

**From:** [Sanderfer, Larissa](#)  
**To:** [Bethany Windle](#)  
**Cc:** [Burnham, Nicolle](#); [Tiffany Bohee](#); [Sheela Jivan](#); [Fatolahzadeh, Tala](#)  
**Subject:** Re: City Document Request  
**Date:** Tuesday, October 13, 2020 2:21:24 PM  
**Attachments:** [Outlook-3hikfkli.png](#)  
[Outlook-zksuti1r.png](#)  
[turnkey-final-PDF.PDF](#)  
[329100-PlantingPreparation.doc](#)

---

Hi Bethany.

I've attached the two documents you requested. I apologize for the delay.

I also CC'ed Tala from Public Works who can provide more clarification on these and other documents. Please note, the 2001 Turnkey Park Standards for Park Design & Construction are very general.

Let me know if you need anything else.

Thanks,  
Larissa

**Larissa Sanderfer** | Parks Planner  
**Parks, Recreation and Neighborhood Services**  
City Hall | P. 408-793-5590  
200 E Santa Clara St, San Jose, CA 95113  
***Building Community Through Fun***  
[Website](#) | [Twitter](#) | [Facebook](#)



---

**From:** Sanderfer, Larissa <Larissa.Sanderfer@sanjoseca.gov>  
**Sent:** Wednesday, October 7, 2020 3:59 PM  
**To:** Bethany Windle <bethanywindle@google.com>  
**Cc:** Burnham, Nicolle <nicolle.burnham@sanjoseca.gov>; Tiffany Bohee <tbohee@google.com>; Sheela Jivan <sheelajivan@google.com>  
**Subject:** Re: City Document Request

Hi Bethany,

I reached out to a few people on our project delivery team to get these documents.

I'll forward them to you once I get them.

Thanks,  
Larissa

**Larissa Sanderfer** | Parks Planner  
**Parks, Recreation and Neighborhood Services**

City Hall | P. 408-793-5590  
200 E Santa Clara St, San Jose, CA 95113

***Building Community Through Fun***

[Website](#) | [Twitter](#) | [Facebook](#)



---

**From:** Bethany Windle <bethanywindle@google.com>  
**Sent:** Wednesday, October 7, 2020 2:33 PM  
**To:** Sanderfer, Larissa <Larissa.Sanderfer@sanjoseca.gov>  
**Cc:** Burnham, Nicolle <nicolle.burnham@sanjoseca.gov>; Tiffany Bohee <tbohee@google.com>; Sheela Jivan <sheelajivan@google.com>  
**Subject:** City Document Request

[External Email]

Hi Larissa,

I've checked my past emails and have not found any links or attachments including the documents below.  
Could you please send these to our team for review? The first is found in a link on the City website. I'm not able to find the last two.

1.  
City's  
Standard Specifications and Standard Details, dated July 1992 ("City's Specifications")
2.  
City's Turnkey Park  
Standards for Park Design & Construction, dated 2001 ("Turnkey Standards")
3.  
Public Works Standard  
Specifications- Section 329100 Planting Preparation.

Thanks,  
Bethany

--

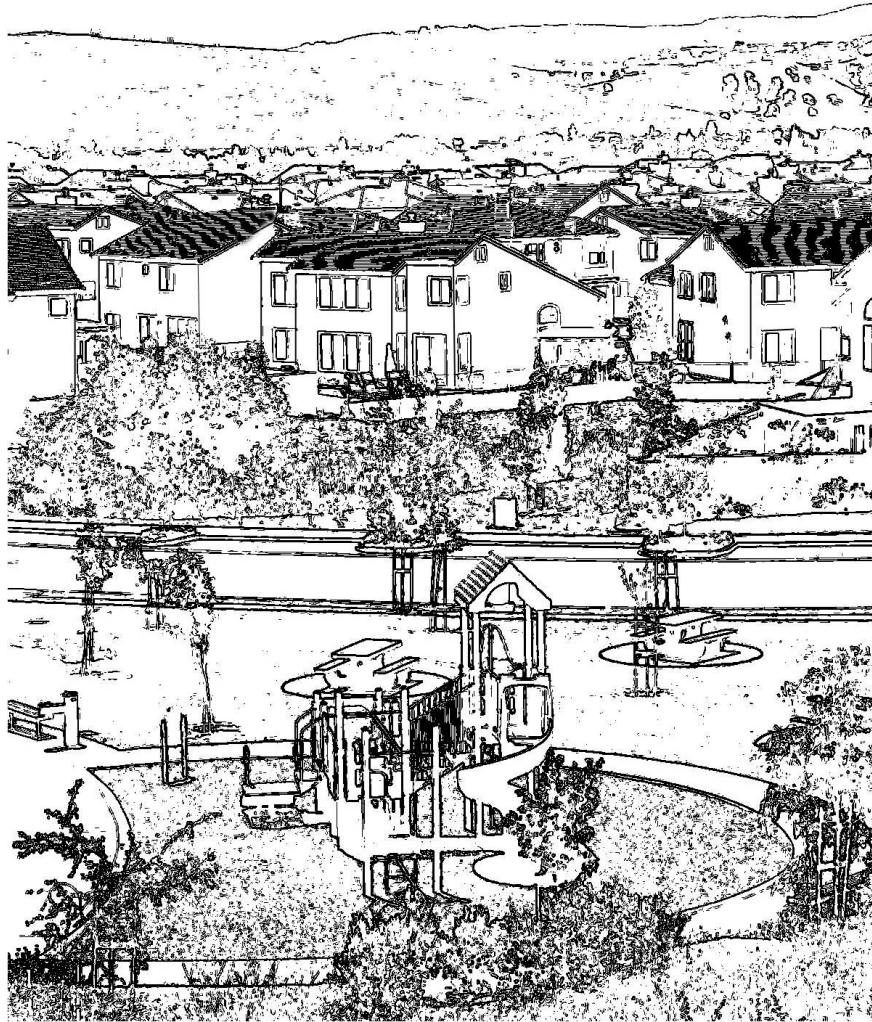


**Bethany**  
**Windle** | Project  
Manager  
Real Estate Development  
Sunnyvale, CA |  
650.676.1534

This message is from outside the City email system. Do not open links or attachments from untrusted sources.

# TURNKEY PARKS

---



---

## Planning and Design Guidelines & Standards for Construction



*Department of Public Works*

*September 2001*

# TABLE OF CONTENTS

<b>PART 1: INTRODUCTION.....</b>	<b>1</b>
FLOW CHART OF PLANNING STAGE.....	3
FLOW CHART OF IMPROVEMENT PLAN STAGE .....	4
FLOW CHART OF FINAL INSPECTION STAGE .....	5
<b>PART 2: PROJECT DEVELOPMENT AND COORDINATION .....</b>	<b>6</b>
2.1 RELEVANT CITY POLICIES .....	7
2.1.1 Parks & Recreation policies.....	7
2.1.2 Urban Design Policies .....	9
2.1.3 Designation of a Facilitator.....	9
2.2 SITE SELECTION.....	9
2.3 CONCEPTUAL DESIGN DEVELOPMENT .....	10
2.3.1 Required Design Elements .....	10
2.4 PUBLIC OUTREACH PROCESS.....	11
2.5 PERMITS AND CLEARANCES.....	12
2.5.1 Government Agency Requirements and Coordination.....	12
2.5.2 Infrastructure and Utilities.....	13
2.6 ADDITIONAL INFORMATION REQUIRED .....	14
<b>PART 3: DESIGN STANDARDS .....</b>	<b>16</b>
3.1 HIRING OF PROFESSIONALS.....	17
3.2 SUBMITTAL OF PROJECT SCHEDULE .....	17
3.2.1 Project Schedule .....	17
3.2.2 Progress Schedule.....	17
3.3 DESIGN STANDARDS .....	17
3.3.1 Grading and Drainage.....	17
3.3.2 Lighting .....	18
3.3.3 Irrigation.....	18
3.3.4 Planting.....	18
3.3.5 Walks and Pavement .....	19
3.3.6 Site Furniture and Structures.....	20
3.3.7 Play Areas.....	20
3.3.8 Sports Facilities .....	22
3.3.9 Signs.....	22
3.3.10 Restrooms.....	22
3.3.11 Maintenance Structures .....	22
3.4 DOCUMENT CONTENT .....	23
3.4.1 Cover Sheet .....	23
3.4.2 Scope of Project Plan.....	23
3.4.3 Existing Conditions and Demolition Plan.....	23
3.4.4 Layout Plan.....	23
3.4.5 Layout Plan of Special Construction .....	23
3.4.6 Paving Plan.....	23
3.4.7 Grading and Drainage Plan .....	24
3.4.8 Electrical Plan .....	24
3.4.9 Irrigation Plan .....	24
3.4.10 Planting Plan .....	24
3.4.11 Construction Details .....	24
3.5 DOCUMENT FORMAT .....	24
3.5.1 Drawings / Plans.....	24
3.5.2 Landscape Specifications .....	25
3.6 SUBMITTALS .....	25
3.6.1 General Requirements.....	26
3.6.2 Preliminary Submittal .....	26
3.6.3 50% Submittal.....	27

3.6.4	95% Submittal.....	27
3.6.5	Final Submittal.....	27
3.6.6	Record Drawing.....	27
<b>PART 4: CONSTRUCTION STANDARDS.....</b>		<b>31</b>
4.1	PRE-CONSTRUCTION CONFERENCE.....	32
4.2	REQUIRED NOTICES.....	32
4.3	LAYOUT OF IMPROVEMENTS.....	32
4.4	INSPECTION PROCEDURES.....	32
4.5	MATERIAL SUBMITTALS AND SHOP DRAWINGS.....	33
4.6	PLAN REVISIONS.....	33
4.7	RECORD DRAWINGS.....	33
4.8	FINAL ACCEPTANCE.....	33
4.9	PROCEDURE FOR ACCEPTANCE OF TURNKEY PARKS.....	34
<b>APPENDIX 1: IRRIGATION DESIGN INFORMATION.....</b>		<b>36</b>
<b>APPENDIX 2: ELECTRICAL DESIGN CRITERIA FOR CITY PARKS.....</b>		<b>38</b>
	PLANS AND SPECIFICATIONS.....	38
	ELECTRICAL SERVICE.....	38
	SPECIFIC DESIGN REQUIREMENTS.....	38
	DESIGN APPROVAL.....	39
	TYPICAL DETAILS, NOTES, AND SPECIFICATIONS.....	39
<b>APPENDIX 3: MATERIALS AND MANUFACTURERS.....</b>		<b>40</b>
	IRRIGATION EQUIPMENT.....	40
	PLAY EQUIPMENT & SURFACING.....	42
	SITE FURNITURE.....	43
	SPORTS FACILITIES EQUIPMENT.....	43
<b>APPENDIX 4: GRAPHIC STANDARDS.....</b>		<b>44</b>
	TYPICAL LINE STYLES.....	44
	TYPICAL SYMBOLS.....	45
	TYPICAL PATTERN SURFACES.....	47
<b>APPENDIX 5: STANDARD NOTES FOR CONST. DOCS.....</b>		<b>48</b>
	EXISTING CONDITIONS AND DEMOLITION NOTES.....	48
	LAYOUT PLAN NOTES.....	50
	PAVING PLAN NOTES.....	51
	GRADING PLAN NOTES.....	52
	IRRIGATION PLAN NOTES.....	54
	PLAY AREA NOTES.....	56
	PLANTING PLAN NOTES.....	57
	GENERAL ELECTRICAL NOTES.....	59
<b>APPENDIX 6: TYPICAL CONSTRUCTION DETAILS</b>		

## PART 1: INTRODUCTION

---



This document has been compiled by the City of San José to provide Developers with an overview of procedural requirements and design standards applicable to the site planning, design development, and construction document preparation for turnkey parks. This document has been prepared to assist Developers with the planning, design, and implementation of turnkey parks. It is divided into the following parts:

**PART I: PROJECT DEVELOPMENT AND COORDINATION** - Contains the general information about the park design process and the siting of parks. This information is useful for a project that is in the early stages when the park site location has not yet been determined.

**PART II: DESIGN** - Contains design principles and procedures that will be incorporated into the Parkland Agreement between the City and the Developer. Included in this section are an outline of the typical park/trail features, a submittal schedule, and a description of document content including format standards.

**PART III: CONSTRUCTION STANDARDS** – A description of the construction administration process for Turnkey Parks.

**PART IV: APPENDICES** - Contain a comprehensive package of standard details, specifications, and physical requirements with which all park designs must comply.

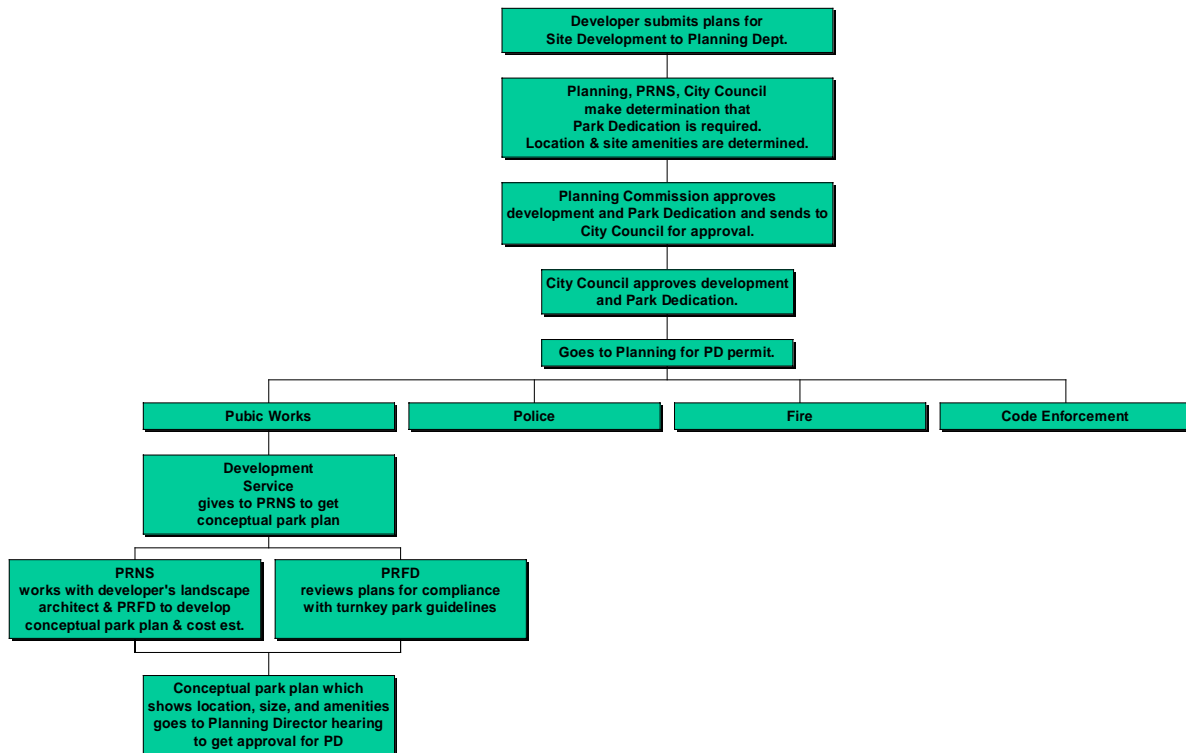
Turnkey parks are built by Developers to comply with the City's "Parkland Dedication Ordinance" and/or "Park Impact Ordinance." These measures are intended to ensure quality and consistency in the design and construction of public facilities.

