City of Fremont
California Nursery Historical Park
Master Plan: Volumes 1, 2 & 3

Adopted December 12, 2017

The Legacy of CALIFORNIA NURSERY Historic Park

the root of an industry

City of Fremont California

PGAdesign

LANDSCAPE ARCHITECTS

California Nursery Historical Park

Acknowledgements

Fremont City Council

Lily Mei, Mayor
Rick Jones, Vice Mayor
Vinnie Bacon, Councilmember
David Bonaccorsi, Councilmember
Raj Salwan, Councilmember

Recreation Commission Members

John J. Dutra, Chair
Brian Hughes, Vice Chair
Jeff Couthren
Mia Mora
Larry Thompson
Laura Winter
Pavan Vedere

City of Fremont Staff:

Suzanne Wolf, Community Services Director
Roger Ravenstad, Parks Planning & Design Manager
Kim Beranek, Deputy Director of Community Services
Irene Jordahl, Recreation Superintendent I
Annabell Holland, Former Community Services Director

Design/Master Planning Team:

PGAdesign Inc., Landscape Architects
Chris Pattillo, Cathy Garrett, Kelly Flairty
Carey & Company, Historic Architect
Nancy Goldenburg
BKF Engineers, Civil Engineer
Brock Roby
Pivot Engineering, Structural Engineer
Land Economics Consultants
Steven Spickard
Leverton & Associates, Cost Estimator
Ian Leverton
HortScience, Arborist
Nelda Matheny
Math Science Nucleus, Advisor
Dr. Joyce R. Blueford
Lamphier-Gregory, Environmental Consultants
Scott Gregory & Rebecca Auld

The California Nursery Historical Park

Master Plan is dedicated

in memoriam,

Lila Jean Bringhurst

1938 – 2016

An avid promoter and student of the rich history of Fremont,

Lila delighted in sharing her passion with others.

Volume 1 Table of Contents

1 **Acknowledgements**

5 **Introduction**

9 **Park Master Plan**

29 **Existing Trees Inventory & Assessment**

29 **Educational Programming**

30 **Building Existing Conditions**

31 **Construction Cost Estimate**

34 **Next Steps & Park Phasing**

See also Volumes 2 & 3:

Tree Report & Urban Forestry Management Plan - Volume 2

Urban Forestry Management Plan – October 2017

Appendices:

1. Summary of Tree Species and Condition Ratings
2. Landmark Trees
3. Recommended Action for Trees
4. Tree Inventory Maps
5. Tree Inventory Report, California Nursery Historical Park
6. Tree Inventory Report, Roeding Property

Supporting Documents - Volume 3

A. Summary of Public Input
B. Educational Programming
C. Building Existing Conditions
D. Financial Report
E. Construction Cost Estimate
F. Site Utilities – Existing & Proposed
G. Annotated Master Plan

THIS PAGE INTENTIONALLY LEFT BLANK

Introduction

Setting the Stage:

In 1884 a German immigrant named John Rock purchased 463 acres on a site that is today known as the town of Niles in Fremont. He moved his start-up nursery from San Jose' and named it "The California Nursery Company." Rock set about to create the best known Nursery Company in the State of California and became the premier supplier of fruit and nut trees. He marketed and hybridized hundreds of plant varieties with the assistance of the famous botanist Luther Burbank of Santa Rosa. In addition to fruit trees, the California Nursery became known for ornamental shrubs and hundreds of varieties of roses. Rock is thought to be responsible for introducing more new plants into the State than any other nurseryman.

In 1917 another legend took over ownership of the California Nursery Company, named George Roeding. Combined with the Roeding operations in Fresno, the California Nursery Company dominated the fruit and nut tree national market at a pivotal time when private agriculture was emerging as large corporate businesses. By the 1940's George Roeding Jr. had evolved the company into an enormous retail operation with nurseries and growing grounds

California Nursery, 1923

from the State of Washington to South America. All of this was headquartered out of Niles California.

Over the years the grounds of California Nursery were frequented by famous people that were customers or were otherwise associated with the California Nursery. They include President Woodrow Wilson, Phoebe and Randolph Hearst, Leland Stanford, John McLaren (the first Superintendent of Golden Gate Park), Architect Johannes Reimers, and photographers Andrew Hill and Gabriel Moulin.

Palm trees from the California Nursery became the “Avenue of Palms” at the 1915 Panama Pacific Exposition in San Francisco. Plants and Oak trees from the Nursery were used in the 1939/40 International Exposition at Treasure Island. Innovations in plant shipping were developed in the packing shed on the site. Peach pits from California Nursery were used in gas masks in World War I. These and many other stories are waiting to be told.

Sight Seeing Bus on the Avenue of the Palms, 1937

The Roeding family continued to manage the nursery intil 1968. The City of Fremont acquired the property in 1972 and leased it to Mission Adobe Garden Center, Inc. for use as a wholesale and retail nursery business. Since 2010, the property has been used as a park.

A few years ago, Dr. Joyce Blueford, of the local Math Science Nucleus, befriended the grandson (Bruce) of George Roeding Sr. Through that relationship, and with the assistance of the late Lila Bringhurst, she began a process of slowly uncovering what would later become an enormous collection of artifacts chronicling the history and operations of the once grand California Nursery Company. With Dr. Blueford's assistance, the City began to realize the important story that this site has to tell Fremont residents, the region, and world. Suddenly, what had been locally regarded as a lovely passive 20 acre site with majestic trees and old nursery buildings, became a historical treasure trove the likes of which are seldom discovered in today's world.

Where We Are Today:

The primary purpose of this Master Plan is to tell the story of the California Nursery Company to current and future generations through the sharing of the site's remaining historic buildings, majestic arboricultural resources, and display of the carefully preserved artifacts and documents. This Plan seeks to blend this overarching historical theme with the many uses existing on the site today, including educational tours, community gardens, gatherings, various volunteer efforts such as those that manage the rose garden/display garden, and possibly reinstituting a small retail nursery presence on the site. The plan proposes thoughtful measured increase in activity to the site, promoting awareness of the stunning community resources present on the site, and to generate modest income to support on-going maintenance and operations for future generations.

Niles Boulevard, 2016

This project report outlines the process undertaken by the City of Fremont starting in 2014 and concluding in 2017 to develop a program for the future of California Nursery Historical Park. The process included developing design alternatives, soliciting community input, preparation of an Environmental Impact Report (EIR) and refinement of a preferred alternative.

Recommended mitigation measures and other design refinements have been incorporated into the master plan along with updated reports from the project architect, civil engineer, arborist, economist and cost estimator.

In Volume 3, the report includes a concise overview of each component of the planning process. The outcome of meetings with User Groups and the Recreation Commission are summarized as well as the results of three public workshops and a survey questionnaire created to solicit ideas on the types of uses residents would like to see at the park.

THIS PAGE INTENTIONALLY LEFT BLANK

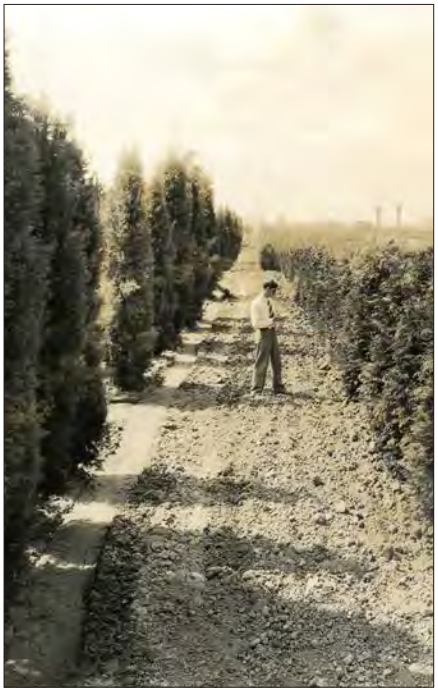
Park Master Plan

Overview

The purpose of a master plan is to provide a tangible, long-term planning tool. It establishes the framework and key elements of the property, reflecting a clear vision created and adopted in an open process. The park master plan synthesizes civic goals, preservation of historic resources, and the public's aspirations for a project. It gives them form and organization, and defines a realistic plan for implementation. Under CEQA (California Environmental Quality Act), the City of Fremont is required to prepare an Environmental Impact Report (EIR) when changes like those proposed in the park master plan are recommended. CEQA is the state-wide statute that establishes the framework to identify possible environmental impacts that may result from actions, in this case proposed actions identified in the master plan, and to avoid or mitigate those impacts where feasible.

The park master plan proposes a relatively light touch, in response to the overwhelming preference that the park remain a passive park. At the same time, the City desires the park to require as little ongoing subsidy from the General Fund as possible. This implies a need to accommodate activities and uses of the park that either generate revenue or attract partners that can take responsibility for portions of the park's need for ongoing operations and maintenance. Examples include environmental education, rentals of picnic areas, and day camps.

This Master Plan takes a realistic long view into the future, anticipating funding challenges and shifting needs of the California Nursery Historical Park. Each development phase will be dependent on funding opportunities, partnerships, and resources available to the City as they present themselves. Not only will development be dependent on capital funding, but also on the City's capacity to maintain, program, and operate facilities as they are built. The Master Plans anticipates a certain amount of flexibility in how each facility is designed and developed to best meet the intent of the Plan while taking into consideration the impact of the fiscal context on how those facilities will be delivered and managed.



Rows of conifers, 1929

Historic and Proposed Trees

The intent is to retain as many of the existing trees as feasible. Trees that died during the drought or were hazardous will be removed. Watering of the remaining trees has begun. New trees will be planted, generally in long, straight rows consisting of a single species. This is intended to reinforce the strong rectilinear patterns seen in historic photos and plans of the nursery. Trees that have failed will be replaced, including some of the Canary Island palms at the main entry. The historic orchard located in the southeast corner is, in large part, retained and enlarged.

