUIPMENT

Description	Manufacturer	Part or Model Number
PNM Meter enclosure without bypass handle	Milbank	U3850-O-TG
PNM Meter enclosure with bypass handle	Milbank	U3852-XL
12 space 3R single phase panel with 100A main breaker	Siemens/ITE	SW1224B1100 LDCNTR
12 space 3R single phase panel with 200A main breaker	Siemens/ITE	SW2040B24B1200 LDCNTR
16x16x6 NEMA 4 box with hinged gasketed cover	Hoffman	CSD16128
Padlocking handle for above box	Hoffman	CWHPTO
back plate for installation of equipment in above box	Hoffman	CP1612
4 pole contactor 30A 120V coil	Allen Bradley	500-LG-400A1-E
metal photocell 120V	Intermatic	K4421M SPST
timeclock 120V (basic rotary dial type)	Intermatic	T101 TMR-SW