Because a detailed, City approved conceptual site plan for a turnkey park must be submitted at the time a Parkland Agreement is executed, successful implementation of a project will depend on the Developer's familiarity with several basic project guidelines that govern park planning and design. A thorough understanding of the multiple levels of administrative review and government spheres of interest to which each park development project is subject is also required, as **the Developer is ultimately responsible for bearing all costs associated with both approval and construction of the park project.**

Finally, it is important to note that when new parks are dedicated and improved by a housing developer in accordance with the Parkland Dedication Ordinance and/or Park Impact Ordinance, **the City will not accept title to the park until all the site improvements have been completed and accepted.**

## Flow Chart of Planning Stage

---



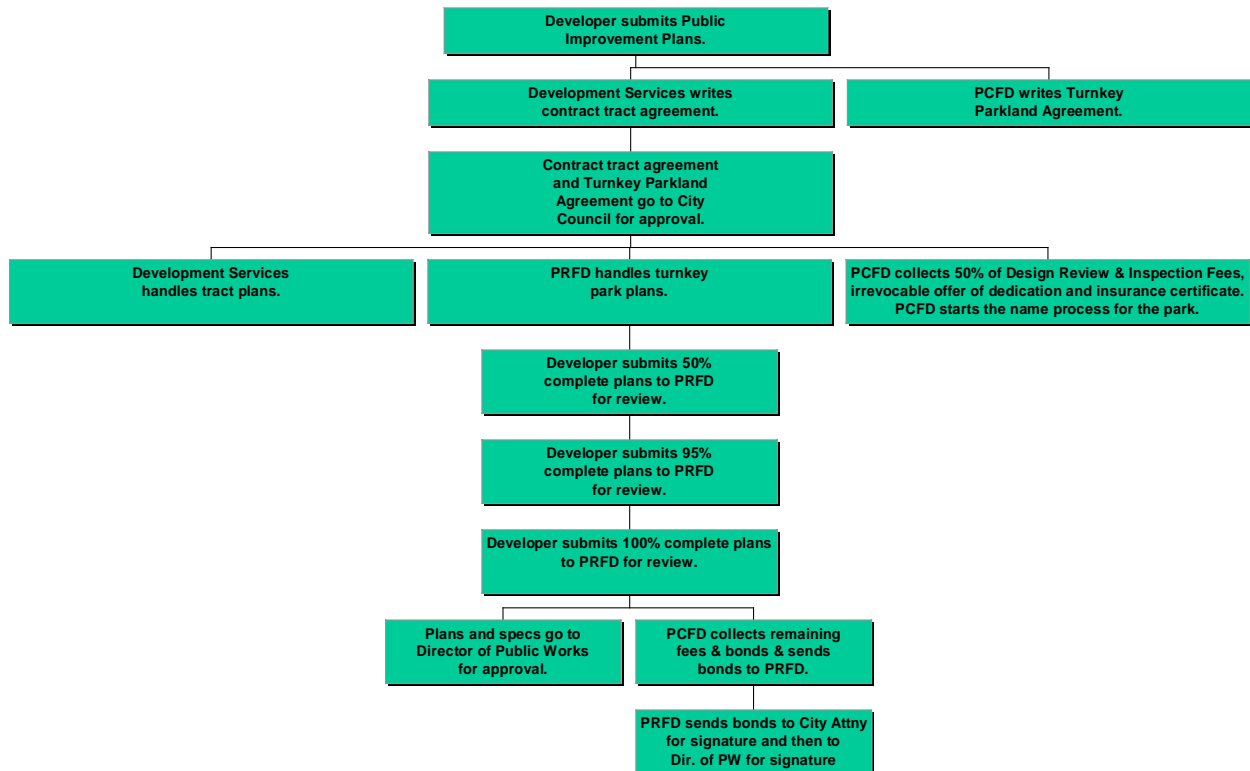
### Abbreviations

PRNS - Parks, Recreation & Neighborhood Services

PRFD – Parks & Recreation Facilities Division

## Flow Chart of Improvement Plan Stage

---



### Abbreviations

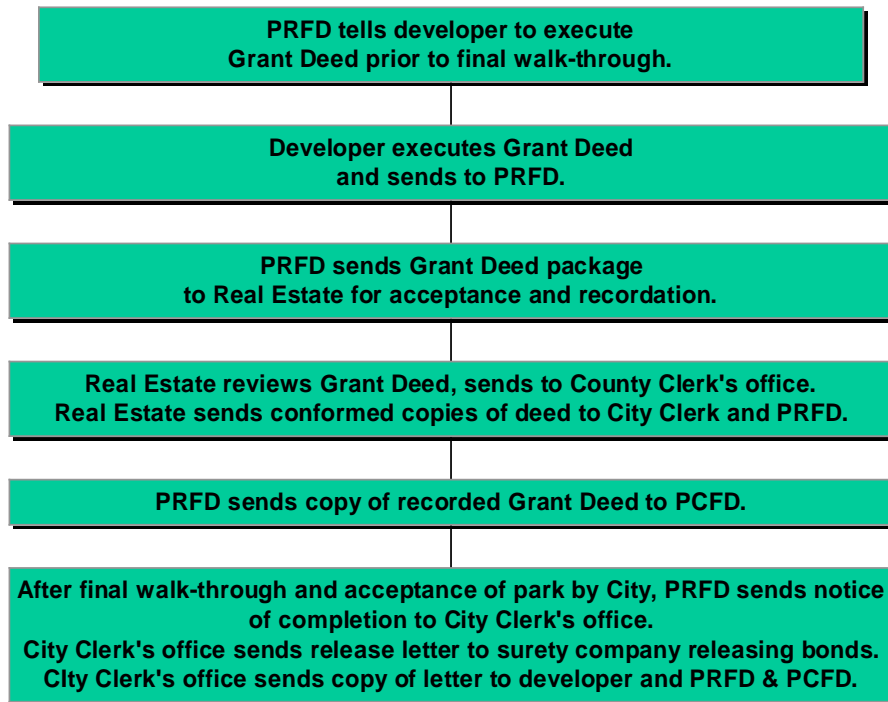
PCFD – Parks & Community Facilities Development

PRNS - Parks, Recreation & Neighborhood Services

PRFD – Parks & Recreation Facilities Division

## Flow Chart of Final Inspection Stage

---



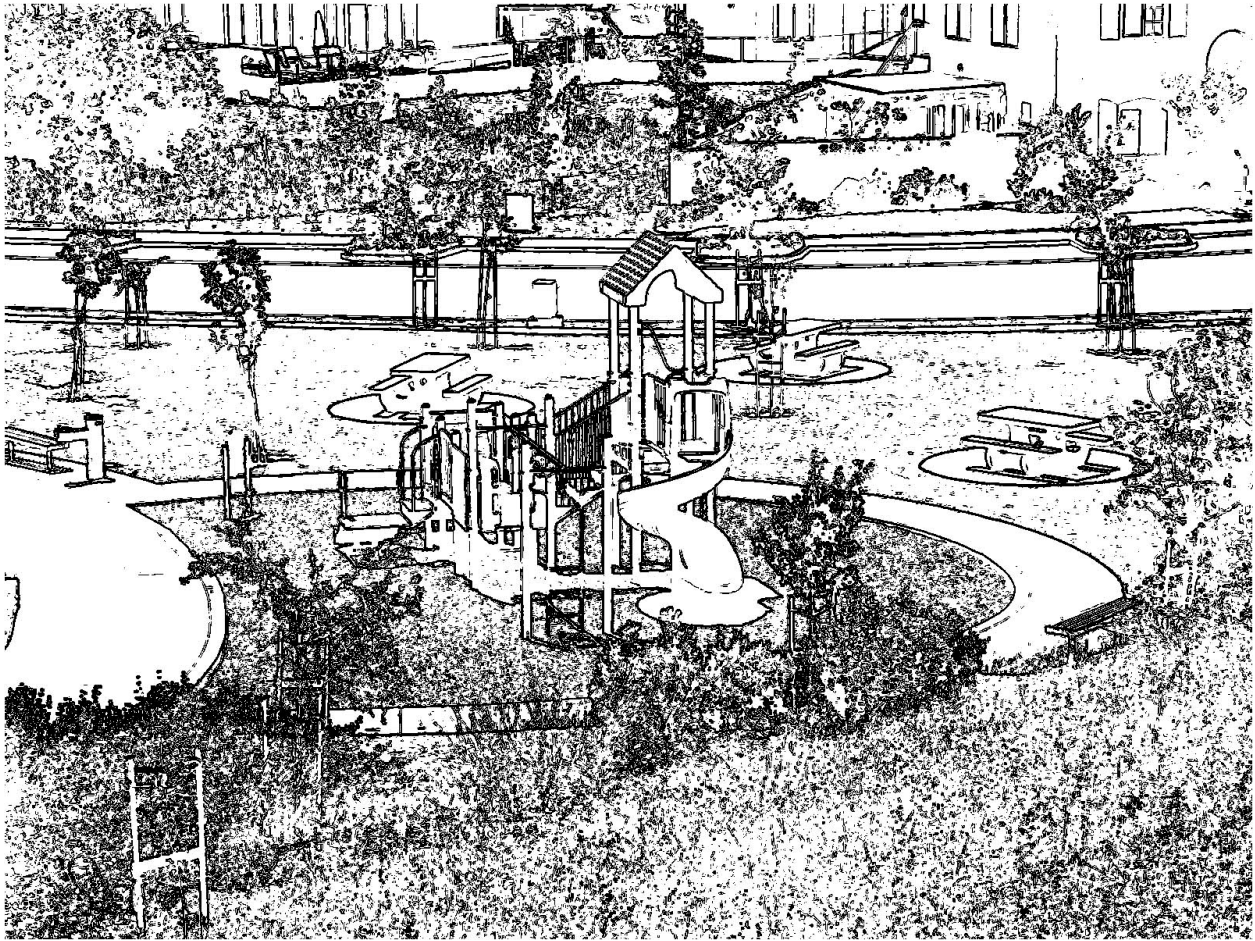
### Abbreviations

PCFD – Parks & Community Facilities Development

PRFD – Parks & Recreation Facilities Division

## PART 2: PROJECT DEVELOPMENT AND COORDINATION

---



## 2.1 Relevant City Policies

---

Several policies contained in the City of San José *General Plan* (SJ2020), the City of San José *Greenprint for Parks and Community Facilities and Programs*, and in the City Council Policy Manual recognize park, recreation and open space issues. Familiarity with these policies in the early stages of design development will help ensure the eventual construction of a public park that will enhance the neighborhood it serves while satisfying the expectations of the City.

The following policies are excerpts taken directly from the General Plan that recognizes park, recreation and open space interests:

### 2.1.1 Parks & Recreation policies

- A. *No. 1:* The City should consider as an objective the provision of neighborhood or community parks within reasonable walking distance for each resident. That portion of a City wide or regional park which provides recreational accessibility for nearby residents in the same manner as a neighborhood or community park should be considered as meeting this objective.
- B. *No. 2:* Public parks, open space lands and other similar public areas should be located, oriented and designed in such a way as to facilitate their security and policing.
- C. *No. 3:* Through the development review process, private open space and recreation facilities should be encouraged in high density residential projects, mixed use and major employment complexes in the vicinity of major transit corridors where the demand is greatest in order to meet a portion of the open space and recreation needs of residents, employees and visitors that will be generated by the development.
- D. *No. 4:* The City should accept open space land dedications only when public ownership will preserve the natural and man-made landmarks, or provide a land supply to meet future recreational needs.
- E. *No. 5:* The development of public and private recreational uses in rural and hillside areas should be low intensity and sensitive to geologic hazards, water resources, natural habitats, and visual impacts, consistent with allowed densities and development standards for residential and other uses.
- F. *No. 6:* In the design and maintenance of parks, consideration should be given to impacts on wildlife. In particular, it should be recognized that native plant species may be best suited for providing wildlife cover and food sources and that herbicides, pesticides and fungicides may be damaging to native plants and wildlife.
- G. *No. 16:* Parks should be designed and constructed in a manner which allows access to each type of recreational experience for people of all abilities to the maximum extent feasible.

The following excerpts from the City Council Policy Manual are pertinent to public park, recreation and open space project development.

1. **Frontage Roads and Minor Streets Adjacent to Public Parks and Open Spaces (No. 8-3):** This policy recognizes that public parks, open spaces and other similar public areas require adjacent public streets. Urban development opposite public parks and open spaces shall be designed in a manner to ensure maximum exposure of the public facility to the public. Specific street dedication requirements for minor streets are provided for regional/citywide and neighborhood/community parks.
2. **Naming of City-Owned Land and Facilities (No. 7-5):** This policy provides the following criteria for naming of public park land and facilities.

A. Naming of a Permanent City Facility

- 1) The City encourages naming which reflects the City's ethnic and cultural diversity.
- 2) The City encourages the recognition of individuals who have made a significant contribution to the community, state, nation or the world.
- 3) The City encourages the recognition of individuals for their service to the community. It may not be appropriate to name a permanent facility; however, the naming of activities, e.g., athletic events or cultural presentations, or plaques included in City-sponsored "walls of fame" may be appropriate alternatives.
- 4) The City encourages the recognition of distinct geographic, environmental or developmental features, or names of historical significance in naming City parks.
- 5) The City encourages donations of funds, and/or involvement by civic organizations or groups, to provide for the on-going maintenance of parks and facilities.
- 6) The City encourages naming of new facilities as early in the planning process as possible.

B. General

- 1) For naming or renaming, a public hearing by the appropriate commission shall be held in order for the commission to develop a recommendation to the council.
- 2) Existing place names are deemed to have historic recognition. City policy is not to change existing names except when no other appropriate City facility is available.
- 3) The common practice is to give City-owned lands a name of historical or geographical significance. Consideration shall be given to the naming of City-owned land after individuals only when the land or the money for its purchase has been donated by them.
- 4) Generally, mini-parks are designated on a geographic basis.
- 5) The City encourages donation of memorial benches or other furniture or fixtures with the understanding that such items have a useful life, and that the City assumes no responsibility for replacement or upkeep.
- 6) Plaques commemorating individual donations such as trees, horticultural, or plant materials are discouraged.
- 7) The City Council reserves the right, as part of a capital campaign, to make appropriate business arrangements in exchange for naming options of City facilities.

### 2.1.2 Urban Design Policies

- A. *No. 4:* Residential developments which are adjacent to parks or open spaces should be encouraged to provide direct access to, and common open space contiguous to, such areas.
- B. *No. 16:* When development is proposed adjacent to existing or planned parks or park chains, that development should include public park frontage roads, wherever feasible, in order to maximize access to park lands, to provide reasonable separation between urban land uses and park lands without the use of "back-up" design, and to maximize exposure of park lands for scenic and security reasons.
- C. *No. 17:* Development adjacent to creekside areas should incorporate compatible design and landscaping including plant species which are native to the area or are compatible with native species.

### 2.1.3 Designation of a Facilitator

If the City accepts land dedication and park improvements as a means for the Developer to satisfy its parkland obligation, the Developer will be involved in several design reviews and submittal procedures in developing a conceptual plan for the site and the associated construction documents. **The Parkland Agreement between the City and the Developer stipulates that a single project manager be designated by the Developer to work with the City on the development of the park.**

## 2.2 Site Selection

---

Good site planning and facility design are essential to ensure opportunities for maximum public exposure to a neighborhood park, to minimize conflicts with adjacent property owners, to provide for a safe recreational environment and for efficient maintenance and operation of the facility, and to create a sense of community ownership. The following list provides an outline of important points to consider in the design of a turnkey park:

- A. Provide frontage streets adjacent to public park lands and open space to maximize opportunities with regard to surveillance for safety and security purposes, scenic views, and access points for public patrons and maintenance personnel.
- B. Avoid the provision of cul-de-sacs (in lieu of frontage streets) terminating adjacent to public park lands.
- C. Centrally locate neighborhood parks within the neighborhoods that they serve.
- D. Orient adjacent land uses to "front" public park lands, as opposed to "backup" design. Building offices (e.g. front doors and windows) should face the facility to create a sense of neighborhood/community ownership of the public facility and provide surveillance opportunities. Appropriate buffers are needed to provide a transitional space between public and private uses to minimize potential conflicts. The provision of a public street between public and

private uses can reduce potential conflicts that may occur from a barrier such as a fence, which does not provide a transitional space. The provision of "backyard fences" adjacent to public park lands should be discouraged.

- E. Maintain opportunities to maximize sight distances into the facility from its periphery. Avoid placement of berms and heavy vegetation that screen the interior of the facility from adjacent public streets.
- F. Plan amenities within a park to take into account carrying capacity thresholds. Capacity threshold factors include degree of use and demand for space, noise, lighting, and traffic circulation levels. Park lands which contain environmentally sensitive areas, such as natural hillside open space or riparian corridors, should provide a balance between the need for park development and public access, and the protection and integrity of the natural resource.
- G. Provide and incorporate into the design process any and all reports related to the condition of the park site and the lands adjacent to the site (e.g., archaeology, arborist, biotics, etc.). For example, a Developer should be prepared to provide the City with a report prepared by a qualified consultant analyzing the condition of the park site with respect to the presence of hazardous materials on or adjacent to the site. In the event that the report discloses the presence of hazardous materials, the City shall require a Developer to remediate the condition, up to and including the removal of the hazardous material from the site.