The Boxed Tree Forest consisting of irregularly juxtaposed massive live oak trees in boxes will remain. The informal path between the oaks will be lightly

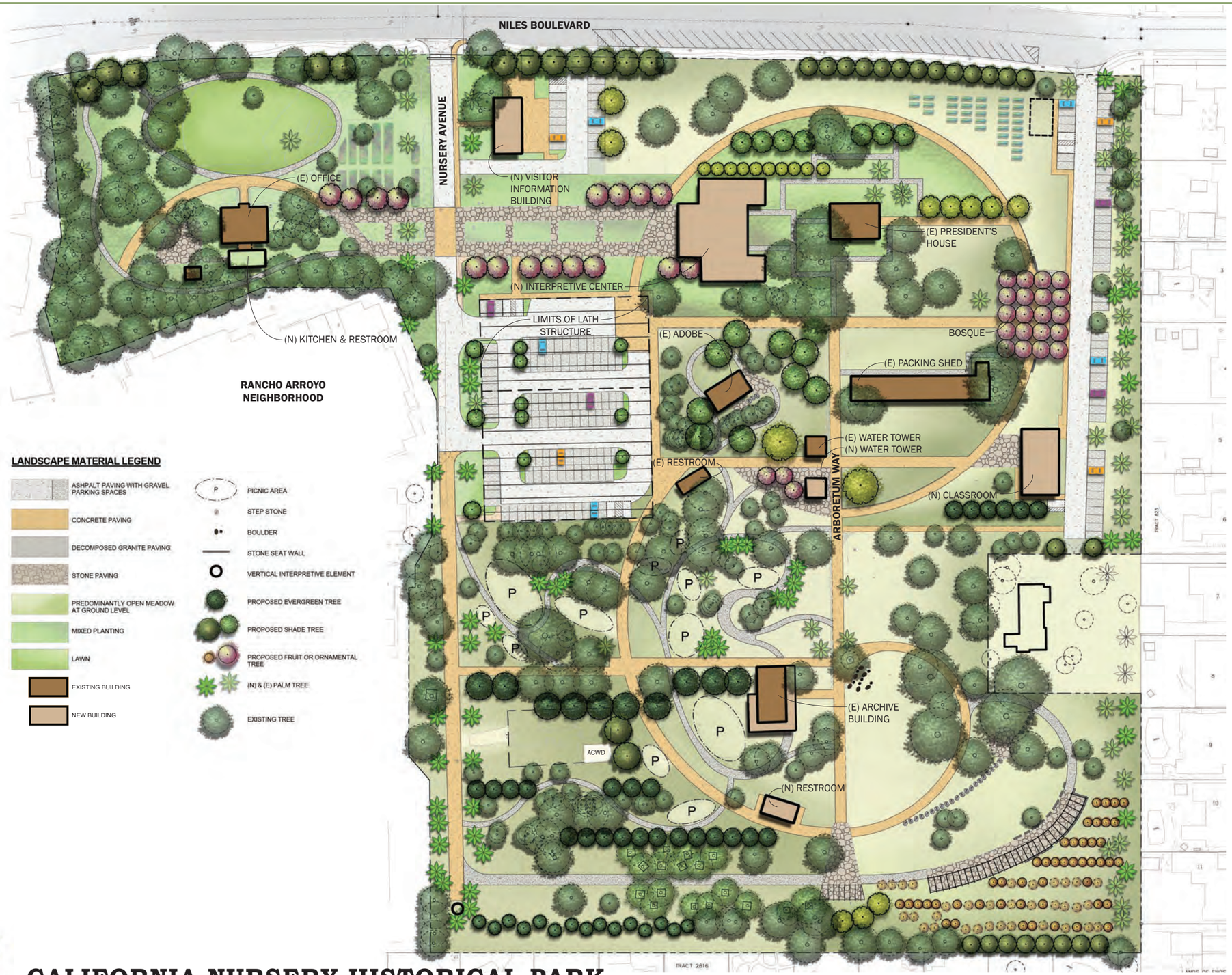
enhanced to improve accessibility. This path is anchored at one end by a node at the end of Arboretum Way, the site's primary pedestrian spine, and in the southwest corner by another node that terminates Nursery Avenue. The plan's intent is to trim the existing trees back so that this terminating element will be visible as visitors enter the park.

Park Entrances

Several improvements are planned at the park's main entrance that will make it evident that this site is an important historic park. One of the first things visitors will notice is the restored palm allee running down Nursery Avenue. New palm trees will be planted to fill in the gaps where palms have died. Palms from the California Nursery were shipped to the 1916 Pan Pacific Exposition and returned to the nursery after the fair. These palms are representative of the era. As part of the master plan the palm allee will be restored.

The historic wooden sign that forms a gateway over the park entrance will be fully recreated to its original form and the security gate will be rehabilitated or replaced with a goal of having it recede into the surrounding planting when not in use.

Main park entrance showing restored historic sign, refurbished date palm allee, the new park Information Center and opened view into the park.



The Legacy of CALIFORNIA NURSERY Historic Park
the root of an industry

CALIFORNIA NURSERY HISTORICAL PARK MASTER PLAN

SITE LAYOUT & MATERIALS

SEPTEMBER 29, 2017

DESIGN TEAM

PGAdesign Inc. - Landscape Architect
Carey & Company - Historic Architect
BKF Engineers - Civil Engineer
Lamphier-Gregory - Environmental Consultants
Pivot Engineering - Structural Engineer
HortScience - Arborist
Land Economics Consultants - Financial Advisor
Leverton & Associates - Cost Estimator
Math Science Nucleus - Historic Advisor

CITY OF Fremont

PGAdesign
LANDSCAPE ARCHITECTS

THIS PAGE INTENTIONALLY LEFT BLANK

Secondary park entrance in the northeast corner provides access to the Community Garden and new parking along the east side of the park.

The former nursery retail store, just inside the park entrance, is very deteriorated and will be demolished. The existing retail building extends 120 feet into the park. When it is removed a view to the Vallejo Adobe and its surrounding historic garden will be revealed. A new Information Center to be constructed at this location will utilize the original smaller garden store footprint and will not block the view of the Vallejo Adobe. If feasible, some of the original wood columns will be incorporated into the new building. The new Information Center will be a source of regular activity throughout the day and week – much as the retail store was historically, so as visitors enter the park there will be a renewed sense of vibrancy.

Most visitors will proceed past the café to the main parking lot sited where the parking is currently located and where historically there were lath houses that were part of the on-site growing grounds. The master plan calls for reconstruction of the lath structure but with more durable material. Instead of wood it will be an interpretation of the original structure constructed in metal.

Visitors will also have a view of the new California Nursery Interpretive Center as they enter the park. These and other changes will immediately immerse visitors in the multi-layered history of the site.

Chevy by Walnut Tree, 1944-45

The secondary entrance on the east side of the park off Niles Boulevard will also be improved and will provide direct access to new parking, the community gardens and other features in this area.

Vehicular Circulation and Parking

The primary driving lanes and circulation within the parking lots will be asphalt whereas the parking spaces will be gravel, providing a permeable surface. The parking remains generally where it is located today, though reconfigured. The master plan reflects the parking counts that were established by a traffic study done as part of the EIR process. The number of parking spaces provided is also consistent with current City of Fremont parking standards. There are 109 spaces in the primary parking lot off Nursery Avenue. New parking for 54 cars is provided between the existing palms at the east property line, plus 18 cars at the Information Center. In addition, though not part of this master plan, 37 new diagonal parking spaces will be provided on Niles Boulevard. In total there is parking for 218 cars including seven accessible spaces and drop-off space for two buses. There is potential for overflow parking on the grass area south of the packing shed, if this area is not used as a community garden.

Beyond the parking lots the road surface changes to concrete and access will be limited by bollards to prevent the public from using these roads. City and Alameda County Water Department (ACWD) maintenance will have access to all areas of the park on these roads. Emergency vehicle access to the Roeding family home is shown as an extension off the new driveway at the east property line.

Pedestrian Circulation

There is a hierarchy of pedestrian circulation, indicated by varying path widths. Depending on the anticipated use, the surfacing materials range from stone to concrete, stabilized decomposed granite, or non-stabilized decomposed granite footpaths. Some of the pedestrian paths follow historic rectilinear alignments and others introduce curvilinear routes that connect features in the park. The master plan introduces a distinct circular path that encloses the Interpretive Center, the President's House, the Vallejo Adobe and the Packing Shed. This clearly defines the historic core of the park. A second circular path captures the southern portion of the park and links it to the historic core. Arboretum Way runs north to south in the middle of the park along a prominent historic nursery road alignment. This interpretive spine starts at the President's House and extends to a terminating node near the south property line. Interpretive material telling the history of the nursery and environs will be displayed and/or integrated at each end and all along the spine.

Ogata High Lath House, 1922

Lath Structures

In nursery production, shade structures and the control of light to young plants is a key device that modifies the local climate in order to promote growth. Located predominantly east of Nursery Avenue, lath structures were used extensively at California Nursery and were an indispensable feature of the nursery. Rectangular in shape, they were positioned over blocks of growing grounds often in easy proximity to buildings. Lath houses came in several heights; high laths for larger plants, low lath houses about nine to ten feet high for lower growing plants. The important history of lath structures at the California Nursery is interpreted in the master plan. They could be utilized to shade picnic areas, over the parking lot, or in blocks in relation to nursery production buildings.

Economic Drivers

As some operating and maintenance costs will be unavoidable, it is desirable to have the ability to generate offsetting revenue where possible. “Outdoor rooms” defined by the generous arboretum-like setting of the park, augmented by refurbished or new indoor spaces, can accommodate recreational activities, educational classes, and small community or cultural events.

Interpretive Program

The interpretive program will be an important component of California Nursery Historical Park. The intent is to integrate interpretive materials in all of the features at the site. Original historic artifacts will be displayed in either the historic buildings or the new Interpretive Center. The goal is to create an authentic experience that will convey a sense of what the nursery was like during its prime and why it is important. To the greatest extent feasible, historic features will be preserved, restored or rehabilitated according to the Secretary of Interior Standards for cultural landscapes. The plan calls for reconstruction of two historic structures—the high water tower and a high lath structure. These will be reconstructed based on historic photographs, with the goal of emulating the originals as closely as possible. Interpretive signs will explain that they are new structures.

The core of the interpretive outdoor displays will occur along Arboretum Way. Patio spaces are paved with enhanced paving materials. There are patios at the water towers and at the terminus of the path at the south property line. This location is at one end of the Boxed Tree Forest and will help to draw visitors into the park to discover this unique feature of the park. The terminus of Arboretum Way will function as a link between the Boxed Tree Forest and the new pergola in the southeast corner of the park.

Low water tank, 1935

President's House, 1920's

The interpretive program may include signage depicting and describing each of the features: the buildings, orchard, water tank, rose garden/display garden and heritage trees. As appropriate historic tools and equipment may be placed near paths as part of the interpretive program. Significant dates and details may be embossed in the pavement. The goal for these interpretive components is to be discrete and subtle, yet engaging. Visitors should not be distracted by too much signage.

Currently, the city envisions this site as the place to interpretive the California Nursery as well as the Vallejo Adobe. It is possible that other unknown artifacts may be found that could enhance the story of the nursery. Items would be assessed based on their connection to the history of the nursery and property either directly or indirectly.

Existing Buildings and Structures

All of the historic buildings and structures will be retained except the garden store[1]. These will be rehabilitated and adapted for new uses described in the

1 The assessment by Carey & Company suggests that the condition of the store is such that the cost of rehabilitating it would like exceed the cost of building a new building; demolition

Looking into the historic core of the park - Presidents's House (right), Packing Shed (left). The high water tower/park office in the distance.-

California Nursery Bunk House, 1895

following section. The historic buildings/structures that will be retained include the Office Building (c.1907), the Changing Room (c.1907), the President's House (1907), the Packing Shed (1910), the Vallejo Adobe (c.1842), a restroom (c.1970), a small windmill (1930s) and what is referred to as the California Nursery Archive Building. ACWD has a small building within the fenced area that encloses their facilities that is not part of the park master plan.

The historic buildings on the property – the Vallejo Adobe, President's House, Office Building and Packing Shed – make up the historic core of this site. Historically, this was the center of the nursery operation – the place where orders were placed, materials were prepared for shipping and where the president of the nursery and his family lived. The master plan will maintain and restore the vibrancy of this part of the site. The President's House will become a venue for community and cultural events. It will be rehabilitated to Secretary of Interior Standards and available for rental. The Packing Shed will house some of the larger artifacts in the Roeding collection – such as tractors, pick-up trucks and other equipment used in the nursery operation.

---

and replacement is recommended. This structure has be remodeled numerous times over the years and no longer looks like the original structure. See Volume 3, Section D.

View of the historic core seen from Interpretive Center. President's House (left), new bosque of trees in the background, and Packing Shed

Vallejo Adobe, 1930's - 40's

Changes associated with the Vallejo Adobe are intended to better integrate this important feature with the rest of the historic park. The existing six foot fence will be replaced with a lower fence and a dense planting that includes barrier plants such as cactus, agave and other species that were known to be available when the Vallejo family occupied the site. Rather than being confined by a rigid rectangular fence the new planting will blur the edges and blend in with other plantings in this area.

The open space between the President's House and the Packing Shed provides a staging area for events that will occur within. It will accommodate overflow from the individual venues. When both of the historic buildings are being used, the central open space will offer a venue to link them together and provide a respite to park users.

It should be noted that no buildings are proposed in the northeast corner of the property because a fault line runs through the park in this area which precludes habitable buildings or structures being located here[2].

2 Before advancing plans for the new classroom or rehabilitation of the president's house or packing shed a geotechnical study should be completed to confirm the exact location of the fault line.

View from Nursery Avenue looking across the planting beds and entry walk toward the new Interpretive Center.

Nursery artifact for the interpretive program, 2014

The historic core will be linked with the other parts of the park by Arboretum Way – the spine of the interpretive features that connects the President's House to a major new feature in the southeast corner of the property – an outdoor multi-purpose venue. From the terminus of the interpretive spine a curving pergola nearly 300 feet in length will be integrated with the existing and expanded fruit tree orchard. Informal seating will be provided on well-crafted stone walls and strategically placed boulders to encourage use by individuals or small groups. The pergola is oriented towards the park center and the orchard will provide a buffer for adjacent residents. A separate small area will serve as a focal point and platform for speakers or small, intimate gatherings.

All of these buildings could be rented out to local community groups or businesses, or for family functions like reunions, anniversary and birthday parties. The Community Services Department will establish a rental fee structure, and the revenue generated will help to support the park operations. All of the buildings will need to be renovated to accommodate the proposed uses. Each will be brought up to code, with finishes and furnishings upgraded as funding allows.

The existing Boxed Tree Forest will remain much the same. A new restroom nearby and an improved path will enhance this area as an event venue.

Main office seen from Niles Boulevard, 1938-39

One important historic structure—the timbers that once supported a water tank—is located at the center of the site, near the Vallejo Adobe and adjacent to Arboretum Way, the primary interpretive spine. Historically, water was pumped from an underground well, stored in the tank, and used to irrigate the nursery plants. A second, taller tank structure was located a few feet south of the extant structure. Reconstructing the high water tank is proposed. The space beneath the tank could be configured as office or storage space.

The California Nursery Archive Building will house archives. A porch will be added to three sides of this otherwise utilitarian building to improve its appearance and to make it more usable. A new restroom building is shown south of the California Nursery Archive Building. This structure will include sufficient power to support ancillary functions.

New Buildings

The architectural style of each new building will be differentiated from the historic buildings and will be compatible in massing, size, scale and architectural features to project the historic integrity of the property. The new buildings should not be so different that they become the primary focus. The difference in style may be subtle, but it must be clear so that park visitors are able to identify the "real" historic buildings.

Interpretive Center: A state-of-the-art Interpretive Center at the park entrance will house the California Nursery artifacts. Depending on need, the Interpretive Center could be built as a one- or two-story building. Exhibits will showcase material from the Roeding family as well as materials from others who played key roles in the evolution of the nursery, such as John Rock, William Landers, Luther Burbank, Shigeharu `Shig' Nakamura, and Mr. Ogata. The Interpretive Center will house small artifacts—like machinery, tools and ledger books—and be filled with engaging, interpretive material and displays. The plan illustrates a prominent entrance to the Interpretive Center that will feature interpretive planting beds and a formal layout. This space is envisioned as an outdoor room and entry court.

As an interim treatment, one rectangular planting bed of the future entrance element closest to Nursery Avenue will be paved and used as a gathering area near the park entrance. This will provide space for park visitors to meet and gather before exploring the rest of the park.

Visitor Information Center: Immediately after the entry gate and to the left, a new Visitor Information Center building is proposed. This building will be architecturally similar to the former Nursery Retail Building that used to be at this location and will serve a similar purpose as to greet people as they enter the site, gather information about The California Nursery, perhaps grab a snack, and begin their tour of the park. This will most likely be a City-built-and-

managed building and serve as the administrative center for operating the site. Just past this building will be the entry plaza for the Interpretive Center, which may also serve as an outdoor information place of its own with interpretive panels describing the key features of the California Nursery Historical Park.

Information such as maps about the park will be available in the Visitor Information Center. As the first stopping spot for visitors within the park, it will likely become a meeting place and a location to post community news.

Classroom: A new classroom building is included at the east end of a primary circulation path at the middle of the park. The room opens onto a large patio that affords the possibility of indoor-outdoor activities. The classroom building has a strong relationship with Arboretum Way, where educational material and community announcements will be displayed.

A classroom building with restrooms will introduce a new venue for myriad park and educational activities managed by the City. It will be used by students of all ages. Alternatively, the classroom could be included in the Interpretive Center.

Restrooms: A new restroom building is planned in the middle of the park near the south property line. This restroom will accommodate park users

A new 210-foot long curving pergola in the southeast corner of the park with stone seatwalls and a stone patio will provide a new venue for quiet programs.

and facilitate special gatherings in the Boxed Tree Forest, at the new pergola structure in the southeast corner, and the picnic area. A power source will be provided here as well.

NEW BUILDING USE	SIZE RANGE
Interpretive Center	9000sf (Single Story) to 18,000sf (Two Story)
Visitor Information Building	1000sf to 1800sf
Classroom	2400sf to 2800sf
Restroom near Box Tree Forest	760 sf
Total Square Footage of New Buildings	**13,160sf to 23,360sf**

Office Area Enhancements

The oval-shaped Great Lawn will expand the usable area surrounding the Office Building. A new concrete path will be ADA-compliant. The access road from Nursery Avenue will be asphalt. The staging area west of the office has stone paving and is intended to be used as a photo setting for outdoor weddings and other celebratory events.

Other enhancements could include the addition of a combination commercial kitchen and two new restrooms that will be built behind the Office Building. The Changing Room could be used for equipment storage or for exhibit space. A new solid fence along Niles Boulevard will buffer some of the street noise. The center section of the fence will incorporate a transparent material so that drivers will have a view into the gardens.

Community Garden

The master plan shows a community garden in the northeast corner of the park, where it will be visible to drivers traveling on Niles Boulevard. This space could instead accommodate a one-and-a-half- to two-acre boutique retail nursery. Gardeners or nursery visitors will access the park at the east entry and park in the new parking area at this location. The community garden or nursery will all be fenced, with a locking gate. Delivery of supplies will be via the east entry.

Niles sales gardens, 1939

The park design south of the circular path beyond the packing shed is flexible. Depending on community demand there is potential to accommodate a community garden in this location if a nursery occupies the street frontage.

Community gardeners could adopt the historic orchard in the southwest corner. This design introduces a bosque of medium to large-scaled trees with an architectural character that terminates the primary east-west path through the middle of the historic core. The trees may be citrus or another species grown by the Roedings at California Nursery.

Japanese Garden, 2014

Outdoor Education Area

An outdoor education area will be built in the southeast corner of the site. A gracefully-curving pergola defines this area. Low stone walls and a stone patio provide informal seating and stage for presenters. Breaks in the wall will invite park visitors to wander into the historic orchard. This location abuts neighbors on two sides, which means the type of programs that could take place here would need to be relatively quiet. Suitable programs would include lectures, demonstrations, educational talks or unamplified music, such as violinists, guitars, or a quartet.