## **2.3 Conceptual Design Development**

---

Evolution of the conceptual site plan for a turnkey park project should proceed concurrently with the planning and design of the associated housing development. It should address the general planning issues outlined above, and must reflect a level of physical detail sufficient to allow for meaningful review by City staff prior to execution of the Parkland Agreement. Preliminary and ongoing consultations with City staff throughout the conceptual stage of development will help ensure that the proposed turnkey park design meets these expectations.

### **2.3.1 Required Design Elements**

Specific recreational features and construction materials that are typically required by the City for a turnkey park project are detailed in Part 2 and in the Appendices to this document. An overview of those standards is presented here, and this information should be reflected in the conceptual site plan for the park.

- A. Grading and drainage for a turnkey park shall be in compliance with the Urban Runoff Management Plan mandated by the State Water Resources Board, and the conceptual plan shall reflect conformance with minimum and maximum slope requirements established by the City for various surface materials.
- B. Parks shall be designed to provide security lighting only, unless a night use sports field or tennis court is a required component of the design.

- C. Plant material shall be selected for compatibility with environmental conditions at the site and with specific intended uses of individual areas within the proposed park. There are specific guidelines for where trees can be planted (see 2.3.4 Planting in Part 2).
- D. Pavement surfacing for walks, trails and picnic areas shall be of the material and thickness demanded by level of use and location within the park site, and designed according to the City of San José Standard Details and Standard Specifications (see Appendices 5 and 6).
- E. The Developer shall confer with the City to get specific information on the type, quantity, and style of site furniture required for each park project. Site furniture includes picnic tables, benches, drinking fountain, bike racks, bollards, trash receptacles, overhead shade structures, etc.
- F. There shall be consistency and continuity in the size, lettering, colors, and posting method of all park signs, which shall be designed as a complement to other park features.
- G. Play area equipment, surfacing, and layout shall be designed to comply with the most current American Society for Testing and Materials (ASTM) standards, U. S. Consumer Product Safety Commission's (CPSC) guidelines, and ADAAG (Americans with Disabilities Act Accessibility Guidelines) as required by Section 115725 of the State's Health and Safety Code (see 3.3.7 for details).
- H. Layout and orientation of specific sports facilities shall be in compliance with the most current standards adopted by the governing association applicable to each specific sport.
- I. The City may require a restroom building at certain parks, which could include an adjacent maintenance storage room, as a component of the park project. The location, design and materials used in the construction of the building shall be approved by the City.

The preceding information, while not necessarily exhaustive in scope, when presented on a conceptual site plan, would begin to convey the level of detail required for informed decisions by both a Developer and the City with regard to a turnkey park. It should be noted that upon execution of a parkland agreement the Developer assumes responsibility for implementation of all improvements reflected on the conceptual plan. **These improvements must be constructed in accordance with the standards that follow, regardless of the ultimate cost to the Developer.**

## **2.4 Public Outreach Process**

---

A public outreach process will be required to gather neighborhood input for the design process of the proposed park. This outreach process shall be coordinated with the Park Planning Staff in the Department of Parks, Recreation and Neighborhood Services (PRNS). Generally, at least two community meetings are held specifically to inform the local neighborhood of the upcoming project, and to gather information and ideas from residents within the immediate service area for the new park.

The Developer shall mail a notice of the community meetings to all residents and property owners within a minimum of 1000 feet of the park site no later than two weeks prior to the meeting. The Developer shall coordinate the mailings with the City. The City will determine the exact boundaries of where the notices shall be mailed. The Developer shall also advertise the community meeting in the local newspaper whenever possible. The Developer shall be responsible for providing plans and graphics for a minimum of two alternative park designs for presentation at the community meetings.

## **2.5 Permits and Clearances**

---

The Developer is responsible for obtaining and paying for all permits and clearances necessary to complete the project.

### **2.5.1 Government Agency Requirements and Coordination**

The Developer shall obtain, complete, submit, and follow-up on the appropriate forms required for each applicable process. The Developer is solely responsible for ascertaining and abiding by all laws, including permitting requirements for the Developer's project, and shall provide the City with copies of all coordination documents as they become available. The Developer is responsible for making all revisions to construction documents that become necessary for issuance of any permit.

The following is a partial listing of local, state and federal agencies and/or policies with which a Developer may be required to interact or meet during the course of a park development project.

#### **A. Santa Clara Valley Water District**

The Developer's project will require coordination with Santa Clara Valley Water District (SCVWD) if it is located on or adjacent to SCVWD property, easements, or facilities, or within 50 feet of the top of bank of a stream, creek or river.

#### **B. State Department of Fish and Game**

The Developer's project will require coordination with the State Department of Fish and Game if it is located within the bed, channel and banks of a stream, creek or river, or if protected or endangered species of plants or animals are impacted by the project.

#### **C. U.S. Army Corps of Engineers**

The Developer's project will require coordination with the U.S. Army Corps of Engineers if it involves work in or adjacent to navigable waters, including the placement of dredge or fill material.

#### **D. Urban Runoff Management Plan (URMP)**

The State Water Resources Board mandates compliance with Federal regulations issued by the United States Environmental Protection Act for all projects. The Developer is responsible for compliance with the National Pollutant Discharge Elimination System (NPDES) General Permit.

#### **E. Riparian Corridor Policy (RCP) & Riparian Restoration Action Plan (RRAP)**

All projects must comply with the City's Riparian Corridor Policy and the Riparian Restoration Action Plan if the project is located in or adjacent to an area defined by the policy as a riparian corridor. Design elements such as structures, trails, planting, storm drainage, etc., shall be consistent with the RCP and RRAP.

**F. Recycled Water Requirements**

All projects within the vicinity of an existing or proposed recycled water pipeline must comply with requirements of the South Bay Water Recycling Program. The City will determine the projects for which this program will apply.

**G. City Water Waste Ordinance**

All projects must comply with the Water Waste Prevention and Drought Condition Ordinance, Title 15 of the San José Municipal Code. The general design of all projects, whether or not a drought condition is declared, shall include drought tolerant plant material as well as other water saving design measures.

## **2.5.2 Infrastructure and Utilities**

The Developer is responsible for **providing all necessary information** regarding utilities and for all coordination with utility companies in order to develop construction drawings that accurately reflect existing site conditions.

A list of names, addresses and phone numbers of contacts at specific utility companies may be obtained from the City. The following are utilities with which the Developer may be required to coordinate:

**A. City Utilities**

The Developer shall be responsible for requesting utility information and for coordinating the utility search for storm and sanitary sewers, street lights, traffic signals, and any other City maintained utility. The Developer shall contact the City of San José Municipal Water System if the project is within that system. It is the Developer's responsibility to verify the utilities and to transfer utility information to the project plans.

**B. Gas and Electric (PG&E)**

The Developer shall obtain gas and electric utility locations and other information for overhead transmission lines and towers, utility poles, underground gas and electric lines, meters, valves, and any other utility element. The Developer shall review proposed improvements in utility easements with the appropriate utility company.

All new service, connections, or modifications to existing service shall be coordinated in advance of construction, as required, with the utility company. The Developer shall provide the City with a copy of all coordination documents as they become available.

**C. Telephone (Pacific Bell)**

The Developer shall obtain telephone utility locations and any other information necessary to ensure coordination for the duration of the project.

**D. Cable Television (AT&T Cable)**

The Developer shall obtain cable utility locations and any other information necessary to ensure coordination for the duration of the project.

**E. Water Companies (Great Oaks Water Co., San José Municipal Water, San José Water Company)**

The Developer shall obtain water utility locations and any other information necessary to ensure coordination for the duration of the project.

**1. Water Pressure**

Prior to designing the irrigation system, the Developer shall contact the water company to obtain the water pressure in the street adjacent to the project and the location of the water main in the street. The Developer shall provide on-site pressure readings prior to design, if possible.

**2. New Water Meter**

If installation of a new water meter is required for the project, the Developer shall request, in writing, the cost for the water meter installation and any other fees or permits needed from the appropriate water company. The Developer shall determine and provide, after consultation with the water company, the required submittals for the new meter. The Developer shall make all arrangements necessary in obtaining the water meter for the project, including payment for the water meter. The water meter shall be installed within City right-of-way. If the new meter must be located outside the City right-of-way, the Developer shall immediately notify the City.

## **2.6 Additional Information Required**

---

The Developer shall provide any and all additional surveys or reports required for each individual project (requirements are outlined in Part 2). These surveys and reports include, but are not limited to: a detailed topographic survey, irrigation system water audit, soils tests and reports, geotechnical survey and report, archeological survey, an environmental clearance, and a pre-construction review of plans for playground safety (see 3.3.7.2 (B) for details).

Required documents include:

**A. Irrevocable Offer of Dedication**

The Developer shall affirm its offer to dedicate land to meet its parkland obligation by submitting an Irrevocable Offer of Dedication as part of the preparation of the Parkland Agreement for the land to be transferred to the City. The Irrevocable Offer of Dedication shall be in a form acceptable to the City, signed by the Developer, and it shall contain a legal description of the parcel(s) to be conveyed to the City.

**B. Insurance Certificate and Bonds**

The Developer shall provide the City with the required Insurance Certificate(s), Payment Bond, Performance Bond, and Defective Materials and Workmanship Bond before constructing any improvements to the proposed park

**C. Hazardous Materials Reports**

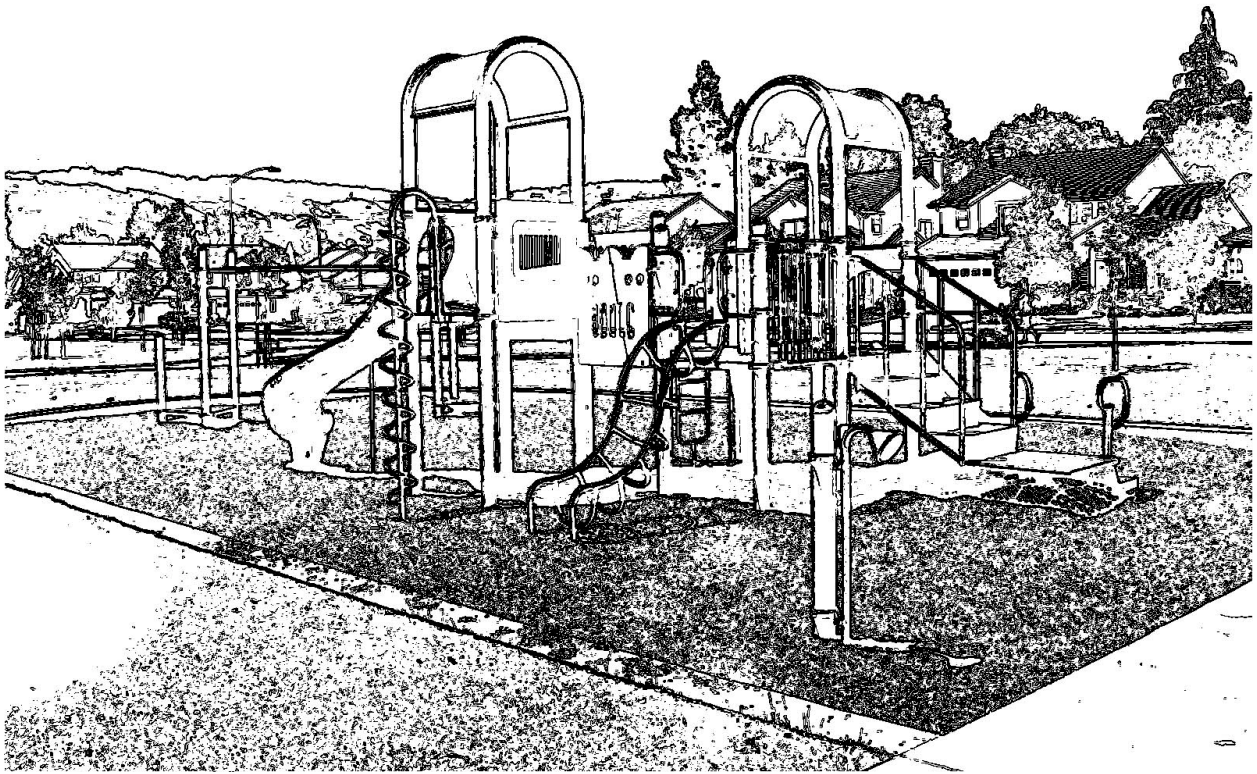
The Developer shall provide the City with three copies of any and all reports related to the condition of the parcel(s) to be conveyed to the City and adjacent land under the Developer's control including a Hazardous Materials Report(s).

1. In the event that the Hazardous Material Report(s) disclose(s) the presence of Hazardous materials on the proposed park parcel(s), the City shall have the right to require the Developer, as a condition of acceptance, to remediate the condition, including without limitation, removal of the hazardous materials from the park site. Costs for such remediation work are the sole responsibility of the Developer and are not calculated as part of the parkland obligation requirements.
2. The Developer shall provide the City, at the Developer's sole cost, an updated Hazardous Materials Report for the proposed site prepared no earlier than twelve months before the parcel(s) is transferred to the City. This report shall be prepared by a qualified consultant who analyzes the condition of the park parcel(s) in regard to the presence of any and all known hazardous materials. The report shall also review any contamination caused by the Developer's construction activities on the proposed park site.

**D. Grant Deed**

The Developer shall provide the City with a Grant Deed within 60 days after the City approves the completed park improvements. The Grant Deed shall contain a legal description of the proposed park parcel(s) to be transferred to the City. Furthermore, the Developer shall also provide the City C.L.T.A. Owner's form policy of title insurance issued by a reputable title company with the City named as the insured. The amount of such insurance shall equal the current land costs for the proposed park site.

## PART 3: DESIGN STANDARDS



### **3.1 Hiring of Professionals**

---

The Park shall be designed by a California licensed Landscape Architect. The Landscape Architect shall submit construction documents (see 2.6 Submittals) for City review, attend all project coordination and community meetings as specified in the Parkland Agreement, and ensure that the design complies with all City Standards and Specifications.

### **3.2 Submittal of Project Schedule**

---

The Developer shall be responsible for providing all work included in the agreement within the specified time frame and for meeting all deadlines.

#### **3.2.1 Project Schedule**

The Developer shall submit the schedule to the City prior to start of construction documents. This schedule shall meet the following requirements:

- A. The schedule shall clearly outline all proposed major tasks, phases, and submittals anticipated by the Developer and the City.
- B. The schedule shall include estimated length and time of completion for all tasks identified in the outline.
- C. The schedule shall meet the requirements in 3.6 of this document.

#### **3.2.2 Progress Schedule**

A written progress schedule shall be required of the Developer for this project and shall be updated and submitted to the City Project Manager on a regular basis, but no less than monthly, to accommodate changes. This process is fully described in the City of San José Landscape Specifications, Section 10-1.

### **3.3 Design Standards**

---

The following paragraphs are intended to outline the general intent of the design features typically included in a Turnkey Park. Specific information describing the physical requirements (type, size, quantity, manufacturer, layout, detailing, etc.) with which these elements must comply can be found in the City Standard Details and Landscape Specifications (dated July 1992) and in the Appendices. Final quality and finishes will be determined on a case-by-case basis by City staff.

#### **3.3.1 Grading and Drainage**

Please refer to Appendix 5 for Standard Notes for Construction Documents and Appendix 6 for Standard Construction Details for detailed grading and drainage provisions.

- A. The site shall be designed so that surface run-off flows into on-site drain inlets. The inlets shall be connected to 12-inch minimum diameter reinforced concrete drainpipe,

with 24-inch minimum cover, which shall be connected to drain into street manholes. The grading and drainage of the project shall be in compliance with the Urban Runoff Management Practices.

- B. Turf areas shall have a minimum 2 percent (.02) and a maximum 20 percent (.20) slope. Concrete walks shall be designed with a minimum 1 percent (.01), a maximum 5 percent (.05) slope and a maximum 2 percent (.02) cross slope. Ramps shall be designed with a maximum of 8 percent (.0833) slope for handicap accessibility. Subsurface drain pipes within the park site shall have a minimum slope of one-half of one percent (.005). Slopes which are planted with groundcover or are protected by other erosion control methods shall have a maximum 33 percent (.33) slope. Picnic areas shall have a maximum slope of 2 percent (.02). Sports facilities shall have slopes per the current standards adopted by their respective governing associations. The Developer shall confer with the City for minimum and maximum slopes on other surfaces.
- C. Play areas have special drainage requirements. The Developer shall confer with the City for the specific requirements.