Long Meadow

There is an open, tree-studded meadow between the Packing Shed and historic orchard. It is one of the few areas in the park that will be open and sunny. It is intended to remain as an unprogrammed, flexible space that can accommodate a variety of uses. This space can be enlarged by spilling over Arboretum Way into the picnic area. It can also expand north towards the Packing Shed. This open area will be planted with non-irrigated grasses that will be periodically mown to provide a tidy appearance and to minimize any fire potential.

Active and Quiet Areas

The more active elements of the plan are generally clustered towards the center of the site and away from surrounding residential properties. With the exception of the office all of the historic and new buildings tend to be located in the middle of the property, and the perimeter is generally treed.

Gardens

While the vast majority of the park will consist of open meadow and tree canopies, the plan also features limited new or refurbished gardens. The rose garden/display garden near the park entry will remain. The cottage gardens surrounding the Presidents House will be rehabilitated. The intent is to create a finely detailed period garden at the President's House that will provide an appealing venue for weddings and other special events.

Tulip Festival, 1940

The gardens surrounding the Vallejo Adobe will be rehabilitated in a similar manner. The goal is to select period-appropriate plants and garden features that accurately depict and interpret what these gardens were like during the time when vaqueros worked on the Vallejo ranch.

During the community process speakers supported the idea of bringing back some sort of tulip show. The master plan does not preclude planting bulbs or selling them as a fund raising activity to support the park, but the plan does

not anticipate replicating the large tulip festival that attracted as many as 100,000 people in a three to four week period.

Picnic Area

Other features in the master plan include the picnic area between the Alameda County Water District (ACWD) yard and the parking lot off Nursery Avenue and the Great Lawn north of the office. The picnic area could include picnic tables, barbeques, and prep tables. The picnic facilities are near the new restroom at the center of the park, close to the south property line. Drop-in picnic tables will be scattered throughout the park and will be available as a non-rentable use.

Signage

A comprehensive signage program will be needed throughout the park to provide directions, explain park rules, state the hours the park is open and, most importantly, to identify and describe the historic buildings, features and plants found in the park. This site includes a tremendously rich collection of trees, many of which are unique and exceptional examples of their type.

Sustainable Design Features

During both design workshops members of the public offered many comments in support of integrating sustainable design features into the new park plan. They see the park as an opportunity to demonstrate sustainable design practices. Retention and reuse of the existing historic buildings is a very significant sustainable move. Minimizing the amount of new paving and treating stormwater on site are other elements of sustainability. Planting drought tolerant species, including plants native to California, and irrigating

Boxed tree forest, 2014

Entry Road, Nursery Avenue, 2014

them with water efficient systems are other strategies. The intent of this plan is that materials and installation details for every aspect of the park design will incorporate sustainable design practices. The education programs at the park, signage and other interpretive displays will illustrate these practices and help all park visitors understand the sustainable design concepts.

Another aspect of sustainable design is the materials used to build the new park features. For long-term durability the intent is to use stone, metal, concrete and other high-quality materials that will require a minimum of maintenance and will last for many decades.

Site Utilities

Conceptual civil plans showing existing and proposed utilities for the site are included in Volume 3, Section G and the construction cost estimate in Volume 3, Section F. All new buildings will be provided with electrical power. Water, sewer, and storm drains will be provided as needed. BKF Civil Engineers also provided a narrative describing the existing conditions.

Fire Access

The master plan incorporates provisions for fire access in accordance with the City of Fremont Fire Marshal requirements. Vehicular circulation to and through the parking areas are sufficiently wide to accommodate fire trucks. For the portions of the park not serviced by roads, where required, pathways in these areas will be designed to accommodate fire access. Hydrants will be spaced 500 feet maximum. All major buildings will incorporate sprinklers. See Volume 3, Section G - Site Utilities for all public safety requirements.

THIS PAGE INTENTIONALLY LEFT BLANK

NURSERY AVENUE - MAIN ENTRY - ROSE GARDEN/DISPLAY GARDEN

The historic main entry at Nursery Avenue will be retained. The wooden gateway sign will be restored and the security gate repaired or replaced. New palm trees will be used to extend this feature to the southern park boundary. At the end of Nursery Avenue in the southwest corner of the park there is space for a prominent element that will provide a focal point for visitors as they enter the park. The existing rose garden and the historic roses will be retained. Roses may also be planted in other areas of the park.

OFFICE - GREAT LAWN

Historically the office and Great Lawn were the primary event space at the California Nursery where visitors would gather for picnics and other major events. The master plan will restore the office building and two existing restrooms in the building. The master plan shows an addition to the south side of the office that will add restrooms and a kitchen. A new patio is shown west of the office – and away from adjacent neighbors - that could be used as a dance floor or as set up space for a caterer for functions taking place here. The road to the office will be extended to allow equipment drop-off at the patio. The historic Changing Room will be used for storage and as a changing room for brides, as it was used historically. The display gardens will be rehabilitated. Pathways around the Great Lawn will be improved and dense planting will be added to mitigate sound from Niles Boulevard. The middle section of the fence will be kept open for views into the garden and a transparent fence/wall will reduce vehicular noise. New shrubs will be added to buffer sound where the park abuts residences. With these additions, the Office/Great Lawn area will be suitable as a rentable event venue. A small corp yard, for tools and supplies for park volunteers, may be added in the west area of the Office.

VISITOR INFORMATION BUILDING AT THE PARK ENTRY & PARKING

A new visitor information building is shown at the park entry with an outdoor terrace and designated parking (17 regular and one accessible space) immediately adjacent to the building. The visitor information building may also include a cafe - temporarily or permanently. This depends on the nature of the future development of the Interpretive/Education Center.

PARKING OFF NURSERY AVENUE

The primary parking area remains where it is today and is accessed from Nursery Avenue. Parking for 105 cars, plus four accessible parking spaces and drop-off space for 2 buses is provided at this location. A metal high lath structure similar to the lath structures used to shade nursery plants, is shown over the cars. The purpose of the structure is to screen cars and more importantly to reintroduce what was once an important feature of the California Nursery. Multiple paths will lead from the parking lot to other areas in the park. The extent and exact location of the lath structure has some flexibility.

PICNIC AREA

The space between the Boxed Tree Forest and the lath-covered parking retains a very pleasant open feeling that is nicely shaded by a canopy of tall trees. This area of the site includes a rich variety of tree species and as such is an important part of the arboretum that will be featured and interpreted throughout the park. New plantings in this area could be added to create a permaculture demonstration area that will be overseen by a Master Gardener program. Groupings of a variety of shorter palm specimens are a distinctive feature of this space. The plan proposes this area for family and group picnicking – a quiet activity that will benefit from the shade. Sinuous paths weave through this area to protect tree roots from compaction, and connect to the interpretive spine and two restrooms. Facilities for up to 250 are provided with tables, bar-be-ques and prep tables.

INTERPRETIVE CENTER

A new, single story 9,000 square foot, or two-story 18,000 square foot interpretive/education center will house historic artifacts and exhibits telling the story of the Roeding family, the California Nursery and the City of Fremont's role in California's rich agricultural heritage. On the west side of the center, wide stone walkways at either side of ornamental planting beds and framed by hedgerows form a grand entrance to the center and interpretive elements of the historic nursery. These beds will be an artistic interpretive display of "the character of the nursery". This space could be cordoned off to create another event venue. Pathways and planting east of the center connect to the complex of buildings and outdoor spaces on the east side of the center. These connections provide flexibility for outdoor events of varying size. A temporary plaza may be constructed where the stone walkway meets Nursery Avenue. It will serve as a gathering area and include signs that depict the future plans for the park. Optionally, the location of the Interpretive/Education Center may be considered for the area south of the main parking lot and would be laid out to avoid conflicts with historic trees.

VALLEJO ADOBE

The Vallejo Adobe lies at the center of the park. The existing fence will be removed and replaced with a low fence and barrier plants. The gardens will be interpreted to more accurately reflect a California-era garden. The non-historic restroom building adjacent to the adobe will be screened with shrubs. The storage space and restrooms will be upgraded and possibly enlarged.

ARBORETUM WAY - INTERPRETIVE PROGRAM

Many of the park facilities are connected to an interpretive spine that follows the alignment of a major circulation road in the nursery. It will be anchored at one end by the President's House and at the south with a plaza and metal trellis. Interpretive material telling the history of the nursery and environs will be displayed at each end and all along the spine. Another paved gathering area at the mid point features the two water tanks. Multiple pedestrian paths connect the other features in the park to the spine.

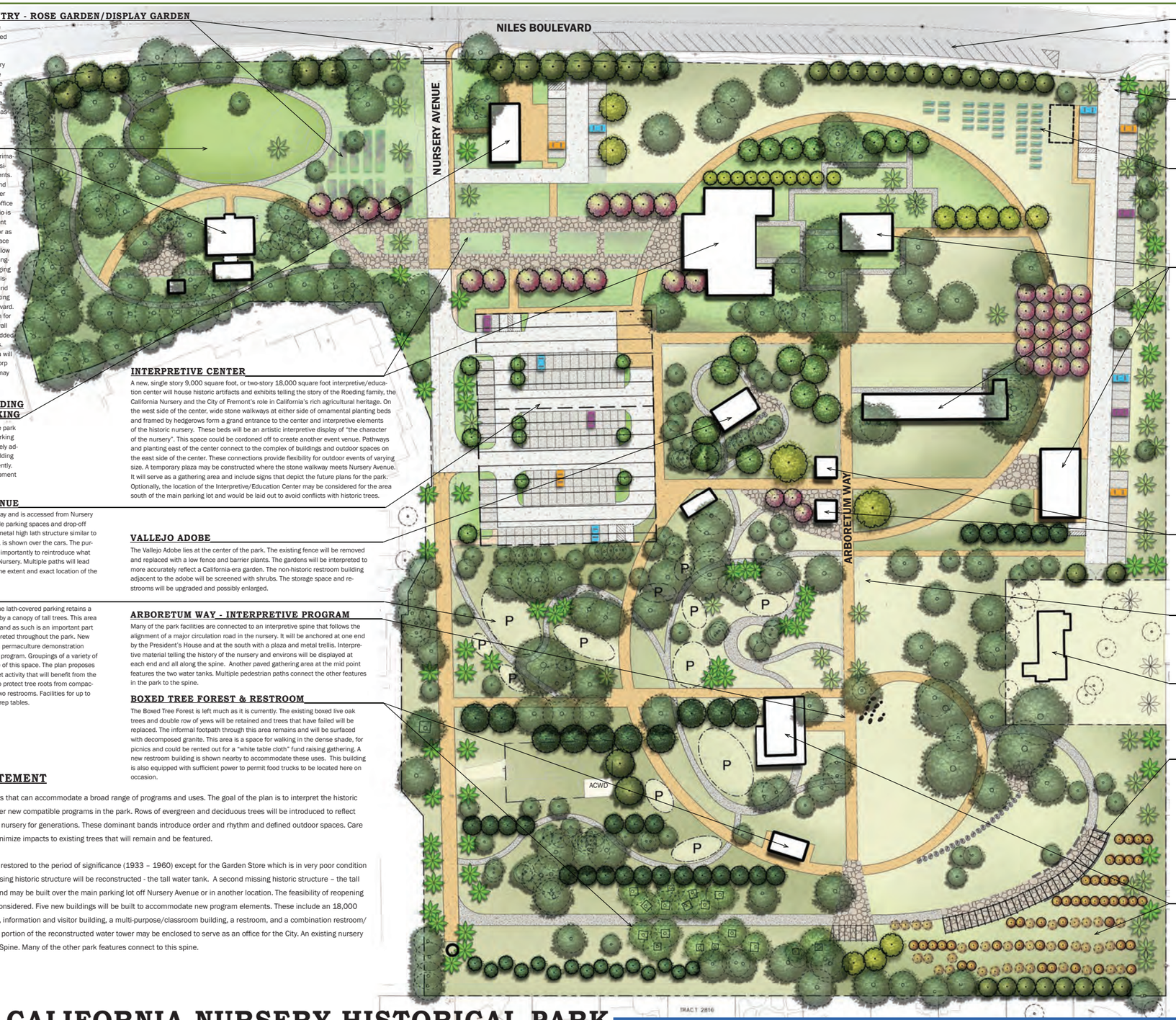
BOXED TREE FOREST & RESTROOM

The Boxed Tree Forest is left much as it is currently. The existing boxed live oak trees and double row of yews will be retained and trees that have failed will be replaced. The informal footpath through this area remains and will be surfaced with decomposed granite. This area is a space for walking in the dense shade, for picnics and could be rented out for a "white table cloth" fund raising gathering. A new restroom building is shown nearby to accommodate these uses. This building is also equipped with sufficient power to permit food trucks to be located here on occasion.

DESIGN CONTEXT STATEMENT

The park master plan shows improvements that can accommodate a broad range of programs and uses. The goal of the plan is to interpret the historic nursery and add new facilities that will offer new compatible programs in the park. Rows of evergreen and deciduous trees will be introduced to reflect the rows of trees that were lined up in the nursery for generations. These dominant bands introduce order and rhythm and defined outdoor spaces. Care has been taken throughout the park to minimize impacts to existing trees that will remain and be featured.

The historic buildings will be retained and restored to the period of significance (1933 – 1960) except for the Garden Store which is in very poor condition and will be demolished. One currently missing historic structure will be reconstructed - the tall water tank. A second missing historic structure – the tall lath house – will be interpreted in metal and may be built over the main parking lot off Nursery Avenue or in another location. The feasibility of reopening the arches of the Office Building may be considered. Five new buildings will be built to accommodate new program elements. These include an 18,000 square foot Interpretive/Education Center, information and visitor building, a multi-purpose/classroom building, a restroom, and a combination restroom/kitchen near the office building. The lower portion of the reconstructed water tower may be enclosed to serve as an office for the City. An existing nursery road will become the primary Interpretive Spine. Many of the other park features connect to this spine.



NILES BOULEVARD IMPROVEMENTS

Under a separate contract, Niles Boulevard and the intersection at Nursery Avenue will be improved. As part of that work, 37 new, diagonal parking spaces will be created along the north property line of the park. These spaces are included in the 218 count needed for the park.

NORTHEAST CORNER - SECONDARY ENTRY

Additional parking is shown along the east property line – between the historic palms planted by John Rock. Additional palms will be planted to reinforce this feature. This area will accommodate 51 standard plus 3 accessible parking spaces and can be accessed from the secondary entry gate.

COMMUNITY GARDEN

The community gardens are located in the northeast corner adjacent to nearby parking along the east property line. The gardens will be fenced and visible from Niles Boulevard. A row of trees will provide a buffer between the garden and street. Alternatively, this area could provide space for a 1 ½ to 2-acre boutique nursery.

PRESIDENT'S HOUSE – PACKING SHED – CLASSROOM BUILDING COMPLEX

Two of the oldest and most important historic buildings on the property are the President's House and the Packing Shed. Both will be retained and rehabilitated. The master plan proposes to add a third, new building to this complex, near the Packing Shed. It will contain a bathroom and enough power and counter space for a warming kitchen. The new building is located beyond the safety zone defined by a fault line in the northeast corner of the site. The new building is intended to be a multi-purpose space. It can be used as a classroom for students on field trips or used for an adult education program. A terrace will provide a flexible outdoor venue associated with the classroom building.

The President's House and gardens will be used as rentable event space. The gardens will be interpreted on all sides of the home and will feature shrubs and perennials from the historic period. The Packing Shed will retain its rustic open-shed character and will be used to house the historic pick-up trucks and other machinery used at the California Nursery.

The open space enclosed between the President's House, the Packing Shed, and the new Bosque of trees will be used as an outdoor area for events taking place in these buildings. Small events could be focused in one building and large events could use both buildings plus the central space defined by them. The location of the multi-purpose classroom may be adjusted to minimize impacts to owl habitat.

WATER TOWERS

The existing water tower base will be stabilized and a replacement water tank added. The second, high water tower and tank will be reconstructed based on available historic documents. The base of the new structure will be enclosed to create a one or two story office or storage facility for the City. This iconic element could afford views from the top overlooking the park and environs.

LONG MEADOW

An open tree-studded meadow is shown between the Packing Shed and historic orchard in the southeast corner of the park. This is a flexible space that could be used for informal gatherings associated with other park activities, or for the community garden.

ROEDING FAMILY HOME

The city may acquire this property in the future and incorporate it into the park. The house and property will be used to interpret the Roeding Family history in relation to the California Nursery, and for other park purposes. The property includes driveway access to Hillview Drive and a connection to the new parking.

ORCHARD PERGOLA

A gracefully curving path and vine-covered pergola will be built in the orchard. This 210-foot long structure with stone columns and stout metal trellis structure will be custom-crafted to reflect the historic nursery and engage modern elements. Its sculptural form will be open – inviting visitors to walk into and through the orchard - the trees and structure woven together. A 90-foot long seat-height stone wall will anchor the terminus of the structure creating another special place within the park where small groups may gather. Also, a 35-foot diameter paved circle of stone, located beneath the canopy of mature trees, can be used for weddings or larger group activities.

HISTORIC ORCHARD & CALIFORNIA NURSERY ARCHIVE BUILDING

The historic orchard in the southeast corner of the site will be expanded and will provide a buffer between more active park uses and the adjacent residences.

The California Nursery Archive Building (previously known as the ROP Building) will be converted to an archive for historic material and will be temperature controlled. A deck and veranda will be built on three sides. The space east of the building will provide a venue for small events like lectures or a gathering place for garden tours. A historic relocated bunkhouse may be brought to the park and integrated into the plan.

The Legacy of CALIFORNIA NURSERY Historic Park
the root of an industry

CALIFORNIA NURSERY HISTORICAL PARK MASTER PLAN

SEPTEMBER 29, 2017

DESIGN TEAM

PGAdesign inc. - Landscape Architect
Carey & Company - Historic Architect
BKF Engineers - Civil Engineer
Lamphier-Gregory - Environmental Consultants
Pivot Engineering - Structural Engineer
HortScience - Arborist
Land Economics Consultants - Financial Advisor
Leverton & Associates - Cost Estimator
Math Science Nucleus - Historic Advisor

City of Fremont

PGAdesign
LANDSCAPE ARCHITECTS

THIS PAGE INTENTIONALLY LEFT BLANK

Existing Trees Inventory & Assessment

As part of this planning effort, HortScience, the planning team's arborist, was asked to complete a comprehensive inventory of the existing trees (see Volume 3, Section B). They identified 823 individual trees representing 130 species or varieties. These include deciduous, evergreen, and coniferous trees as well as several species of palms and fruiting trees. There are 106 coast live oaks in the park, 63 Canary Island date palms, 43 apricots, 43 yews, 41 windmill palms, 38 glossy Privet, 35 Kohuhu, 33 Deodar cedars, 31 olives, and many other species. In addition to tallying the frequency of occurrence, HortScience rated the condition of each tree. 31 trees died during the drought and will be removed. Another 237 trees are in poor condition. A Tree Assessment provides the size (in trunk diameter) of each tree, ranks suitability for preservation, and notes additional comments about each tree's size, form, condition or unique characteristics.

HortScience has also prepared a Tree Inventory Report for the park site and the Roeding Family home property. They also prepared an Urban Forestry Master Plan (UFMP) that was developed in conjunction with the park master plan. The UFMP and all other tree related documents will be bound together in a separate volume and are part of this master plan.

Educational Programming

Joyce Blueford with Math Science Nucleus (MSN), a member of the planning team, researched a range of program opportunities for utilizing the site for educational purposes. MSN met with local and Bay Area teachers and administrators at the elementary, high school and college levels. The site is well suited for science classes and teaching California history, and for teacher-training programs. MSN has hosted classes, summer camps, community service projects, and special events to determine interest and value as well as the potential for revenue generation.

MSN visited other sites—including the San Jose History Park, Luther Burbank Home and Gardens, Luther Burbank Experimental Farm, Mission San Jose and Olivas Adobe Historical Park—to assess how they operate programs and generate revenue to be self-sustaining. These are the types of educational programs envisioned for California Nursery Historical Park. See Volume 3, Section C – Educational Programming at California Historical Park.