### **3.3.2 Lighting**

Unless otherwise approved, park lights shall be installed to provide nighttime security only. Typically, lights are provided at each play area, along walkways, at restroom buildings, and in areas where lighting is necessary for security reasons. Since parks are closed at night, lighting for night time park use is not needed. Exceptions might be for tennis courts or sport fields, but only as determined by the City. Parks near a riparian corridor shall follow the City of San José Riparian Corridor Policy with regard to lighting restrictions. A separate metered electrical service shall be provided for each park site. Developer shall coordinate all electrical service work with PG&E and shall pay all required fees.

### **3.3.3 Irrigation**

The irrigation system shall be designed to achieve "head-to-head" coverage under prevailing wind conditions and to minimize over spray of irrigation water onto pavement, fences, buildings and other non-planter areas. The irrigation system shall be entirely automatic unless determined otherwise by the City. Included in Appendix 3 is a listing of material manufacturers, type, and size requirements. Appendix 1 provides irrigation design and layout guidelines.

### **3.3.4 Planting**

Refer to Appendix 5, Standard Notes for Construction Documents and City of San José Landscape Specifications Section 10-14 for detailed planting provisions, and Section 10-17 for maintenance requirements.

- A. Plant material shall be selected for compatibility with site conditions (soil, sun, shade, slope, overhead and underground utilities), climate, and for specific uses (screening, providing shade, erosion control, riparian corridor, etc.). Unless otherwise approved by the City, plant material shall be drought tolerant and minimum sizes shall be as follows:

- Trees - 15 gallon
- Shrubs - 5 gallon
- Groundcovers - 1 gallon

Two foot minimum diameter tree wells are required around the base of each tree.

General guidelines for tree spacing are as follows:

- 8 ft. min. from pavement, mow bands, and fences
  - 15 ft. from walls or buildings
  - 20 ft. apart min. in turf areas
  - 10 ft. from sewer and storm laterals
  - 5 ft. from water lines, gas laterals, and fire hydrants
  - 20 ft. from electroliers
  - 5 ft. from residential driveways
  - 10 ft. from commercial driveways
  - 40 ft. from street corners for sight visibility
- B. The Developer shall be required to maintain all plant material for the specified amount of time and/or the length of time it takes the plant material to attain the specified plant establishment and growth requirements. The following maintenance periods shall be included in the project, as applicable and as determined by City staff:
- Trees only - Minimum 30 calendar days
  - Turf areas - Minimum 60 calendar days
  - Erosion control hydroseed areas - 90 to 180 calendar days
  - Mitigation planting – 3-5 years
- C. A maintenance period shall begin after the City determines that new plant material has become adequately established.

### **3.3.5 Walks and Pavement**

Refer to Appendix 5 Standard Notes for Construction Documents and City of San José Landscape Specifications Sections 10-8, 10-9 and 10-15 for more explicit hardscape requirements.

- A. Concrete walks in parks are typically eight-feet wide, unless otherwise noted. Concrete walks shall be 6-inches deep where maintenance vehicles are anticipated. Access for light maintenance trucks shall be provided throughout the park site, wherever possible.
- B. Concrete curb ramps shall be constructed in City sidewalks at street intersections and where there is an obvious street crossing to the project site. Ramps shall also be provided for access across elevation changes such as into a play area.

- C. Decomposed granite is used for pavement of areas such as trails, around the base of trees, and in picnic areas, but only in flat areas. An organic binder stabilizer shall be used where foot-traffic is high.
- D. Asphalt-concrete shall be constructed to the thickness as determined by the City's Materials Laboratory. Typically, asphalt-concrete pavement within the park shall have a wood header edging.

### **3.3.6 Site Furniture and Structures**

Site furniture shall be provided as per the conceptual site plan approved by the City. The Developer shall confer with the City to get specific information on the type, quantity, and style of site furniture required for each project.

Site furniture includes: picnic tables, benches, drinking fountain, bike racks, bollards, trash receptacles, exercise equipment, and overhead shade structures; etc. Site furniture shall comply with specifications outlined in the current ADAAG (Americans with Disabilities Act Accessibility Guidelines).

Refer to Appendix 3: Materials and Manufacturers, and City of San José Landscape Specifications Sections 10-12, 10-13 and 10-15 for more detailed site furniture requirements.

### **3.3.7 Play Areas**

By authority of California Health and Safety Code, Section 115725, the design, installation, inspection, and maintenance of a playground and playground equipment shall comply with related sections (refer to the California Code of Regulations, Division 4, Chapter 22, Articles 1 – 3 for specifics) from the following two documents.

- Handbook for Public Playgrounds Safety (CPSC Handbook), Publication Number 325, U.S. Consumer Product Safety Commission, November 1997, Date Code: 009711 (For a free copy, call regional office of the Commission at: (510)637-4050 or (949)829-8249. Guidelines may also be downloaded at no charge from the CPSC website: <http://www.cpsc.gov>).
- Standard Consumer Safety Performance Specification for Playground Equipment for Public Use (ASTM Standard), Designation: F 1487-98, American Society for Testing and Materials, 1998 (Available from the American Society for Testing and Materials, 100 Barr Harbor Dr., West Conshohocken, PA 19428. The document costs approximately \$45. For more information, call ASTM Customer Service at (610-832-9285).

Refer to Appendix 5: Standard Notes for Construction Documents, and City of San José Landscape Specifications Section 10-15 for additional construction requirements.

#### 3.3.7.1 ADA Compliance

Playgrounds shall meet performance levels established by ADAAG (Americans with Disabilities Act, Accessibility Guidelines), as required by the aforementioned CPSC Handbook and ASTM Standard. ADAAG was recently amended with a special playground supplement that establishes specifications and standards for ADA compliance, unique to play areas. The new ADA reference is listed below.

- Guide to ADA Accessibility Guidelines for Play Areas (ADAAG supplement), U.S. Architectural and Transportation Barriers Compliance Board, May 2001 (Available for download at <http://www.access-board.gov/news/playguide.htm>).

#### 3.3.7.2 Special Considerations

- A. The distance between the play areas and streets or other park activities shall be adequate to provide a sufficient setback for visibility and buffering purposes. Final playground location shall be approved by the City.
- B. The Developer shall submit a letter of compliance/findings to the City from a Certified Playground Safety Inspector for: 1) the playground design prior to construction, and 2) the post-construction safety audit.
- C. There shall be separate play areas for children between the ages of 2-5 (i.e., tot lots), and 5-12 (i.e., youth play areas), unless a common, all-age play area has been approved by the City. All play equipment selected shall be age appropriate for the group in the play area it will serve. Deck and activity heights over four feet are not permitted in play areas for pre-school children. A minimum number of swing sets will be required for all parks, which will be determined by the Parks, Recreation, and Neighborhood Services Department during the conceptual stage.
- D. Play area design shall incorporate a variety of play experiences, including structured and fantasy play for the development of a child's physical, social, and intellectual skills. The various types of play equipment include: composite play structures (deck/climber/slide system); independent play structures such as swings, climbers, spring rockers, and stationary panels; and athletically challenging equipment such as the balance beam and chin-up bar.
- E. Play equipment, equipment footings, and resilient surfaces shall be designed as an integral unit. Careful consideration must be given to the subsurface slope, the depth of the resilient surface, the final elevation of the equipment, and the depth of the footings.
- F. The Contractor shall submit to the City, shop drawings and engineering calculations for each piece of equipment, including the footings, signed by a civil or structural engineer registered in the State of California.

- G. The Developer shall provide the City, clear, concise inspection, maintenance, and repair instructions from the manufacturer of the play equipment (including, but not limited to, what, when, and how to inspect, maintain, and repair).

### **3.3.8 Sports Facilities**

Sports facilities may include courts for basketball, tennis, roller hockey, volleyball, handball; and fields for baseball, softball, and soccer. Layout, orientation and clearances shall comply with the specific sports association standards whenever possible. Hard court surfaces for sports such as basketball, tennis, and handball are generally asphalt with a color coat finish. Refer to Appendices 3 and 6, and to City of San José Landscape Specifications, Sections 10-10 and 10-15 for more detailed sports facility requirements.

### **3.3.9 Signs**

Signs may include the following: project construction sign, permanent park sign, directional signs, parks rules and regulations signs, and any other site-specific informational or interpretive signs. Signs shall be designed as a complement to other park features. There shall be consistency and continuity in the size, lettering, color, and posting of all signs. Refer to Appendix 6 and City of San José Landscape Specifications Sections 10-12, 10-13 and 10-15 for more detailed signage requirements.

Signs shall be required for the play areas stating the age group for which the play area was designed and that adult supervision is recommended. Signs shall also be required for fitness equipment indicating the appropriate age group (12 – adult). The signs shall not have the playground manufacturer's name and/or logo on them.

### **3.3.10 Restrooms**

Design of the restroom building shall be of similar type and quality as recently constructed restrooms in City parks. Design of the building facade, including materials and colors, typically captures the look of the surrounding neighborhood or theme of the park. Fixtures shall be as specified by referencing City of San José Standard Details and Specifications or as provided by the City. Wall tile shall be coated with a "graffiti resistant" finish. The City will determine the number of stalls to be installed.

### **3.3.11 Maintenance Structures**

The City may require a parks maintenance storage room, attached to the restroom building, as part of the project. This storage facility shall be designed as an integral part of the restroom structure with the same materials and finishes as the restroom. The storage room shall be separate from the chase and plumbing rooms so as not to block plumbing.

A garbage dumpster enclosure may be required for the park as determined by the City on a case-by-case basis. The City standard enclosure is on an 8' x 10' concrete pad with a concrete apron in front of it so that it is easily accessible to large vehicles. The enclosure itself may be chain link fencing with slats, block walls or another design as approved by the Department of Parks, Recreation & Neighborhood Services.

## **3.4 Document Content**

---

Drawings will contain and adhere to all city standard drawing notes listed in Appendix 5. The plans shall reflect information as described in the following sections.

### **3.4.1 Cover Sheet**

This sheet typically contains the project title, city signature block, plan sheet index, and location map.

### **3.4.2 Scope of Project Plan**

The intent of this plan is to provide the contractors with an overview of the entire project. A separate Scope of Project Plan is normally provided if the project scope is extensive or the work being done must be completed in a specific order. For smaller projects, the scope can be shown in written form on the cover sheet.

The Scope of Project Plan defines the various areas of construction. The plan shall delineate, through graphics and labeling, all major improvement elements and areas of proposed construction including, but not limited to: the grading and drainage system, irrigation system, electrical work and lighting, play areas, site furniture, pavements and surface treatments, fencing, walls, buildings, overhead structures, and planting.

### **3.4.3 Existing Conditions and Demolition Plan**

All projects must include an Existing Conditions Plan that includes all surface features and underground utilities, even if there is no demolition involved. This plan shall show all existing features that are to remain, to be demolished, or to be salvaged.

### **3.4.4 Layout Plan**

The Layout Plan typically includes dimensioning of elements for layout purposes and material call-outs identifying elements and related details. The plan shall clearly delineate the various elements and materials with labeling and/or symbols. The City standard for layout method is the grid/coordinate system. For trails, the City standard for layout method is an offset from a baseline(s).

### **3.4.5 Layout Plan of Special Construction**

Special Construction elements include: play areas, large picnic areas, entry or plazas, game courts or other areas which may require detailed drawings. These plans include dimensioning and material call-outs and shall be shown on a separate plan at a scale of 1/8"=1'-0", 1/10"=1'-0", or at a scale which shows adequate detail.

### **3.4.6 Paving Plan**

A Paving Plan is required for projects with a complicated paving design, where a separate plan showing the joint layout and/or scoring pattern is necessary. This plan typically includes precise locations of expansion joints, construction joints, score lines, pavement thickness, and surface finishes.

### **3.4.7 Grading and Drainage Plan**

The intent of the Grading and Drainage Plan is to show the grading contours, layout, drainage connections and materials, and elevations of the surface elements and subsurface drainage system for the project site. Important elevations include TW (top of wall), BW (bottom of wall), BC (beginning of curve), EC (end of curve), TC (top of curb), FL (flow line), play area curbs, storm drains, corners in pavement, mow bands (50' o.c.), HP (high point), LP (low point), subsurface elevations in play areas, and misc. pads.

### **3.4.8 Electrical Plan**

This plan shall show the electrical system layout including locations, connections, conduits, metered service for the irrigation controller, low-pressure sodium security lighting, wiring diagram, details, fixture schedule, and all other electrical elements. Materials shall comply with the standards set by the City. See Appendix 2 for Electrical Design Criteria for City Parks.

### **3.4.9 Irrigation Plan**

This plan shall show the layout, connections and materials for the irrigation system for the project site from point of connection to the farthest head.

### **3.4.10 Planting Plan**

This plan shall show layout, quantity, size, and names of plant materials for the project site. The legend shall list the symbol or key, botanical and common names, quantity and size (1 gal. etc.), caliper, height and spread, and any remarks.

### **3.4.11 Construction Details**

The Construction Detail sheets shall show all specific details necessary for the complete construction of the project. Details shall be organized according to type and sequence of construction.

Typical standard details which are to be included on the construction detail sheets are included in Appendix 6. The Developer must obtain approval from the City before making any changes to the City's construction details. Details shall be modified to allow for site specific conditions with prior approval from the City.

## **3.5 Document Format**

---

All construction documents shall be prepared in accordance with the requirements as stated in the Turnkey Agreement. Refer to Appendices 6, 4 and 5 respectively for standard landscape details, typical plan legends and sheet notes.

### **3.5.1 Drawings / Plans**

Drawings and plans shall be prepared in accordance with the following requirements:

- A. For Preliminary, 50%, 95%, and Final Submittals, the Developer shall submit eight 24" x 36" bound blueprint sets and one 24" x 36" reproducible vellum set. For the Record Drawings, as approved by a City Inspector, the Developer shall submit one 24" x 36" reproducible vellum set and one CD of all working drawings and base information in AutoCAD format.
- B. Plans shall have standard City of San José Department of Public Works title block (title block will be provided to Developer).
- C. Plan sheets shall have the following margins:
  - One-half inch (1/2") minimum top and bottom between edge of paper and drawing border;
  - One-half inch (1/2") minimum right margin between edge of paper and title block;
  - One and one-quarter inch minimum left margin between edge of paper and drawing border for binding edge.
- D. Plans shall show scale of drawing and north arrow.
- E. Plans shall be drawn at a scale at which elements can be clearly represented on the plan. All plans within a set of drawings shall be drawn at the same scale. The exceptions to this would be a larger scale plan (1" = 100' instead of 1" = 20') showing phases within the project or a smaller scale plan (1" = 10' instead of 1" = 20') showing a detailed layout of a particular area such as a lot. The City's Project Manager shall approve scale and orientation on the plan. Project site shall be oriented on the plan typically with north arrow pointed up.
- F. All plans shall be laid out on the sheets in a consistent manner (i.e., having the same directional orientation and in the same location on the sheet).
- G. Print size on drawings for notes, legends, labels, call-outs, etc. shall be at least one tenth of an inch high (as measured on the upper case letter).

### **3.5.2 Landscape Specifications**

Developer shall include the City of San José Department of Public Works Landscape Specifications as applicable, in the project documents. The City will provide the Landscape Specifications to the Developer. The Developer is responsible for making all modifications to the Landscape Specifications that are needed to meet the requirements of the project, and for including landscape specifications for custom designed or special elements in the project as approved by the City. The Developer must obtain approval from the City before making any changes to the City's Landscape Specifications.

## **3.6 Submittals**

---

Review of the project plans and landscape specifications by the City is intended to provide the Developer with current City policies related to the project construction. **The City will only review a comprehensive set of plans and specifications that meet each stage of the project documents as outlined below.**

### **3.6.1 General Requirements**

- A. Construction documents shall be submitted for each review and must meet the following requirements:
  - 1. Submit a minimum of eight blue-line sets of construction documents, or as required by the City's project manager.
  - 2. Plans must be clearly readable blue line or black line prints, stapled in sets of a size to be determined by the City (either 24"x36" or 11"x17").
  - 3. Submit the "redlined" set of plans from the previous review;
  - 4. The submittal stage (i.e., 50% Review) shall be clearly marked on the cover sheet;
  - 5. Submit cost estimate at each submittal interval.
- B. The submittal intervals for the review of construction documents shall be as follows:
  - 1. Preliminary Review
  - 2. 50% Review
  - 3. 95% Review
  - 4. Final Review
  - 5. Record Drawings
- C. A minimum of three (3) weeks turnaround will be necessary from the time the City receives the review submittals to the time the City returns the submittals and comments. The Developer is responsible for making all arrangements and for providing the service to pick-up the review sets from the City.