Peter Hischier inspecting pears,1920's

Building Existing Conditions Report

As part of this study, historic architect Nancy Goldenberg of Carey & Company Architects has completed a preliminary assessment of each of the buildings and structures in the park. Evaluation of the structural integrity was provided by Pivot Engineering. Their Building Existing Conditions report is included as Volume 3, Section D. This report includes summary building histories, building descriptions, condition observations, and preliminary recommendations for repair and adaptive uses.

The primary historic buildings include the Garden Store, Office Building, President's House, Packing Shed and the Vallejo Adobe. Secondary buildings and structures include the Changing Room, the Tank House support structure and the Windmill. There are also two non-historic buildings, a public restroom and the California Nursery Archive Building.

With the exception of the Garden Store, all buildings will be retained, rehabilitated and re-purposed for new uses as described in this report. The condition of the Garden Store is so compromised that retaining it would entail reconstructing most or all of the building, which is not being recommended.

Sales Depot, 1925

Construction Cost Estimates

A detailed estimate of construction cost is included in Volume 3, Section F. The estimate is organized by sub-areas. An allowance is included to cover architectural and engineering fees, permit fees, and City administration costs. Also included are general contractor overhead and profit, bonds and insurance, general conditions and a 20% contingency. The total estimated cost of approximately $38 million is based on 2017 costs and does not include escalation. See Volume 3, Section F for the complete construction cost estimate.

Park Operations and Financial Plan

The level to which the California Nursery Historical Park Master Plan is carried out will be dependent on funding – including both developmental funding and operational funding. By examining similar parks of its type and scope, it is unlikely this historic park at full build out will generate enough revenue to be self-sustaining and will require subsidy from the General Fund or other partner funding sources. Any non-profit or community partner at this location will need to contribute to the ongoing operations and maintenance of the facility.

Some members of the community have expressed their desire for the park to maintain its historical and passive integrity. Others are seeking a park that shares this robust history with vibrant activities of a twenty-acre park. City staff has been charged with developing a master plan for a regional park that

Loading Trees, 1964

Loading Trees, 1940's

Packing 5-gallon plants

looks at all of the possible opportunities while still maintaining the historical significance and peaceful charm. The Master Plan document is a critical component of any future competitive grant applications.

The City of Fremont understands the importance of financial sustainability as a guiding principle for park development, construction, operations and maintenance. Whether it is materials and landscaping chosen for lifespan and durability or the ability to generate offsetting revenue, the City will consider all options when proposing development and operation plans. The Master Plan process for the California Nursery Historical Park (CNHP) attempts to balance a solid financial and operational plan that respects and highlights the parks historical significance.

When the Master Plan began, the City of Fremont asked Land Economics Consultants, LLC to return with a fully cost-recovering model. Volume 3, Appendix D, titled the "Financial Report," is the completed report. This report highlights some of the financial and operational models that currently exist at other similar parks and provides suggestions for CNHP. As the consultant states in this report, "whether the park ultimately becomes 'self-sustaining' from a general fund perspective will depend heavily on negotiations at every step in the development with the partners who will implement or operate components of the park plan. It is important to determine who will be responsible for specific operation and maintenance tasks, and who will share in the revenue streams created. It is unlikely the site will generate enough revenue to become self-sustaining, and will require a subsidy from the General Fund or other sources if built with all (proposed) amenities".

This park will take multiple years to develop, and the opportunity to leverage non-profit and other community partners (including possible private for-profit businesses) will be critical to the park as it contemplates any expansion efforts. The Council in place will review for approval in detail the financial impact of any new facilities proposed. As improvements move forward and the park is developed, the City's operating costs will expand with it. The report estimates carrying costs for landscape and building maintenance (with existing buildings only) will be at least $250,000 annually; this does not include costs for inflation, maintenance on any new buildings/structures, capital replacement costs, or operational staffing such as Rangers or Naturalists. In order to offset part or all of these annual expenses, a variety of revenue-generating opportunities will need to be explored. Potential revenue sources identified in this report fall into three (3) main categories:

1. Rental Revenue – This includes revenue from hourly paid-uses such as picnic area, park space, and building rentals, and lease rent from possible tenants such as a boutique nursery.

2. Educational / Interpretive Revenue – This includes school field trips, hoot owl tours, nature classes, museum admissions, and other such programs. Current educational programming is being provided by the non-profit, Math Science Nucleus (MSN).

3. Concession Revenue – This includes food and beverage, catering, and retail which could occur on carts or within the Visitor Information or Interpretive Centers.

Once the Master Plan is approved, staff can begin to seek key partnerships in developing programs and services on the twenty-acre site. All grant opportunities require an adopted Master Plan in order to be competitive.

George C. Roeding Sr. overseeing plum seed washing

Next Steps & Park Phasing

After this park master plan is approved and funding is identified, construction of the new park will proceed. The first phase will be defined to correlate with the amount of funding available. Generally, the objective is to start with projects that will have big impacts with minimal cost and that will provide the park with a revenue stream to support future phases. The phasing plan also reflects a logical sequence of construction, i.e. the utility infrastructure will be installed during early phases so that subsequent work will not require demolition and reconstruction.

The phasing should remain somewhat flexible with lots of discrete steps to choose from in order to take advantage of the momentum already developed by park partners, and to be ready to assist and partner with other community-based initiatives as they emerge. Keeping with the goal of holding costs down and yet finding ways to generate revenue, many smaller steps and individual development projects can be clustered into four conceptual phases of development as described below. As community priorities and resources change, any of these steps or phases could be reordered.

The City of Fremont has begun to budget money for some initial capital improvements, for example to restore the wooden entrance sign and enhance the gateway experience in general. Existing partners have begun to donate funding for specific improvements to historic assets within the park. While a creative vision may very well attract capital funding for exciting new projects

Ogata high lath house, 1930's

soon, most likely it will take many years before the full Master Plan buildout of the park is realized. During initial years, it will still be to the City's advantage to provide for activities and land uses within the park, not only for fund raising by generating revenues on an ongoing basis during start-up years, but also for "friend raising" and building a community of constituencies for uses and development of the park.

Future Design Approval of Implementation Projects in this Master Plan

Implementation of projects in this Master Plan are anticipated to span over many years and will involve various public-private partnerships, outside funding sources, and other opportunities for realizing the Master Plan. The Recreation Commission shall be charged with reviewing the site design for all projects consistent with the proposed Master Plan that involve new or expanded uses on the site, and shall be required to find that the project is consistent with the City Council adopted California Historical Park Master Plan. Projects not consistent with the Master Plan and all new building construction shall be reviewed by the Recreation Commission and forwarded on to the City Council for final approval, which is consistent with the Commission's traditional role as described in the Fremont Municipal Code.

Historical Architectural Review Board (HARB): Separate from the Recreation Commission design review of projects, the Historical Architecture Review Board (HARB) will continue to perform review and approval as required by the Fremont Municipal Code of new and existing building projects at the California Nursery Historical Park, for compliance with the Secretary of Interior Standards for Treatment of Historic Structures and other findings as required. As with the Recreation Commission, new buildings shall be forwarded on to the City Council for final approval.

No design approval is required for minor projects that address maintenance and repair, or minor work that does not expand uses or programs on the site. Types of projects that would not require design approval might include, but not be limited to, utility infrastructure, building repairs, stand-alone restroom, pedestrian paving, irrigation, planting, fencing, or any other improvement not tied to the creation of new or significant expansion of programmed uses on the site.

Boxed Oaks, 2014

Phase 1: Focus on Landscape Improvements

Phase 1 will be an evolution from the situation that exists today. One strategy would be to improve landscaped environments first, before incurring the relatively larger costs of upgrading or constructing buildings. In essence, a series of "outdoor rooms" could be created which would support park activities. Specific steps are numbered below for ease of discussion, but the order could be changed, and multiple steps could be undertaken at once as resources are identified.

1. Site and Nursery Avenue Infrastructure: The first priority for the park is to start implementing the urban forestry plan to insure the long-term health of the trees. Installation of new underground utilities and permanent surface treatments along Nursery Avenue are also priorities, so that as additional areas of the park are developed the initial investments will not have to be dug up or disturbed. The historic wooden sign that forms a gateway over the park entrance would be restored to its original condition at the same time and the security gate rehabilitated or replaced. Just inside the main entry a temporary entry plaza will be built to illustrate and explain all that is proposed for the park. If feasible some of the wood columns from the historic retail business will be incorporated into the plaza design.

2. Boxed Tree Forest: A logical second step would be to continue with installation of pathways, some plantings, and extension of such utilities as potable water and electrical power to one of the "outdoor rooms," the Boxed Tree Forest, quickly making it more marketable for weddings and other events. Although development of new structures and the restoration of existing buildings should be deferred for the most part in Phase 1 to keep costs down, the new public restroom structure proposed for the area near the Boxed Tree Forest would be a good early addition in terms of high-priority, new buildings.

3. Vallejo Adobe: A third step, which would also maintain and enhance the ability to produce revenue, would be to make the improvements in and around the Vallejo Adobe and restroom. Perhaps the main parking lot in front of the Vallejo Adobe could be improved with the Vallejo Adobe program, if it was not included in the Nursery Avenue capital improvement step.

4. Great Lawn Area: A possible fourth step could focus on the Great Lawn and landscaped areas around the Office adjacent to the front gate of the park. Not only would the improvements reinforce the new attractiveness of the park being advertised by the restored entrance sign, it would also focus attention on the rose garden/display garden and would maintain and enhance the potential for event revenue, along similar lines as the improvements around the Vallejo Adobe.

American Association of Nurseries barbeque, 1939

5. Picnic Area: In keeping with the landscape enhancement theme of Phase 1, the picnic area between the Vallejo Adobe and the Boxed Tree Forest could be incorporated in one or more of the investment steps above, or conducted as a fifth step.

6. Community Gardens/Boutique Retail Nursery: Another possible land use (or two) that could fit within the Phase 1 focus on landscape without major buildings, could be inclusion of suitable space for a Community Garden. An alternative could be a boutique retail nursery, which would be in keeping with the historical use of the California Nursery site and which could generate some land lease revenue to help offset ongoing operations and maintenance costs of the larger park. Depending upon creative use of spaces within the southeastern quadrant of the park, it might even be possible to include both of these activity-generating uses in the near term.