The City will meet with the Developer at each review turnaround to go over the comments and make any clarifications necessary. In addition, the City will provide a written review response for each stage of the review process. The Developer shall incorporate the City's comments in the project construction documents.

The Developer is responsible for showing all information that is necessary to provide a complete and comprehensive set of construction documents.

- D. The drawings covered in the above section are typical for most projects. This will not preclude the addition of other drawings deemed necessary by the City. Each project will be considered on a case-by-case basis to determine the drawings necessary to provide a complete package from which a contractor can construct the improvements.

The Developer shall submit construction documents for review with the information, as described below, on each drawing and in the specifications. The submittal descriptions set forth below represent the minimum amount of information needed for City review.

### **3.6.2 Preliminary Submittal**

The Developer shall submit the Civil Engineering plans, all base information including boundaries, tree locations, above- and below-ground infrastructure locations, and easements; and the Environmental Clearance for the site.

### **3.6.3 50% Submittal**

See Figure 1 for schedule.

### **3.6.4 95% Submittal**

See Figure 2 for schedule.

### **3.6.5 Final Submittal**

At the completion of the construction documents (100%), prior to City approvals, all drawings shall be stamped and signed by the appropriate professional (i.e., landscape drawings by a landscape architect, electrical drawings by an electrical engineer, etc.). The principal developer shall sign the cover page of the specifications.

Final set of plans and specifications shall be copy ready originals. The Consultant's seal shall be signed on the plans and specifications. The Consultant shall also provide the City with a CD that has an individual AutoCAD file (. DWG) for each sheet of the drawings (including an index of the sheets) and the specifications in Microsoft Word. In addition, the Consultant shall submit a paper copy (11" x 17" for the plans and 8 ½" x 11" for the specifications) of the information on the CD.

### **3.6.6 Record Drawing**

The Developer shall keep records of all changes to the construction drawings and retain a licensed landscape architect to prepare a set of record drawings that are subject to the approval of the City Project Inspector. The Record Drawings shall be submitted to the City prior to the final walk through.

The final record drawings shall be submitted as outlined above (3.6.5 Final Submittal). The City will also sign and date these drawings.

SHT #	SHEET TITLE	SHEET CONTENT AT 50% SUBMITTAL
1	Cover Sheet	Project name, vicinity map.
2	Scope of Project Plan	Major construction areas.
3	Existing Conditions and Demolition Plan	Major existing elements and demolition areas.
4	Site Layout Plan	Base plan of new layout with all major new elements and existing elements to remain and setup for dimensions (either base lines and benchmarks for off-set dimensions or grid lines for coordinate layout).
5	Play Area Layout Plan	Base plan of new layout with framework of new play equipment and setup for dimensions (base lines and benchmarks for offset dimensions).
6	Site Grading and Drainage Plan	Location of inlets, new spot elevations and grades for major elements or elements requiring large amounts of grading; rim and invert elevations for existing and proposed drain inlets; benchmarks; existing contours; creek banks, slopes, outfalls, and all other grading and drainage features
7	Play Area Grading and Drainage Plan	Locations of inlets, new spot elevations and grades for major elements requiring large amounts of grading.
8	Site Electrical Plan	Locations of electroliers and other elements requiring electrical power and source of electrical connection.
9	Irrigation Plan	Point of connection; locations of main pressure line; remote control valve locations; irrigation controller; and sprinkler head list.
10	Planting Plan	Mowband between turf and groundcover/mulch areas and plant material list.
11	Construction Detail Sheets	Special or custom construction details, sketches and material list (I.e. arbors, picnic shelters, retaining walls, etc.) and 50% layout of areas such as picnic areas, game courts and trash enclosures.
attach- ment	LANDSCAPE SPECIFICATIONS	Outline of landscape specifications, including any non-standard features not covered in City of San Jose Standard Specifications.

<b>FIGURE 2 - 95% SUBMITTAL</b>		
<b>SHT #</b>	<b>SHEET TITLE</b>	<b>SHEET CONTENT AT 95% SUBMITTAL</b>
1	Cover Sheet	Elements from the 50% submittal, sheet index, signature block, and written scope of project.
2	Scope of Project Plan	Elements from the 50% submittal; locations of the various elements and stages of construction, and legend.
3	Existing Conditions and Demolition Plan	Elements from the 50% submittal; all other existing elements, all removal and disposal instructions, graphic delineation of elements (shading, patterning, line weights, etc.), legend and sheet notes.
4	Site Layout Plan	Elements from the 50% submittal; offsets or coordinates for 95% of the layout of new elements, safety setbacks and easement, joint layouts and/or scoring pattern for pavement, graphic delineation of elements (shading, patterning, line weights, etc.), legends, and sheet notes.
5	Play Area Layout Plan	Elements from the 50% submittal; off-sets for 90% of the layout of new play equipment, legends, materials, and sheet notes.
6	Site Grading and Drainage Plan	Elements from the 50% submittal; new elements (steps, ramps, walls, etc.), contour lines at one-foot intervals and spot elevations of all new elements, storm lateral locations, size, length, slope, locations of any connections to manholes in the street, erosion control methods, berms and swales, surface drainage patterns, legend, and sheet notes.
7	Play Area Grading and Drainage Plan	Elements from the 50% submittal; contour lines and spot elevations of subgrade and new surfacing (rubber, sand, wood fiber, etc.), storm lateral locations, size, length, slope.
8	Site Electrical Plan	Elements from the 50% submittal; location, size, and type of electrical conduit, pull boxes, wiring diagram, panel box, legends, and sheet notes.
9	Irrigation Plan	Elements from the 50% submittal; sprinkler and lateral layout, quick coupler locations, remote control valve size, controller station, gpm call-outs, pipe sizing, legend, valve sizing charts, and sheet notes.

10	Planting Plan	Elements from the 50% submittal; location of trees, shrubs, vines, and groundcovers, plant material size and type call-outs, legend, and sheet notes.
11	Construction Detail Sheets	Elements from the 50% submittal and all other details to 90% completion, elements required to complete each stage and area of construction (i.e., concrete, carpentry, asphalt, storm drainage system, electrical, irrigation, planting, etc.).
attach- ment	LANDSCAPE SPECIFICATIONS	95% completion of landscape specifications.

## PART 4: CONSTRUCTION STANDARDS

---



## **4.1 Pre-construction Conference**

---

The Developer shall contact the City's project manager two weeks prior to the anticipated start of construction. The City will set up a pre-construction conference with the Developer, the Developer's contractor, and City staff to review the plans, specifications, construction schedule, and to discuss any outstanding construction issues.

Prior to park construction, the City will issue no-cost permits to the Developer (i.e., electrical and mechanical permits).

There shall be no park construction work prior to the pre-construction meeting.

## **4.2 Required Notices**

---

- A. Forty-eight (48) hours prior to commencing operations, the Developer shall notify the City of San José, Parks & Recreation Facilities Division. Refer to City of San José Landscape Specifications, Section 10-1.05.
- B. The contractor shall notify Underground Service Alert at least 48 hours prior to any excavation on the project. See Appendix 5.
- C. A Tree Removal Notice shall be posted 10 days prior to removal of trees. See Appendix 5.

## **4.3 Layout of Improvements**

---

The Developer shall be responsible for establishing the basic controls including base lines, establishing stationing and benchmarks, and checking, from time to time, configurations and elevations. The Developer shall be responsible for all finished survey detail work and shall be responsible for replacing points lost or damaged during the course of construction. Refer to Section 5-1.07, "Lines and Grades", of the City Standard Specifications for layout of street work of this construction project and City of San José Landscape Specifications, Section 10-1.08.

## **4.4 Inspection Procedures**

---

The City shall provide a construction manager to administer the construction work for the City and an inspector for continuous inspection of the construction work. All field communications shall go through the inspector, including transfer of information and project submittals. The Developer shall have an authorized representative at the site of the work at all times during construction.

In addition to inspection services, the City shall provide testing laboratory services for the testing of concrete, asphalt concrete and subgrade compaction tests. The City shall provide these services one time only. The Developer shall give the inspector forty-eight (48) hours notice for compaction and concrete tests. Refer to City of San José Landscape Specifications Sections 10-8 and 10-9 for a detailed description of this process.

During the course of construction, approval of Engineer shall be required at a number of specific inspection points as listed in the City of San José Landscape Specifications, Section 10-1.07.

#### **4.5 Material Submittals and Shop Drawings**

---

The Developer shall retain a licensed landscape architect to approve and review all submittals and shop drawings for conformance with the approved Plans and Specifications. Following this review, the Developer shall deliver at least six (6) copies of all construction submittals and shop drawings to the City and allow a minimum of 10 working days for final approval and/or comments. Refer to City of San José Landscape Specifications, Section 10-1.11.

The City maintains the right to approve or reject any substitutions. If the City rejects a submittal, the Developer shall deliver a revised submittal to the City within 5 working days of receipt of the rejected submittal.

#### **4.6 Plan Revisions**

---

The City shall review and approve all plan revisions prior to their construction. Any revisions to the plans and specifications that become necessary while the project is under construction must also be reviewed and approved by the City. Approved revisions to the plans and / or specifications must be recorded on the original construction documents by the Developer before the work can take place in the field.

#### **4.7 Record Drawings**

---

The Developer will keep records of all changes to the construction drawings and retain a licensed landscape architect to prepare a set of record drawings that are subject to the approval of the City Project Inspector. Specific provisions regarding record drawings are detailed in the Parkland Agreement. Refer to 3.5 Document Format in Part 3 of this document for drawing format requirements.

#### **4.8 Final Acceptance**

---

The Parkland Agreement sets forth specific procedures and requirements for Turnkey Park acceptance. The following description provides an overview of these provisions and requirements:

When the project is determined to be substantially completed, the City will conduct a "pre-final" walk-through inspection with the Developer and City staff. The project will be inspected for quality of workmanship as well as completeness of the work. The City will put together a "punch-list" of items which the Developer will be responsible for completing. Following completion of all the "punch-list" items, the City will conduct a "final" walk-through inspection. If the project is deemed to be completed to the City's satisfaction, the City will file a Notice of Completion and Acceptance and the project will be turned over to the City. The Developer shall be responsible for the maintenance of the entire site, including mowing of turf as required, until final acceptance of the park.

In conformance with the General Provisions of the City Standard Specifications, the following is the procedure for final inspection and acceptance:

When the Developer feels that all work on this project is complete, he/she shall request a final inspection of this project. The Engineer and other City representatives shall make a visual inspection of the project. If, during this inspection, the project is found to be complete, a final inspection will be granted by the City. Any deficiencies, corrections, or repairs as noted during this inspection must be completed by the Developer prior to the City's acceptance of the project.

The Developer shall continue to be responsible for all facilities, structures, equipment, and all landscape maintenance that is part of this contract until all items are corrected and complete and a final acceptance by the City is granted. (City of San José Landscape Specifications, Section 10-1.14)

The Developer is responsible for training City Maintenance personnel on the use of special equipment in the park.

#### **4.9 Procedure for Acceptance of Turnkey Parks**

---

- A. City Landscape Project Manager tells the Developer to execute deed to grant park parcel to City prior to final walk through.
- B. City Inspector asks the Developer for the Record Drawings. City reviews them and returns them to the Developer to have their consultant make any changes to drawings. Developer to submit one set of reproducible Record Drawings to City signed and stamped by consultant. City signs and dates Record Drawings. Record Drawings are also to be submitted on CD in AutoCAD format.
- C. Developer prepares and executes Grant Deed and sends to City Landscape Project Manager along with the Preliminary Title Report, a proof of authority letter with a notary acknowledgement, and any and all reports (i.e. hazardous materials report) related to the condition of the park parcel and any adjacent land. The hazardous materials report should be no older than 12 months prior to the dedication date.
- D. City Landscape Project Manager sends the Grant Deed along with the rest of the items listed in C above to the City Real Estate Division for acceptance and recordation at the County.
- E. City Landscape Project Manager also sends a copy of the Preliminary Title Report to City Parks Planning. They review the report for liens and encumbrances on the property and report any concerns to the City Real Estate Division.
- F. City Real Estate reviews the Grant Deed, sends it to the City Clerk and to the County Recorder's Office for recordation. When City Real Estate receives the conformed copy back from the County, they send a photocopy of the conformed Grant Deed and the Deed Acceptance Slip to the City Landscape Project Manager.

- G. City Landscape Project Manager sends a photocopy of the Grant Deed and Deed Acceptance Slip to City Parks Planning and to the Landscape Inspector.
- H. After the final walk through and acceptance of the Park by the City, the Landscape Inspector sends a notice of completion to the City Clerk's office. The City Clerk sends a release letter to the Surety Company who releases the Performance and Payment Bonds and directs them to retain the Defective Materials and Workmanship Bond for one year. A copy of this letter is sent to the Developer and to the City Landscape Project Manager. The City Landscape Project Manager then sends a copy of the letter to City Parks Planning.
- I. Upon acceptance of the park by the City, Developer to give City Landscape Project Manager a photocopy of all utility bills in Developer's name for the park. The City Landscape Project Manager will send this information to the City's General Services Division (Parks Maintenance) so they can request that the utility bills for service after the date of acceptance be changed from the Developer's name to the City's.

## APPENDIX 1: IRRIGATION DESIGN INFORMATION

Some general irrigation design information for City park development follows. The application of this information will be determined by City staff on a project by project basis. **Types and sizes of all materials and fixtures shall comply with City of San José Standard Details and Specifications. City staff shall review layout and locations of all irrigation design elements.**

1. Provide pressure loss calculations to determine the remaining residual pressure for the system. Pressure calculations shall be performed for the farthest head from the point of connection, with a minimum of 25 psi remaining at the last head.
2. Water services for the irrigation system shall be two 2-inch size water meters with a 3-inch manifold, and a 3 or 4-inch mainline.
3. The system shall be adequate to provide sufficient water at peak demand from 10:00 P.M. to 5:00 A.M. watering period.
4. An irrigation system with less than 60 psi, as measured in the street, should be designed with a booster pump and sizing calculation, unless directed otherwise by the City.
5. An irrigation system with more than 80 psi at the water meter should be designed with a pressure regulating valve at the backflow preventer.
6. A separate backflow prevention device shall be provided for the potable water system.
7. Gate valves shall be installed to allow the shut-off of portions of the system during repair.
8. Quick coupling valves shall typically be installed on a separate line from the main sprinkler system. They shall be placed at intervals no greater than 100 feet. Typically, quick couplers are installed at play areas, plazas, picnic areas, and drinking fountains. The quick coupler line shall be installed after the backflow prevention device but before the flow control valve.
9. Main pressure lines shall be Class 315 PVC. The main line shall be a minimum of 3 or 4-inch.
10. Lateral lines shall be Class 200 PVC. Generally, the smallest lateral line is one and one-quarter inch (1-1/4") in size. Systems with bubblers or small spray sprinklers can use 1-inch (1") lateral lines.
11. Turf heads should be spaced at 40 percent of the diameter at the design pressure being used, based on head to head coverage. For example, if the diameter of a head at 60 psi is 100 feet, heads should be spaced at 40 feet on center.
12. The minimum flow per valve depends on the flow meter size. If the flow meter is 1-1/2", the min. GPM is 5 GPM. If the flow meter is 2" or greater, then the min. GPM is 10 GPM.

13. Irrigation controllers for parks shall be Cal-Sense ET2000.

14. Remote control valves should be one size smaller than the lateral line going out of the valve. For example, if the lateral line to be connected to the remote control valve is a 3-inch line, then the remote control valve will be 2-1/2 inches. See chart below:

Lateral Line Size at Remote Control Valve	Recommended Remote Control Valve Size	Maximum GPM's
1-1/4"	1"	26
1-1/2"	1-1/4"	35
2"	1-1/2"	55
2-1/2"	2"	80
3"	2-1/2"	120
4"	3"	200

**Note:**

These are recommended lateral line and valve sizes for irrigation design of City projects. The design standards will be reviewed for each project and will be based on existing conditions and experience from past projects of a similar nature. It is the Developer's responsibility to provide an irrigation design that provides adequate irrigation water to the project to maintain all plant material in a healthy condition without excess runoff.