Phase 2: Development of Institutions and First Buildings

The Phase 1 described above emphasizes incremental investments made primarily to stabilize and improve the landscape and attractiveness of settings within the park. In Phase 2, the activities in the park are envisioned to grow, especially those driven by non-profit partner organizations. Those entities will need to build their own institutions and capacities to the point at which they will be able to take responsibility for development of major new buildings, such as an Interpretive Center, in Phase 3.

During Phase 2, however, some investment in permanent structures will help expand the educational programs, with priorities driven by the growing non-profit institutions, and create more revenue opportunities as well. If a partner organization is able to procure funding for developing one of the buildings discussed in the steps below, it could be moved up in schedule to occur concurrent with the Phase 1 landscape and infrastructure improvements.

1. Packing Shed and Archive Building: In terms of rehabilitating some of the existing structures on the site, it may be most cost-effective to stabilize and improve the Packing Shed, perhaps followed by the Archive (formerly ROP) Building, if not to the extent allowing for full public access, at least to the point at which these become completely usable for housing and curating historical artifacts.

President's House, 1932

2. Classroom Building: In terms of new construction, the highest priority new building in Phase 2 is the Classroom Building. Such a structure would be useful for daytime educational programs oriented to school age youth, and at the same time could house other activities in the evenings, some of which could be revenue-producing. With proper design, the multi-use facility could also enhance the park's attractiveness for weddings, providing an indoor space for receptions associated with outdoor wedding

Main Office, 2014

ceremonies in the park, thus meeting the community need for more facilities and generating more revenue for the City. The City could also benefit directly by the presence of such a structure, creating another venue for recreation programs.

3. Second Entrance Infrastructure and Parking: If the classroom were moved up for inclusion in the Phase 1 program, it could be accessed initially by footpaths from the main parking lot in front of the Vallejo Adobe. At some point, however, the above and below ground infrastructure leading to the classroom site from Niles Boulevard, including the associated new parking, should also be installed.

4. Office Building Upgrades: As a second investment in permanent structures, the upgrading of the Office, expanding its kitchen and restroom facilities, would enhance the attractiveness of the entire Great Lawn area. It is already able to function in this way today, but coupled with Phase 1 landscape improvements and the expansion of the building, the usability of this entire corner of the park will be greatly enhanced.

Phase 3: Partner Institutions Developing Major Buildings

At this point it is still uncertain what non-profit partner institutions will emerge as sufficiently viable to take on the responsibilities for building and operating new buildings and facilities. Candidate focuses for such institutions include science and environmental education, history, and agriculture, but other partners as yet unidentified could also emerge in coming years.

1. Interpretive Center: The types, sizes, and designs of buildings or other permanent structures to be developed in the park will be driven by the needs of these partner organizations. The master plan includes a new Interpretive Center building that may very well emerge as an important addition to the park in Phase 3, and may be able to attract all the necessary funding and sponsorship entirely from sources other than the City. A large new Interpretive Center run by a capable institution would greatly benefit the public at large. Depending upon a ground lease or other partnership agreements, such an educational institution may or may not also generate an on-going revenue stream for the City.

2. President's House: It is possible that the President's House could emerge as a priority for adaptive re-use, and could serve as an interim Interpretive facility while an entirely new building is being built for this purpose. It could also enhance the attractiveness of that quadrant of the park for weddings and other gatherings, thus generating additional revenue for whatever entity takes on its refurbishment. If a benefactor is found and the priority is elevated sufficiently, the President's House restoration could take place

Niles Prune Orchard, 1939

in Phase 2 along with the nearby Classroom Building, or even as part of Phase 1 creating a jewel set in the enhanced landscape.

3. Visitor Information Building: The Visitor Information Center is the first place a visitor is likely to stop on arrival at the park. This building would be a city-managed building.

Phase 4: Additional Historical Features

There are a number of other features in the master plan that do not obviously expand the usability of park facilities, but that do restore historic components and enhance the park users' appreciation of the past. Possible future steps could include:

1. Orchard: Restoration and enhancement of the historic orchard. It is also possible that this project could be included in the environmental education program, elevating its priority into an earlier Phase.

2. Water Towers: Rehabilitate existing water tower and rebuild adjacent former high water tower, including the possibility of a new staff office or storage facility in the base. This project may be implemented earlier if it could be incorporated as part of the site's irrigation system.

3. Bunk House: There is a possibility that a historic bunkhouse from the Shinn House Park may may be moved to and incorporated into the California Nursery Historic Park.

Roeding Family Home Property

The current park boundary excludes the private residence owned by the Roeding family. It is a 26,135 square foot parcel on the east boundary of the park that is set back over 500 feet from Niles Boulevard. The parcel is accessed from Hillview Drive. The park master plan includes gated vehicular access directly from the park into the private property.

Should this parcel become available the City may choose to acquire it from the Roeding family. If that were to occur the family home would be rehabilitated and used to showcase the personal family history of multiple generations of the Roeding family. The surrounding garden would be restored or rehabilitated based on historic photographs and records. The parcel would be fully integrated into the park and would retain its historic integrity. As with the other buildings on the site the work would conform to the *The Secretary of Interior Standards for The Treatment of Historic Properties With Guidelines for The Treatment of Cultural Landscapes.*

THIS PAGE INTENTIONALLY LEFT BLANK

The Legacy of CALIFORNIA NURSERY Historic Park

the root of an industry

City of Fremont
California Nursery Historical Park

Volume 2: Tree Report & Urban Forestry Management Plan

Adopted December 12, 2017

CITY OF Fremont California

PGAdesign

LANDSCAPE ARCHITECTS

Volume 2 Table of Contents

Urban Forestry Management Plan – October 2017

Appendices:

1. Summary of Tree Species and Condition Ratings
2. Landmark Trees of the City of Fremont, August 2012
3. Recommended Action for Trees
4. Tree Inventory Maps
5. Tree Inventory Report for the California Nursery Historical Park
   Exibits:
   - Existing Conditions Maps
   - Tree Assessment Charts
   - Memo from Nelda Metheny to Chris Pattillo, June 2, 2016
6. Tree Inventory Report for the Roeding Property
   Tree Inventory Report Exibits:
   - Tree Assessment Map
   - Tree Assessment Charts

See also Volumes 1 & 3:

California Nursery Historical Park Master Plan – Volume 1

1. Introduction
2. Park Master Plan
3. Existing Trees Inventory & Assessment
4. Educational Programming
5. Buildings Existing Condition
6. Construction Cost Estimate
7. Next Steps & Park Phasing

Supporting Documents – Volume 3

A. Summary of Public Input
B. Educational Programming
C. Building Existing Conditions
D. Financial Report
E. Construction Cost Estimate
F. Site Utilities – Existing & Proposed
G. Annotated Master Plan

THIS PAGE INTENTIONALLY LEFT BLANK

Urban Forest Management Plan

Urban Forest Management Plan

California Nursery Historical Park
Fremont, CA

Prepared for:
City of Fremont

Prepared by:
HortScience, Inc.
325 Ray Street
Pleasanton, CA 94566

April 2017

Urban Forest Management Plan

California Nursery Historical Park
Fremont, CA

Table of Contents

	Page
Introduction and Overview	1
Vision and goals	1
Status of the Urban Forest	2
Noteworthy Trees	5
Protecting the Urban Forest	10
Planting the historic trees of the future	12
Tree removal and replacement	12
Select species adapted to site conditions	13
Select species with historical significance	14
Maintaining the urban forest	16
Tree pruning	16
Tree support systems	22
Advanced inspection	23
Girdling roots	24
Irrigation	24
Soil management	27
Plant health care	28
Tree risk management	30
Summary and conclusions	36

List of Tables

Table 1. Status of City of Fremont Landmark Trees at CNHP	7
Table 2. Notable trees to consider for nomination for Landmark status	9
Table 3. Number of trees by phase	10
Table 4: Unusual species lost from the urban forest or at risk at CNHP	15
Table 5. Typical maintenance tasks and stages of tree development	17
Table 6. Trees recommended for pruning as first priority	20
Table 7. Trees recommended for installation of a support system	23
Table 8. Trees recommended for advanced inspection	24
Table 9. Treatments for trees being girdled	25

List of Figures

Fig. 1. Tree Inventory Map	3
Fig. 2. CNHP tree species composition by percent of population	4
Fig. 3. Tree condition ratings for all trees	4
Fig. 4. Tree condition ratings by species	5
Fig. 5. Map location of Landmark trees	6
Fig. 6. Preliminary CNHP phase plan	10
Fig. 7. Irrigation requirements of trees	26

Urban Forest Management Plan

California Nursery Historical Park
Fremont, CA

Introduction and Overview

California Nursery Historical Park (CNHP) was donated to the City of Fremont in 1971. The site is a historical nursery, established in 1884, that originally occupied 463 acres. Plants from around the world were propagated and planted to test them for suitability for California's growing conditions. Today the site is 20.1 acres. It is a joint project of the City of Fremont and Math Science Nucleus.

The purpose of an Urban Forest Management Plan (UFMP) is to describe how the goals regarding the urban forest that are outlined in the CHNP Master Plan will be accomplished. It is a procedural document with a five- to ten-year time frame. City staff have asked for an action plan that is implementable. The UFMP for California Nursery Historical Park includes):

- General description of the characteristics and qualities of the urban forest;
- Guidelines for protecting the urban forest as site uses are enhanced;
- Strategies for recovering lost canopy cover and species diversity;
- Prioritized maintenance plan, including pruning, irrigation, soil management, and pest management;
- Components of a tree risk management policy and procedures.

Vision and Goals

The vision for the urban forest at CNHP is one that pays tribute to the rich horticultural history of the park's trees, while sustaining a healthy canopy cover for the benefit and enjoyment of the people of Fremont.

The primary goals for the CNHP urban forest are to

1. Protect and sustain the historic trees, including
    a. Landmark trees;
    b. Boxed oak forest;
    c. Orchard trees;
    d. Rows and groves of palms;
    e. Grove of yew trees adjacent to the boxed oak forest.
2. Plant new trees to replace trees that have been or will be lost over time.