## **APPENDIX 2: ELECTRICAL DESIGN CRITERIA FOR CITY PARKS**

The following guidelines have been prepared to assist Consultants with the electrical design within City of San José park developments. Typical items requiring electrical service in parks may include security lighting, play equipment, irrigation controllers, pumps, and maintenance receptacles. These guidelines only apply to work within the landscaped areas of parks and do not necessarily apply to building work, parking lots, and other facilities.

### **Plans and Specifications**

---

Complete design drawings shall be prepared by an experienced electrical engineer. Design drawings shall include scaled site layout plans, lighting details, service requirements, electrical distribution schematic, branch circuiting, irrigation controller details, and other construction details. The design shall be prepared in compliance with all-governing codes and standards. Design/build arrangements are not acceptable.

Specifications shall be provided which include complete material and installation requirements for electrical work in the park.

Final plans shall be stamped and signed by a registered electrical engineer in the State of California with expiration date clearly shown.

### **Electrical Service**

---

All electrical services within the park shall be fed from a metered service. If no service is currently available in the park or if this is a new development, a new service is required to be obtained from PG&E. Advance coordination with PG&E is required including preparation and submission of a PG&E Service Planning Sheet and site plan. A copy of PG&E's substructure package with all associated documentation for the site shall be delivered to the City for verification prior to project approval. The City shall also be notified of any PG&E fees required for electrical service installation.

### **Specific Design Requirements**

---

The electrical system shall be designed for high quality and longevity. Wherever possible, vandal resistant materials and hardware shall be specified.

The City requires all lighting in parks to be low-pressure sodium type. There is no specific criteria regarding illumination levels. Lighting illumination levels are dependent on the particular security issues at the park and need to be discussed with the client department.

All wiring shall be copper, THW insulation, with a #8 ground wire installed in all raceways. All wiring shall be installed in schedule 40 PVC conduit. In general, lighting controls shall be designed to turn security lighting “on” at dusk by way of photocell, and “off” at midnight by way of a time clock.

## **Design Approval**

---

Electrical design drawings and specifications shall be submitted to the City for periodic review during the design phase. Electrical design consultant is to provide written response to the City’s progress review comments. Final approval must be given before releasing the project for construction. Design meetings can be arranged at any time during the design process to answer questions concerning the project.

## **Typical Details, Notes, and Specifications**

---

Details have been developed to assist Consultants with electrical designs for City parks. The Consultant is required to adapt these details in an approved manner to suit the particular needs of the park. The following details, specifications, and notes are available:

1. Park electroliers
2. Irrigation controllers
3. Service pedestals, trenches, and pullboxes
4. Sample park specification
5. Electrical drawing notes
6. Fixture schedule

Electronic copies of these details and specifications can also be provided. The City uses the AutoCAD 2000I program for development of drawing details. The sample specifications and notes will be provided in Microsoft Word format.

For copies of these items, please call Adam Stempel at 408.277.4777.

## APPENDIX 3: MATERIALS AND MANUFACTURERS

**This information is provided for convenience only. The City does not guarantee its accuracy or completeness. Developer may submit other equipment to the City for consideration.**

### Irrigation Equipment

Description	Manufacturer	Model Number (if applicable)	Comments
Controller	Cal-Sense	ET2000 w/phone lines	40 stations max. per controller
Controller Enclosure	LeMeur	VM	Custom, heavy-duty steel
Reduced Pressure Principle Backflow Preventer	Wilkins	975	Size: 2-1/2" to 4"
		975 XL	Size: 2" & smaller
'Y' Strainer	Wilkins	S series FS series	Size: 2" and smaller Size: 2 1/2"-10"
Pressure Reducing Valve	Wilkins	500 FC	Size: 2-1/2" to 3"
		500	Size: 2" & smaller
Master Valve	Griswold	2160	All sizes
Flow Metering Valve	Cal-Sense	Per detail & specs	
Backflow Assembly Cage	LeMeur	-----	Expanded Metal
Gate Valve	Nibco Nibco	T-113-IRR-BHW F-619 w/square operating nut	2 1/2" and smaller 3" and larger
Quick Coupling Valve	Rainbird	44LRC or 33DNP	
Remote Control Valve	Griswold	2000 Series	All sizes
Main Line	Class 315 PVC (3" or 4" minimum)		
Lateral Line	Class 200 PVC (1-1/4" minimum)		
Sleeves	Class 315 PVC – 2" larger than the pipe running through it		

**(Irrigation Equipment, cont.)**

<b>Description</b>	<b>Manufacturer</b>	<b>Model Number (if applicable)</b>	<b>Comments</b>
Quick Coupling Line	Schedule 40 PVC (2" & smaller; 1" min)		
Potable water main	Schedule 80		
Valve Mainfolds	Galvanized steel pipe		
Swing Joints: Quick coupler  Spray heads  Turf rotors	Galvanized steel pipe		
	Schedule 80		
	Galvanized steel pipe		
Shrub/Groundcover Sprinklers & Bubblers	Toro	570 Series	Spray heads
	Rainbird	1800 Series	Spray heads
Turf Sprinklers	Hunter	I-20 Ultra w/Stainless Steel Option	Small turf rotor
		I-40	Turf rotor
		I-60	Large turf rotor, low PSI
	Toro	340 Series Stream Rotor	Small turf areas

## Play Equipment & Surfacing

Description	Manufacturer	Model or Series or Type	Comments
Composite Play Structure (Deck/Climbers/ Slides)	Columbia Cascade	Pipeline	5-inch diameter steel posts
	Landscape Structures	Play Boosters	
	GameTime	PowerScape	
	Playworld Systems	Playmakers	
Independent Play Equipment (Swings, Climbers, Spring Rockers, etc.)	Columbia Cascade	Swings; Metal Climbers; Free-standing activity panels; Spring-based equipment	
	GameTime	Swings; Spring animals; Free-standing activity panels	
	Playworld Systems	Swings; Free-standing activity panels	
	Landscape Structures	Swings; Free-standing activity panels	
	Kompan	Spring-based products	Best suited for high maintenance and protected areas
Resilient Rubber Surfacing	Robertson Industries	TotTurf	Poured-in-place rubber
Engineered Wood Surfacing	Fibar	Fibar 100 System	Includes filter fabric and fibar mats under swings and slides.
Sand	Olympia #2	Washed Beach Sand	Does not provide surface for wheelchair accessibility.

## Site Furniture

Description	Manufacturer	Model Number (if applicable)
Picnic Tables	Outdoor Creations	#100, #101
	Quickcrete Products Corp.	Model Q-LBT-96PT, color C-2, finish T-1
	Wausau Tile	Terra Form TF 3195 & TF3200
Benches	Bolt down, steel frame variety	
Trash Receptacles	Wausau Tile	Terra Form Model 'D' TF1050 (w/side-opening door and top cover)
Barbecue	Game Time	Model No. 60 Delux Waist Hi
Drinking Fountain	Most Dependable Fountains	MDF 440 surface mount
	Dumor Inc.	Model #21-00
	Iron Mountain Forge	Model 210
Bike Rack	Columbia Cascade	Cycloops 2170 or 2175

## Sports Facilities Equipment

Description	Manufacturer	Series	Comments
Exercise Equipment	Columbia Cascade	Pipeline Fitness System	Metal uprights
	Landscape Structures	Fitness Cluster	
	Playworld Systems	World Trail, World Fit	
Game Court Surface	Nova USA	The Novacrylic Line	Line, base, pavement and filler coats
	California Products Corporation	Plexipave System	
Sports Equipment (ie - Soccer goals, softball backstops, basketball backboards and hoops, etc.)	Patterson-Williams	-----	
























































# APPENDIX 4: GRAPHIC STANDARDS

## Typical Line Styles

TO BE CONST.	EXISTING	REMOVE, SALVAGE OR RELOCATE	DESCRIPTION
— PL —	PL — — —		PROPERTY LINE
— CL —	CL — — —		CENTER LINE
— — —			LIMIT OF WORK LINE
A — MATCH LINE — A			MATCH LINE
— ● —	— ○ —	— ○ —	SANITARY MANHOLE/ SEWER
— ⊙ —	— ⊙ —	— ⊙ —	STORM MANHOLE/ SEWER
	<i>CITY OF SAN JOSE</i> <i>COUNTY OF SANTA CLARA</i>		CITY LIMIT LINE
— — —	— — —		EDGE OF PAVEMENT
==	==		CURB AND GUTTER
—    —	— // —		CONDUIT AND WIRING
— - - - -			SLEEVE UNDER PAVING
— — —	— — —		MAIN LINE
— x — x — x —	— x — x — x —	— x — x — x —	FENCE (CHAIN LINK)
— G — < > — G —	— G — < > — G —		GAS VALVE
— W — < > — W —	— W — < > — W —		WATER VALVE
— G —	— G —		GAS LINE
— W —	— W —		WATER LINE
— PW —	— PW —		POTABLE WATER LINE
— T —	— T —		TELEPHONE FACILITIES
— TV —	— TV —		CABLE TELEVISION
— JT —	— JT —		JOINT TRENCH
— OC —	— OC —		QUICK COUPLING LINE
— 195 —	— 195 —		CONTOUR LINE





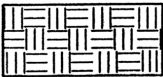
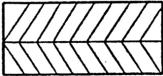
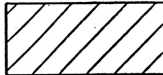




# Typical Symbols

TO BE CONST.	EXISTING	REMOVE, SALVAGE OR RELOCATE	DESCRIPTION
OR	OR		TREE
OR	OR		SHRUBS
			DOUBLE CHECK ASSEMBLY
			POLE MOUNTED SIGNS
			TRAFFIC SIGNAL
			PARKING LIGHT
			ELECTROLIER
			P.C.C. DRIVEWAY
			P.C.C. WALKWAY/ SIDEWALK
			WHEELCHAIR/ CURB RAMP
			KEY TO CHANGES
			DETAIL CALLOUT
			VALVE CALLOUT
			PLANTING CALLOUT

TO BE CONST.	EXISTING	OR RELOCATE	DESCRIPTION
 FI	 FI	 FI	FLUSHING INLET
			STANDARD HOODED INLET & LARGE HOODED INLET
			
 GDO	 GDO	 GDO	ALTERNATE DRAINAGE INLETS (TYPE AS NOTED)
			REGULAR FLAT GRATE INLET
			LARGE TYPE FLAT GRATE INLET
 G	 G	 G	GAS METER
 W	 W	 W	WATER METER
 C	 C	 C	CONTROLLER
 DF	 DF		DRINKING FOUNTAIN
			PULL BOX
			UTILITY POLE
			ELECTRICAL SERVICE CABINET
			CITY SURVEY MONUMENT
			FIRE HYDRANT
			BACKFLOW PREVENTION DEVICE
			'Y' STRAINER
			PRESSURE REDUCING VALVE
			GATE VALVE
			REMOTE CONTROL VALVE
			THRUST BLOCK
			QUICK COUPLING VALVE

## Typical Pattern Surfaces

---

<u>TO BE CONST.</u>	<u>EXISTING</u>	<u>REMOVE OR RELOCATE</u>	<u>DESCRIPTION</u>
			BASE ROCK
			CONCRETE
			DECOMPOSED GRANITE
			GRAVEL/ DRAINING ROCK
			EARTH
			ASPHALT PAVING/ SURFACING (MULTIPLE LAYERS)
			STEEL
			DIRT
			CHAIN LINK FABRIC
			WOOD/ LUMBER SURFACING

## **APPENDIX 5: STANDARD NOTES FOR CONST. DOCS.**

### **Existing Conditions and Demolition Notes**

---

1. The Contractor shall visit the project site prior to bidding to determine the exact extent of all site demolition items.
2. The Contractor shall be responsible for the verification of all existing utilities in the field prior to construction. Locations shown on the plans are approximate and for general information only. He shall be responsible for making himself familiar with all underground conditions prior to commencement of work.
3. All work shall be done in accordance with the Standard Specifications, Standard Details and subsequent addenda as adopted by the City Council, where applicable and also the Special Provisions for this project.
4. The Contractor shall perform all clearing, demolition, removal of obstructions and site preparations necessary for the proper execution of all work shown on these plans and as described in the specifications.
5. The Contractor shall notify Underground Service Alert at least 48 hours prior to any excavation on this project (U.S.A. at 800-227-2600). The Contractor shall remove all USA markings, as soon as they are no longer needed, by using a high pressure water method only. The City encourages the use of chalk paint whenever possible. Paint used in the Redevelopment Area bounded by Julian Street and Highway 280, and between Highway 87 and Fourth Street shall be chalk paint only.
6. The Contractor shall be responsible under this contract for repairing and replacing at his own expense, any structures, fences, walls or plant life damaged or destroyed by his operation. Likewise, he shall be responsible for repairing or replacing any and all damages occurring by his operation, on adjacent properties and anywhere outside the contract limit lines. The damaged items will be restored to their original condition and to the satisfaction of the Engineer.
7. Keep all planting, paving and curb areas free from weeds, debris and trash during the entire duration of the contract. Weed control herbicides shall be applied if the Engineer deems it necessary. Type of herbicide to be used and method of application shall be approved by the Engineer.
8. Care should be taken with existing trees to remain. Grades within the drip line of the tree shall not be changed unless otherwise specified on the plans. Unnecessary compaction of the area within the drip line shall be avoided.

9. Cut and remove existing tree(s) as indicated on the plans. Tree(s) shall be removed under the direction of the Project Inspector. The Inspector shall be present when cutting takes place. Removal shall include all limbs, debris and the entire stump.
10. All items indicated to be removed shall be disposed of from the project site, except items indicated to be salvaged.
11. The Contractor shall be required to prune existing trees that overhang to unsafe levels within the project boundaries. All dead limbs shall be removed under the direction of the Engineer.
12. A temporary construction sign shall be installed at the project site. Location of the sign shall be determined in the field by the Project Inspector.
13. A 6' high temporary chain link construction fence shall be installed along the entire perimeter of the project site and shall be maintained for the duration of the project. The temporary construction fence shall be in good condition, staked into dirt wherever possible, and installed with a top tension wire. The fence fabric shall be 11 gauge, with knuckled barbs on the top edge.

## **Layout Plan Notes**

---

### N 0+00

1. Figures shown thus: E 1+00 denote coordinates of swing points and intermediate points of control to be used for layout of all improvements shown on these plans. All transitions of P.C.C. walks and mow bands shall be constructed to a smooth curve. All adjustments of the "Layout" shall be approved by the Engineer prior to construction.
2. The Contractor shall be responsible for all survey work and for re-establishing and replacing points lost, disturbed or damaged during the course of construction or otherwise. Base line controls may be set on an "off-set line" at the request of the Contractor.
3. The Contractor shall be responsible for the verification of the location of all utilities in the field. Locations shown on the plan are approximate and for general information only. The Contractor shall notify Underground Service Alert (U.S.A. at 800-227-2600) at least 48 hours prior to any excavation on this project.
4. All "LAYOUT" work shall be the responsibility of the Contractor and it shall be approved by the Engineer prior to the start of any excavation.
5. Radii for P.C.C. mow bands, walks, curb walls and curbs are either to the inside edge or the outside edge as shown on the plan.
6. All existing utility boxes, vaults, valve covers, and manholes within the area to be improved shall be adjusted to the new finish grade.
7. For joint lay out, see Sheet \_\_\_\_.
8. All dimensions are to face of curb, where applicable.

## **Paving Plan Notes**

---

1. This plan shows the scoring and expansion joints layout of all concrete flat work for this project. Scoring patterns are radial to the curve, except where shown otherwise. The Engineer shall approve all lay out.
2. All Keyed Kold Joints for all P.C.C. pavements shall be installed at twenty-four foot (24') minimum intervals, except where shown otherwise. All score lines shall be struck every eight feet (8') unless shown otherwise. All expansion joints shall be pre-molded, ½" wide fiber felt. Recess top ½" and fill with joint sealant. Color of sealant shall match color of adjacent P.C.C. paving. All expansion joints shall be radial to swing points, unless shown otherwise.
3. Mow bands and curb walls shall be constructed with 1/8" x 2" deep cut joints at ten foot (10') maximum intervals.
4. All concrete surfaces shall have a light broom finish and shall be approved by the Engineer, unless noted otherwise.
5. The Contractor shall be responsible to construct all concrete work using form lumber strong enough and stakes long enough and at intervals close enough to assure a smooth curve. All formwork must be approved by the Engineer prior to pouring of any concrete.
6. In areas where new concrete is to be joined with existing concrete, the connection shall be made at the nearest score line or expansion joint.
7. Decomposed Granite (D.G.) shall be "California Gold" track fines, uniform tan or buff color, and shall conform to the following grading:

<u>Sieve Size</u>	<u>% Passing</u>
#4	95-100
#30	30-50
#200	5 – 15

D.G. shall be installed in (2) 2" lifts and be compacted to 95% relative density. Submit sample prior to delivery to the site.

## **Grading Plan Notes**

---

1. This plan provides general grading information. All surveying shall be the responsibility of the Contractor.
2. Exportation and importation of soil, which may be necessary to meet the grades shown on this plan, shall be the responsibility of the Contractor and shall be part of this contract.
3. Where contour lines fall on areas to be paved, as part of this contract, contours approximate the finish grade. Hence, earthwork elevations at these locations shall take into account the thickness of paving and base materials.
4. The Contractor shall be responsible for verification of the location of all existing utilities in the field. Locations shown on the plans are approximate and for general information only.
5. The Contractor shall expose and check inverts on existing storm manholes or inlets before constructing new storm lines.
6. The storm laterals shall be R.C.P., 12" min. or as specified. Laterals under street right of way shall be 12" R.C.P. pipe with Class "A" backfill. See Section 1301, "Trench Excavation and Backfill" of the City of San José Standard Specifications.
7. The Contractor shall notify Engineer prior to making connections to the existing facilities and prior to backfilling any trench. All backfill material shall be "approved" native soil, unless otherwise noted on the plans. Trenches in streets shall conform to Section 1301 of the City of San José Standard Specifications.
8. Storm inlet boxes shall not be left uncovered at any time.
9. Storm inlets shall be 24" diameter and grates shall be heavy duty, traffic type, except where shown otherwise, with locking non-ferrous bolts. All substitutions must be approved by the Engineer prior to installation.
10. All high points, low points, or grade breaks on concrete surfaces shall have a smooth curve. Concrete shall not be built to a ridge or point.
11. The Contractor shall match the new grades within the limits of work to the existing grades without damaging the existing native grasses, fence lines, trees, or existing paving to remain, along the limit line. Any damage to these areas shall be repaired at the Contractor's own expense.
12. The Contractor shall notify the U.S.A. (Underground Service Alert) at 800-227-2600, P.G.&E. and San José Water Company 48 hours prior to commencement of work.
13. The Contractor shall conform all existing turf areas and all existing ground cover areas as necessary to meet new finished grades along walkways, mow bands, and curbs.

14. The Contractor shall be responsible for adjusting all existing utility boxes, vaults, manholes, water meter boxes, storm inlets, electroliers, valves, irrigation heads, etc as necessary to meet new finished grades as shown on the plans.
15. BENCHMARK: shall be established on site and verified with existing monuments and elevations.

## **Irrigation Plan Notes**

---

1. Existing pressure at the water meter ranges from \_\_\_\_\_ to \_\_\_\_\_ PSI. The irrigation system is designed to operate on \_\_\_\_\_ PSI.
2. All work shall conform to local and state codes and ordinances. All irrigation work shall conform to the Landscape Section of the Standard Plan Details for Public Works Construction, City of San José, 1992 and the plans and details for this project.
3. The Contractor shall verify all existing conditions and water pressure. If any discrepancy exists between design and actual field conditions, notify the Project Engineer immediately in writing for a decision prior to any installation.
4. The Contractor shall notify the City Project Engineer a minimum of 48 hours prior to start of any irrigation work.
5. Control wires shall be 14 gauge (red). Separate wires shall run from the controller to each valve. Common ground wires shall be 12 gauge (white). All control wires leading from valves to controller must be looped-up a minimum of three feet (3') into every valve box intercepted on the way to the controller.
6. Splices in the field shall be made exclusively with Rainbird "Snap-Tite" connectors or Global Span Products, Inc. "Splice Kote" in accordance with manufacturer's instructions or approved equal.
7. All plastic fittings shall be a minimum of eighteen inches (18") apart to facilitate removal and replacement of individual fittings.
8. Trenching depths for irrigation pipes are as follows: main= twenty-four inches (24"), all laterals= eighteen inches (18"). All dimensions are from the top of the pipe. Trenching depths for potable water main shall be twenty-four inches (24").
9. All mains, laterals, and control wires shall be installed in Class 315 P.V.C. sleeves (of appropriate size) under all A.C. and P.C.C. pavement.
10. The Contractor shall be responsible for complete and effective coverage of all planted areas and to balance each system to optimum coverage, and adjust each arc, radius, and nozzle as directed on site by the Engineer.
11. The irrigation controller shall be Cal-Sense ET2000 with a phone line.
12. The Contractor shall coordinate his work with the underground electrical contractor to minimize conflicts.
13. Gate valves shall be installed in a concrete box (Christy B12) with lockable steel lid, installed with 2 cubic feet of drain rock.
14. The backflow prevention device shall be installed above grade in a LeMeur cage as shown in the detail and described in the specification.

15. All irrigation work shall conform to the details shown on these plans and the details in the City Standard Details book.
16. Install irrigation system in accordance with all local and state codes and ordinances.
17. The Contractor shall install check valves at all low heads as necessary to prevent low head drainage.
18. All trenching crossing existing utilities, etc. shall be hand dug, 5' +/- on each side.
19. All excess excavated material shall be removed from the project site and disposed of in an acceptable manner.
20. Care shall be taken while trenching near existing trees. If any roots one and one-half inches (1 1/2") or greater are encountered within the drip line of any existing tree, all trenching within the drip line shall be done by hand.
21. Existing turf and existing ground cover to remain shall be removed only as necessary to perform the irrigation work as shown on the plans. The Contractor shall replace all damaged or removed turf and all damaged or removed groundcover.

## **Play Area Notes**

---

1. The play area, including all play equipment, surface material, and layout, shall be constructed and installed in accordance with the most recent CPSC handbook for safety, the most recent version of ASTM Standards, and with current ADAAG specifications for playgrounds. Play areas must meet all other applicable local, state, and federal codes and laws.
2. Play equipment shall be IPEMA (International Play Equipment Manufacturers Association) certified, and surfaces shall conform to the ASTM F1292-99 standard specification for impact attenuation of surface systems under and around playground equipment.
3. Posts for play equipment shall be 5" diameter, steel.
4. Contractor shall submit shop drawings and engineering calculations for each piece of equipment including their footings, signed by a civil or structural engineer registered in the State of California.
5. All play equipment shall be assembled and installed in compliance with the written instructions of the manufacturer, unless otherwise specified on the plans or in the project specifications.
6. Contractor shall install a temporary six foot (6') high chain link fence around the entire play area and shall maintain it for duration of construction. All openings shall be closed and locked at the end of each workday.
7. Layouts of play equipment on plans are for reference only. Exact pole locations shall be per manufacturer's specifications and details.
8. All P.C.C. footings for play items shall be installed flush with the finished subgrade and covered with resilient surface material (i.e., sand, shredded wood, rubber paving). No exposed footings shall be permitted. Footing dimensions shall be as per the engineering calculations.
9. Play equipment support poles shall be placed a minimum of four feet (4') from storm sewer laterals. Verify location of storm sewer lines prior to laying out play equipment and prior to excavating play equipment footings.
10. Play equipment support poles shall be installed to the full depth of the footing, as calculated by manufacturer's structural engineer. Manufacturer shall take into consideration all depths and elevations and any changes in depths and elevations of the resilient surfacing, subgrade, and surrounding surfaces when calculating entire pole length and depth of footings of all play equipment.
11. If rubberized resilient surfacing is used, the binder shall be an aliphatic (UV stable) binder.

## **Planting Plan Notes**

---

1. Upon receipt of "Notice to Proceed", the Contractor shall order plant material to ensure adequate quantities and sizes of plant material will be available. A copy of the nursery invoice shall be submitted to the Project Engineer.
2. All plants shall be of the genus, species, variety, cultivar, and size as shown on the plans. All plants shall be true to name and one of each bundle or lot shall be tagged with the name and size of the plant, in accordance with the standards of practice recommended by the American Association of Nurserymen. Under no condition will there be any substitution of plants or sizes for those listed on the plans, except with the express written consent of the Project Landscape Architect.
3. Caliper of trees shall be measured six inches (6") above finish grade.
4. All grades shall be approved by the Engineer prior to planting of any plant materials.
5. Contractor shall layout trees, shrubs, vines and ground covers as shown on the plans. Layout of plant materials, while still in containers, shall be approved by the Landscape Architect prior to installation of any plants.
6. The area of ground cover is approximate and for bidding purposes only. The Contractor shall be responsible for providing the required number of plants to cover the area that is shown on the plans. All ground cover shall be triangularly spaced within each planting area.
7. The Contractor shall be responsible for the repair and replacement of any damage or destruction to existing plant materials and for restoring planting to its original condition to the satisfaction of the Engineer.
8. Existing turf damaged during irrigation trenching shall be restored or repaired to match existing turf.
9. Refer to specifications for soil amendments, fertilizer and more planting information.
10. Prior to applying mulch, all tree, shrub and ground cover areas shall receive weed control treatment as specified in the accompanying specifications.
11. After planting is complete, furnish and spread mulch to two-inch (2") depth over entire planted area. Mulch shall be nitrogen treated 1/4" to 1/2" size fir bark treated with a wetting agent. Quantity of fir bark shall be the Contractor's responsibility. Submit sample prior to delivery to the project site.
12. Existing tree(s) to remain shall be pruned as indicated in Section 10-2 of the accompanying specifications.

13. The Contractor shall be responsible for maintaining the entire park site for the duration of the contract including, but not limited to, all watering, mowing, edging, trimming, pruning, weeding, fertilizing, and keeping all plant material (both existing and new) in a healthy growing condition and neat and attractive in appearance.
14. Import topsoil shall conform to the City of San José Standard Specifications. A sample of the topsoil, along with a complete soil analysis report by a horticultural consultant shall be approved by the Project Engineer prior to delivery to the site.
15. Existing planting to remain which is damaged during construction shall be restored to pre-existing condition with the same plant material in mature sizes.
16. All underground utilities shall be located before start of work.

## **General Electrical Notes**

---

1. All work shall be done in accordance with the latest adopted edition of the California Electrical Code and the City of San José (CSJ) Standard Specifications for Public Works Construction and Standard Details dated July 1992.
2. The Contractor shall be responsible for field inspection and investigation to determine actual field conditions prior to bidding the project. The Contractor shall include in his bid all labor and materials to provide a complete, operable, working system.
3. The Contractor shall obtain a “No Fee” electrical permit for the City of San José, Department of Public Works, Parks & Recreation Facilities Division, prior to the start of any electrical work.
4. All electrical work on this project shall be inspected. Electrical inspector shall be given 48 hours prior notification for each scheduled inspection.
5. The Contractor shall be aware that utilities are underground in this area. Call Underground Service Alert (U.S.A. 800.642.2444) prior to trenching to “chalk paint” mark existing utilities. The Contractor is required to survey, locate, and protect all existing utilities prior to trenching. Upon completion of electrical work, the Contractor shall remove the U.S.A. chalk paint markings.
6. The Contractor shall be responsible under this contract to repair and replace any and all damages to existing PCC walks, AC paving, utilities, trees, turf, planted areas, and other facilities resulting from this project. When cutting or trenching through existing concrete sidewalks, driveways, and walkways, the Contractor shall be required to completely replace entire sections of concrete panels from scoremark to scoremark affected by the construction work. All sidewalks, driveways, and walkways shall be replaced per City Standards.
7. All underground conduit shall be schedule 40 PVC, U.L approved for direct burial, and terminated with factory end bell fittings. All elbows, bends, and turns transitioning to grade shall be installed using premanufactured 40-mil PVC coated galvanized rigid steel elbows and offsets.
8. All conductors shall be 600 volt, stranded copper, with type THW insulation, unless otherwise noted. All conductors shall be color coded to meet CSJ Standard Specifications and NEC requirements.
9. All underground splices shall be made waterproof with “Splice-Kote” splice kits or other CSJ approved methods. All fuseholders shall be watertight.
10. All raceways shall be installed with a #8 AWG solid copper equipment grounding conductor. Bonding shall comply with Section 86-2.10 of the Standard Specifications.

11. All pullboxes shall be sized as shown/required and have brass hold-down bolts, drain rock, pull tabs, and installed according to CSJ Standard Details E-02, E-03, E-04, E-05, and E-06, and the project specifications. Pullbox covers shall be labeled "ELECTRICAL" or "COMMUNICIATION" as required. It shall be at the option of the Contractor and at the Contractor's own expense to install additional pullboxes to facilitate his work. The Engineer shall approve the location of additional pullboxes.
12. Label and identify all electrical circuits by circuit number and panel location at each fixture, junction box, pullbox, or termination. Use Partex identification tags to identify underground circuits. See specifications for further requirements.
13. All electrical equipment and materials used on this project shall be U.L. listed and approved for the application intended.
14. All underground PVC conduit shall have a burial depth of 24" minimum, unless otherwise noted.
15. Trenching and backfilling shall be in accordance with the specifications. Congested areas underground shall be hand trenched. All trenching that crosses existing utilities or fences shall be hand dug 5' +/- each side. Coordinate all trenching for electrical work with other contract drawings.
16. The Contractor shall stencil and paint a permanent four-digit alphanumeric character identification on all new electroliers. The Contractor shall use brush-on, permanent, sunlight resistant, weatherproof, signage "lettering" paint. Paint shall be Sign Painter's 1-Shot, Paint Peinture Lettering Enamel Paint, 132-L, lemon yellow. Stenciled characters shall be block types measuring 1-3/8" (w) x 1-7/8" (h). Obtain identification number from the Engineer. Where existing electroliers are replaced, new electroliers shall retain the same identification number. Identification number shall be vertically arranged on the pole with the final bottom digit 7'-0" above the finished grade.

**SECTION 329100**  
**PLANTING PREPARATION****PART 1 - GENERAL****1.01 SUMMARY**

- A. Section Includes: All labor, materials, equipment, tools, accessories, transportation, and services as required for the fertilization and conditioning of the soil, mulching, and placement of topsoil and finish grade to contours shown on the plans.
- B. The Contractor shall be responsible for meeting the finish grades as shown on the grading plan.
- C. Related Requirements
  - 1. Section 311000, Site Clearing
  - 2. Section 312200, Grading
  - 3. Section 313100, Soil Treatment
  - 4. Section 320190, Operation and Maintenance of Planting
  - 5. Section 328400, Planting Irrigation
  - 6. Section 329200, Turf and Grasses
  - 7. Section 329219, Hydroseed
  - 8. Section 329300, Plants

**1.02 PRICE AND PAYMENT PROCEDURES**

- A. Refer to Section 012000, Price and Payment Procedures.

**1.03 REFERENCES**

- A. Definitions
  - 1. Planting Areas: All areas to be planted, whether in seed, sod, container stock, flats, or otherwise, are defined as planting areas in these documents.
  - 2. Reference Standards
    - a. USDA

**1.04 SUBMITTALS**

- A. Product Data: Should importation of material be required, the source of import shall be approved by the Engineer prior to delivery to the site.
- B. Test and Evaluation Reports
  - 1. Soil Samples: Contractor shall provide a one-quart sample of the native or import topsoil to Waypoint Analytical, LLC, 4741 E. Hunter Ave., Suite A, Anaheim, CA 92807, (714) 282-8777 for their testing for conformance to this specification. No material shall be delivered to site, grade on-site, or otherwise modified until the Engineer approves the material. All testing costs shall be paid for by the Contractor. [Insert the following two sentences if there is a suspicion that an herbicide and/or soil sterilant has been used on the site. (In addition, a five-gallon representative sample of native soil shall be supplied to the testing laboratory for areas previously covered by paving for contamination testing. Contamination testing requires four or five weeks.) Contractor shall allow for sufficient time for such testing prior to construction. Testing cost for the initial samples and costs for any additional samples due to non-compliance shall be paid for by the Contractor.]
  - 2. Amendment Samples: Contractor shall provide a one-quart sample of each proposed amendment to Soil and Plant Laboratory of Santa Clara (408) 727-0330, for their testing for conformance to this specification. No material shall be delivered to the site until the Engineer approves the samples. Testing costs shall be paid for by the Contractor.

3. Top Dressing: Contractor shall provide a one-quart sample of the proposed top dressing soil and a separate one-quart sample of the proposed organic amendment to Soil and Plant Laboratory of Santa Clara for their testing for conformance to this specification. No material shall be delivered to the site until the Engineer approves the material. All testing costs shall be paid by Contractor. Contractor shall allow for sufficient time for such testing prior to construction. Testing costs for the initial samples and costs for any additional samples due to non-compliance shall be paid by the Contractor.
  - C. Certificates
    1. Written certificates stating quantity, type, and composition, weight and origin for all amendments and chemicals shall be delivered to the Engineer before the material is used on the site.
  - D. Manufacturer's Reports
    1. Fertilizers: Submit manufacturer's analysis of all fertilizers for the approval of the Engineer.
  - E. Closeout Submittals
    1. After grading operations have been completed, the Contractor shall take a minimum of [xxx] soil samples at locations throughout the improvement area and a complete soil analysis report shall be submitted by Soils and Plant Lab. The formula in this section shall be used for bidding purposes. The results of the soils test shall form the actual soil amendment recipe. Any changes in materials or quantities as a result of the soils test shall be approved by the Engineer.
- 1.05 QUALITY ASSURANCE
- A. Qualifications of Workers
    1. Provide at least one person who shall be present at all times during execution of this portion of the work, who shall be familiar with the type of materials being installed and the proper materials and methods for their installation, and who shall direct all work performed under this section.
    2. Staff shall be of sufficient size to be able to furnish required materials, deliver, and install all materials as shown on plans and promptly expedite the work.
- 1.06 DELIVERY, STORAGE, AND HANDLING
- A. Materials: Attention is directed to Section 6, Control of Materials of the City Standard Specifications and these Special Provisions. All materials required to complete the work under this contract shall be furnished by the Contractor.
- 1.07 WARRANTY
- A. Final Guarantee: Contractor shall provide guarantee per Section 7-1.23, Final Guarantee of the City Standard Specifications.

## **PART 2 - PRODUCTS**

- 2.01 NATIVE TOPSOIL
- A. Shall be the existing surface layer of soil on-site. This layer typically will be a different color and texture than the subsoil, and may be of varying thicknesses. The Contractor shall be responsible for reviewing the area limits and depths of native topsoil on site with the Engineer.
- 2.02 IMPORT TOPSOIL
- A. Shall be a homogeneous mineral soil classified as sandy loam, or fine sand.
    1. Particle size data shall be based upon standard USDA methodology.
      - a. Of the material falling in the sand category, a minimum of eighty percent (80%) shall fall in the fine sand range .05 – 5 mm.
      - b. Gravel content greater than 2.0 mm shall be less than fifteen percent (15%).
      - c. Import topsoil shall not contain more silt and clay than the on-site native soil.
      - d. The sum of silt plus clay shall be less than twenty (25%).
      - e. The soil shall be nonsaline as determined on the saturation extract. Salinity shall not exceed three (3.0) mmhos/cm, boron shall not exceed one (1.0) ppm and the sodium absorption ration (SAR) shall not exceed six (6.0).

- f. Soil reaction as determined on a saturated paste shall fall between 5.5 and 7.5.
- g. The soil shall be free of organic herbicides, or other growth-restricting chemicals.
- h. Contamination: If directed by the Engineer, Contamination may be tested by greenhouse trials using rye grass and radish as test crops using the proposed import soil as substrate. These trials require four to five weeks for completion.

## 2.03 SOIL PREPARATION AND MULCH

### A. Materials

1. Soil Amendment: Shall be as follows per 1,000 square feet:

5 cubic yards	Compost
18 pounds	27-8-11 Commercial Fertilizer
160 pounds	Agricultural Gypsum

- a. The materials shall be uniformly spread and incorporated with a rotary cultivator to obtain a homogeneously blended soil six inches (6") in depth.
- b. Compost shall conform to the following specification guidelines:
  - i. Gradation: A minimum of ninety percent (90%) of the material by weight shall pass a one half (1/2") screen. Material passing the one half (1/2") screen shall meet the following criteria:
 

Percent Passing	Sieve Designation
85-100	9.51 mm (3/8")
50-80	2.38 mm (No. 8)
0-40	500 micron (No. 35)
  - ii. Organic Content: Minimum fifty percent (50%) based on dry weight and determined by ash method. Minimum two hundred and fifty (250 lbs.) organic matter per cubic yard of compost.
  - iii. Carbon to Nitrogen Ratio: Maximum 35:1 if material is claimed to be nitrogen stabilized.
  - iv. pH: Five and a half to eight (5.5-8.0) as determined in saturated paste.
  - v. Soluble Salts: Soluble nutrients typically account for most of the salinity levels, but sodium should account for less than twenty five percent (25%) of the total. To avoid a leaching requirement, the addition of the compost shall result in a final ECe of the amended soil of less than four (4.0) dS/m at twenty five degrees Celsius (25°C) as determined in a saturation extract.
  - vi. Use the following table to determine the maximum allowable ECe (dS/m of saturation extract) of compost at desired use rate and allowable ECe increase:

Desired Use Rate		Maximum Allowable ECe Increase from Amendment		
Cu. Yds. Amendment per 1,000 sq. ft. for incorporation to 6" depth	Volume Percentage of Amendment	3 dS/m	2 dS/m	1 dS/m
		Maximum ECe of Compost		
1	5	14	28	42
2	11	7	14	21
3	16	5	9.5	14
4	22	3.5	7	10.5
5	27	3	5.5	8.5
6	32	2.5	4.5	7

Example: Specification calls for five cubic yards (5 cy) compost per one thousand square feet (1000 sf) for incorporation to six inches (6") depth, and site soil has an ECe of two (2.0). In order to avoid exceeding ECe of four (4) in final blend, compost ECe should be less than five and a half (5.5) dS/m.

2. Moisture Content: Thirty five to sixty percent (35-60%)
3. Contaminants: The compost shall be free of contaminants such as glass, metal, and visible plastic.
4. Maturity: Physical characteristics suggestive of maturity include:
  - a. Color: Dark brown to black
  - b. Odor
    - i. Acceptable = none, soil-like, musty, or moldy
    - ii. Unacceptable = sour, ammonia, or putrid
  - c. Particle Characterization: Identifiable wood pieces are acceptable, but the balance of material should be soil-like without recognizable grass or leaves.

**2.04 FERTILIZERS****A. General**

1. Standard commercial grade of organic or inorganic fertilizer containing the amounts of total nitrogen, available phosphoric acid and water soluble potash specified below.
2. Furnish in standard unopened containers with weight, name of plant nutrients and manufacturer's guaranteed statement of analysis clearly marked, in accordance with state and federal laws.

**B. Fertilizer**

1. General (or as recommended by soils testing)
  - a. Agricultural Gypsum [insert number] pounds per one thousand square feet ([insert #] lbs/1,000 sf).
  - b. Blood Meal [insert number] pounds per one thousand square feet ([insert #] lbs/1,000 sf).
  - c. Steamed Bone Meal [insert number] pounds per one thousand square feet ([insert #] lbs/1,000 sf).
  - d. Iron Sulfate [insert number] pounds per one thousand square feet ([insert #] lbs/1,000 sf).
2. Starter Fertilizer for Sod
  - a. 16-20-0, apply at the rate of [insert number] pounds per one thousand square feet ([insert #] lbs/1,000 sf).

**2.05 MAGNESIUM SULFATE****A. General**

1. Agricultural grade Epsom Salts.

**2.06 LIME****A. General**

1. Agricultural grade mineral soil conditioner containing thirty five percent (35%) minimum magnesium carbonate and forty nine percent (49%) minimum calcium carbonate, one hundred percent (100%) passing No. 65 sieve.
2. Kasier Dolomite 65 AG or approved equal.

**2.07 PHOSPHORUS****A. General**

1. Agricultural grade fertilizer providing the amount of available phosphoric acid specified below.
2. Bone Meal (1-23-0), Superphosphate (0-20-0), or approved equal.

**2.08 PLANTING MIX**

- A. Planting mix for backfilling planting holes shall consist of two parts of soil excavated from the planting holes (free of rock over one-half inch (1/2") in diameter) and one part soil amendment. The materials shall be thoroughly mixed until they lose their individual identities.

## 2.09 POT SOIL MIX

- A. Pot Soil Mix: Shall be a pre-mixed planter mix, if tested and approved by the Engineer, composed of fine sand, untreated fir bark, sphagnum peat moss, and fertilizers as follows:

### 1. Sand

percent passing sieve	sieve size
100	No. 4
95-100	No. 10
90-100	No. 18
65-100	No. 35
0-50	No. 60
0-20	No. 140
0-10	No. 270
salinity (ECe x 10 <sup>3</sup> )	Nil – 3.0
boron in saturation extract	Nil – 1.0 ppm
SAR	Nil – 6.0

### 2. Fir Bark

percent passing sieve	sieve size
100	3/8"
95-100	1/4"
75-100	No. 8
0-30	No. 35
dry bulk density	450-580 lbs./cu.yd.
organic content (dry weight basis)	94%-100%
Fertilizer	
urea formaldehyde	38-0-0
single superphosphate	0-20-0
potassium nitrate	13-0-44
dolomite lime kaiser	65 AG or equal
gypsum	---

### 3. Sphagnum Peat Moss

percent passing sieve	sieve size
95-100	3/8"
0-40	No. 35
organic content (dry weight basis)	94%-100%
salinity (ECe x 10 <sup>3</sup> )	Nil-3.0
chemical p.H.	3.0-4.5
nitrogen (dry weight basis)	0.6-3.0%

**2.10 TOP DRESSING SOIL**

- A. Topdressing Soil: Organic matter content should be in the range of five to eight percent (5-8%) by weight. Gravel two to twelve (2-12) mm less than five percent (5%) total weight of soil. On a weight basis the particles passing a two (2) mm sieve should comply with the following: Coarse sand half to two (0.5-2.0) mm less than fifteen percent (15%), silt twenty to thirty percent (20-30%), and clay ten to twenty five percent (10-25%). The soil shall be nonsaline as determined on the saturation extract. Salinity shall not exceed three (3.0) mmhos/cm, boron shall not exceed 1.0 ppm and the sodium absorption ratio (SAR) shall not exceed six (6.0). Soil reaction as determined on a saturated paste shall fall between five and a half (5.5) to seven and a half (7.5). The soil shall be free of organic herbicides, or other growth restricting chemicals.

**2.11 MULCH**

- A. Shall be ground, screened fir bark, one half inch to one inch (1/2" - 1") size.  
B. For all bioretention areas, the mulch shall be Premium Arbor Mulch available from: Lyngso Garden Materials Inc., 345 Shoreway Rd, San Carlos, CA 94070, (f) 650.364.1730 or approved equal.

**2.12 ROOT BARRIERS**

- A. Root Barriers: Shall be model #UB 24-2 "Universal Barrier" as produced by Deep Root Partners L.P.: PH: (800) 458-7668 FX: (800) 277-7668 or acceptable equal.

**PART 3 - EXECUTION****3.01 EXAMINATION**

- A. Grade Review: Prior to commencing soil preparation operations, Contractor shall request a review by the Engineer to verify specified limits and grades of work completed to date and soil preparation work to commence. Contractor shall complete the rough grading as necessary to round the top and toe of all slopes, providing naturalized contouring to integrate newly graded areas with the natural topography. Finish grading under this section shall be completed in accordance with the grades indicated on the landscape drawings.

**3.02 PREPARATION**

- A. Protection of In-Place Conditions  
1. Surrounding areas, surfaces and appurtenances already in place shall be protected during planting preparation.  
B. Subgrade Preparation  
1. Subgrade Scarification: Scarify all subgrades (existing finish grade prior to soil placement) to a minimum six (6) inch depth. Do not scarify within driplines of any existing tree.  
2. pH  
a. Soil shall have a pH range of 6.5 to 7.5.  
b. Lower existing pH 1 unit by installing one hundred and fifty to two hundred pounds per one thousand square feet (150-200 lbs./1000 sf) of Magnesium Sulfate.  
c. Liming: As recommended by soil test results.

**3.03 TOPSOIL PLACEMENT AND GRADING**

- A. The top 6 inches of finish grade in turf and planting areas shall consist of topsoil, either existing on site or import. This topsoil shall be approved by the Engineer for suitability prior to spreading.  
B. In planting areas, material shall be placed in 6-inch maximum layers, and shaped as shown on the plans and as directed by the Engineer.  
1. Mounds shall be formed with gently sloping sides and crowns and smoothed even transitions at the bases so that power mowers can be operated efficiently over all areas.  
2. No abrupt changes in slope or contour will be accepted.  
3. Contractor shall take special care to feather or taper graded areas to match grade at edge of existing turf.  
4. Apply organic fertilizers, as specified by Section 2.04.  
5. Apply compost as specified by Section 2.03.

6. Rototill and thoroughly mix the planting soil and organic fertilizers into and with the aerated subgrade to a minimum depth of 8 inches,
  7. Do not rototill within driplines of any existing trees.
  8. Remove all rocks greater than one inch (1") in diameter, and fine grade.
  9. Compact all planting areas to eighty five percent (85%) relative compaction prior to planting.
  10. Apply "Starter Fertilizer" to all sod areas prior to planting.
- C. Existing Topsoil to Remain: In those planting areas where native topsoil is to be left in place, cross rip to a depth of ten inches. Then incorporate the amendments to a homogeneously blended soil depth of six inches.
- D. Infill Spots for Top Dressed Turf Areas: All turf areas covered by the irrigation system are to have all the bare spots (exposed soil) infilled with topdressing soil and seeded. For the purposes of this project, bare spots are defined as any single exposed soil area over 36 square inches in size.
- 3.04 PLANT PITS
- A. Refer to Section 329300, Plants.
- 3.05 BACKFILL
- A. Backfill Material and Placement: Only unamended soil shall be used beneath the root ball; cultivate bottom of plant pit to improve porosity. Backfill around sides of rootball shall be the amended soil taken from adjacent prepared areas. Spread material excavated from plant pits onto adjacent areas as replacement. Should additional backfill be necessary, a mixture of one-third organic amendment/fertilizer mix and two-thirds topsoil may be used.
- 3.06 POT MIX
- A. Mix Quantities: Contractor shall pre-mix and install the following mix at eighty five percent (85%) compaction in all pots:
- |              |                       |
|--------------|-----------------------|
| 0.5 cu. yd.  | fine sand             |
| 0.15 cu. yd. | sphagnum peat moss    |
| 0.35 cu. yd. | raw fir bark          |
| 2 lbs.       | urea formaldehyde     |
| 3 lbs.       | single superphosphate |
| 1 lb.        | potassium nitrate     |
| 10 lbs.      | dolomite lime         |
| 3 lbs.       | Gypsum                |
- PRIOR TO PLACEMENT OF THIS MIXTURE, CONTRACTOR SHALL DELIVER AND HAVE TESTED A ONE-QUART SAMPLE TO VERIFY DEGREE OF COMPLIANCE. NO MIX SHALL BE INSTALLED UNTIL TESTED BY THE SOILS LABORATORY AND APPROVED FOR INSTALLATION BY THE ENGINEER.**
- 3.07 ACID BACKFILL MIX
- A. Mix Quantities: For those plants noted shall be half (1/2) by volume of the above specified backfill mix and half (1/2) by volume of sphagnum peat moss (pre-moistened). This shall be thoroughly premixed with "49er Brand Acid Food" 4-8-5 at half (1/2) the manufacturer's suggested application rate.
- 3.08 FINISH GRADING
- A. Grading Operations: Contractor shall finish grade all irrigated planting areas unless otherwise noted, and shall remove all rocks and clods over one cubic inch to a depth of one inch below finish grade. All areas shall be smooth and uniformly graded. All erosion damage during the construction period shall be repaired by the Contractor.
- B. Finish Grades: Unless otherwise noted, all soil finish grades shall be one inch below finish grade of walks, pavements, and curbs.
- 3.09 MULCH

- A. Mulch: Top dressed on the surface to a depth of three inches (3") minimum.

**END OF SECTION**