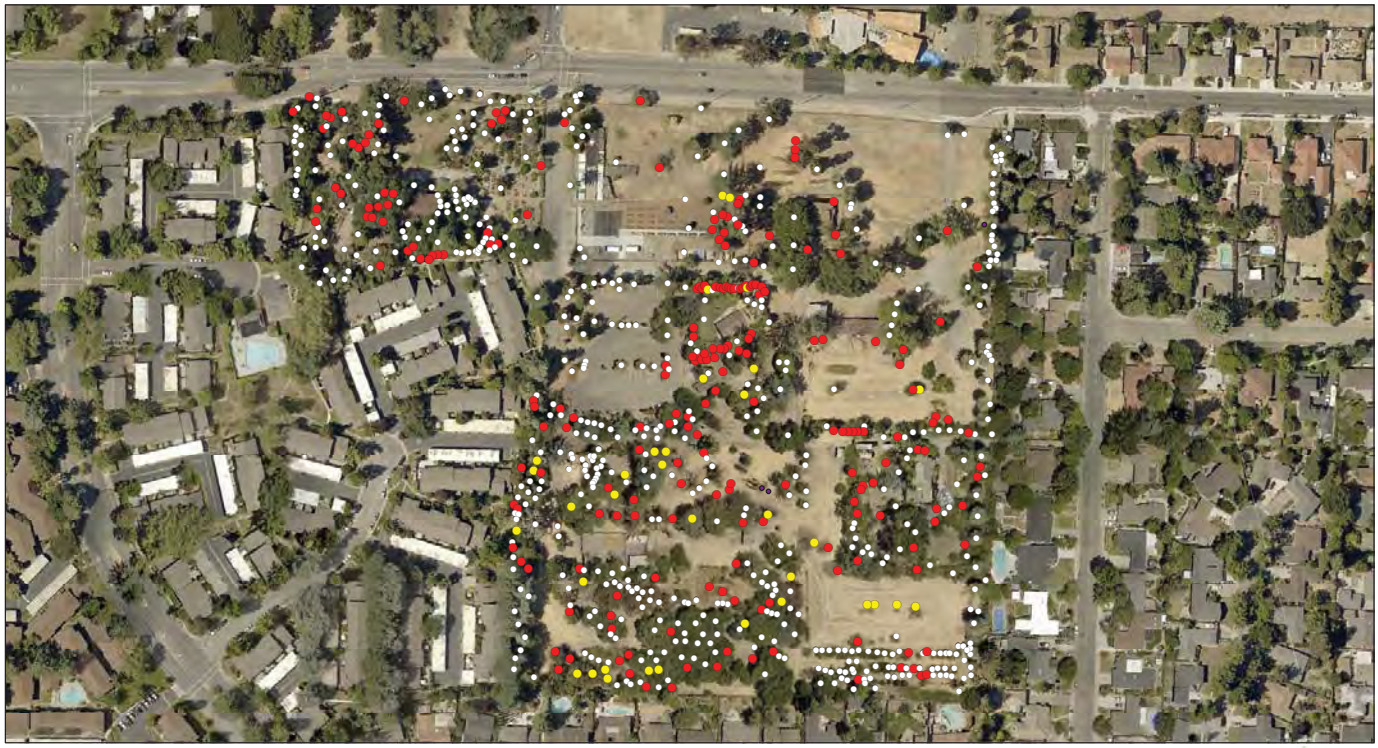
   a. Where landmark trees have died or will soon die, consider planting one or more commemorative tree(s) of the same species.
   b. To the extent reasonable, plant species to represent taxa that are either no longer present or are in poor condition and may not live for many more years.
   c. Consider expanding orchard plantings to continue the legacy of experimenting with tree fruit varieties.
   d. Consider augmenting the palm collection with other uncommon palm species that are adapted to the climate.
3. Remove trees in poor condition that cannot be restored with reasonable arboricultural treatments. Plan for replacement of lost canopy cover.
4. Develop and implement a tree risk management program by which trees posing unreasonable risk to staff and public are appropriately treated to abate the hazards. The site managers realize that having trees on the site requires accepting a tolerable level of risk to enjoy the benefits that the trees provide.
5. Implement an irrigation program that supplies adequate water to trees that cannot survive on natural rainfall alone.
6. Provide appropriate pruning treatments to develop and maintain structurally strong trees.
7. Protect and enrich the site soil to sustain tree root health and plant nutrition.
8. Provide a plant health care program to identify and manage debilitating tree pests.
9. Protect trees from injury and impact from construction activities during site improvement projects.

Status of the Urban Forest

Trees at CNHP have been studied at various time in recent history. Boy Scout Troup 143 inventoried the trees in 2006, documenting 412 trees of 112 species. In April 2014, HortScience arborists and City of Fremont staff completed a tree survey, which was augmented by HortScience arborist a few months later. Most recently, HortScience updated the tree condition assessments in May 2016. Trees on the Roeding property were added to the inventory in December 2016.

The tree population continues to change in response to environmental stress, particularly the recent drought, and tree age. This section summarizes the results of the 2014 and 2016 tree assessments.

The urban forest at CNHP consists of 823 trees (Fig. 1). The tree population at California Nursery is highly diverse; 130 taxa are represented, some of which are rarely seen in the region. The species most commonly present are coast live oak (13% of population), Canary Island date palm (8%), apricot (5%), yew (5%), windmill palm (5%), and kohuhu



Tree Inventory Map

Figure 1
California Nursery Historic Park
Fremont, CA

Prepared for:
City of Fremont

March 2017

Notes:
1. Basemap provided by City of Fremont.

2. Tree locations are approximate.

Legend

- Dead trees
- Trees in poor condition
- Trees in good and fair condition

N

180 Feet

HORT SCIENCE
325 Ray Street
Pleasanton, CA 94566
Phone (925) 484-0211
Fax (925) 484-0596

(*Pittosporum tenuifolium*, 4%). One-hundred-twelve species are represented by fewer than 20 individuals; for 76 species, only one or two trees are present. The distribution of the most common species are depicted in Fig. 2 and are provided in detail in Appendix 1.

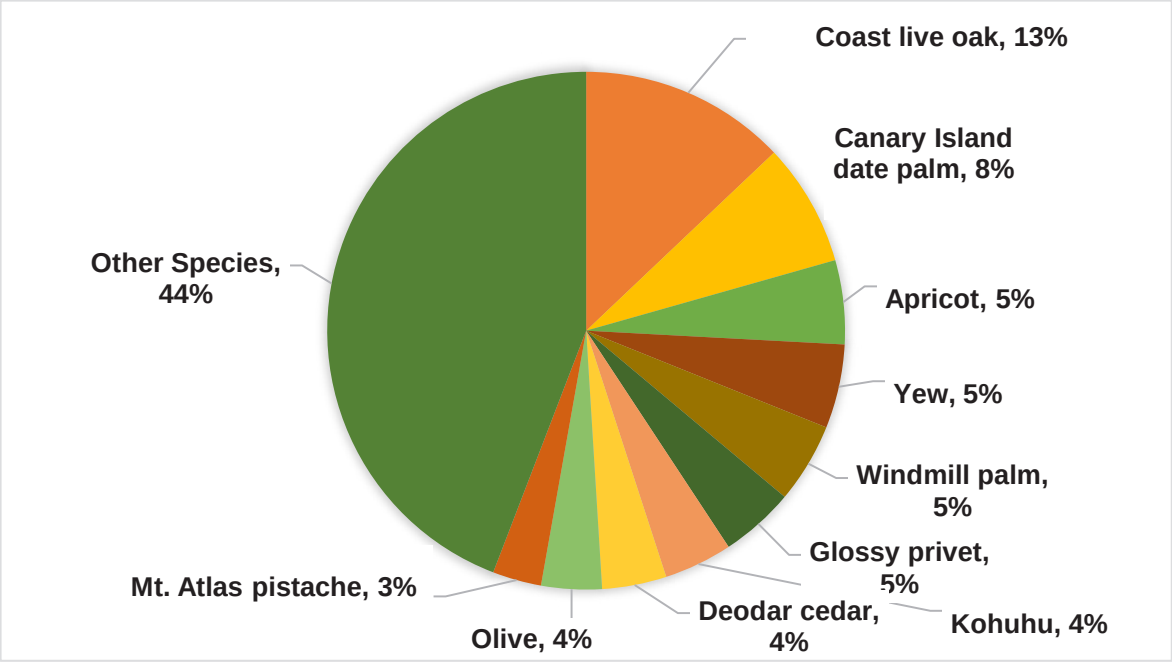


Figure 2: CNHP tree species composition by percent of population.

The health and structural condition of the trees ranged from good (30%), fair (38%) and poor (32%) (Fig. 3). The 'poor' condition category includes 35 trees that have died or failed since the 2014 inventory.

Although the condition within the entire tree population is fairly evenly divided among good, fair and poor ratings, the condition ratings within individual species is highly variable (Fig. 4). For instance, 90% of the Canary Island date palms are in good condition, while only 7% of the yews are in good condition. The palms are well adapted to the local climate and are somewhat drought tolerant. The yews, in contrast, are not drought tolerant and have declined due to lack of adequate water. Most of the native coast live oaks (53%), which are well adapted to the site, are in fair condition. The high percentage of trees in fair rather than good

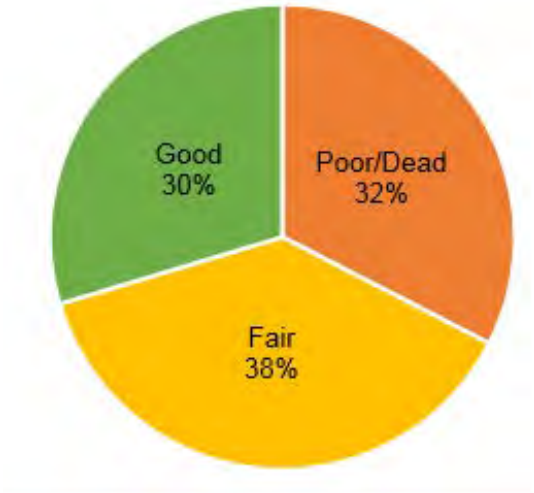


Figure 3: Tree condition ratings are fairly evenly divided among the tree population.

condition is primarily a reflection of compromised structural condition rather than reduced health.

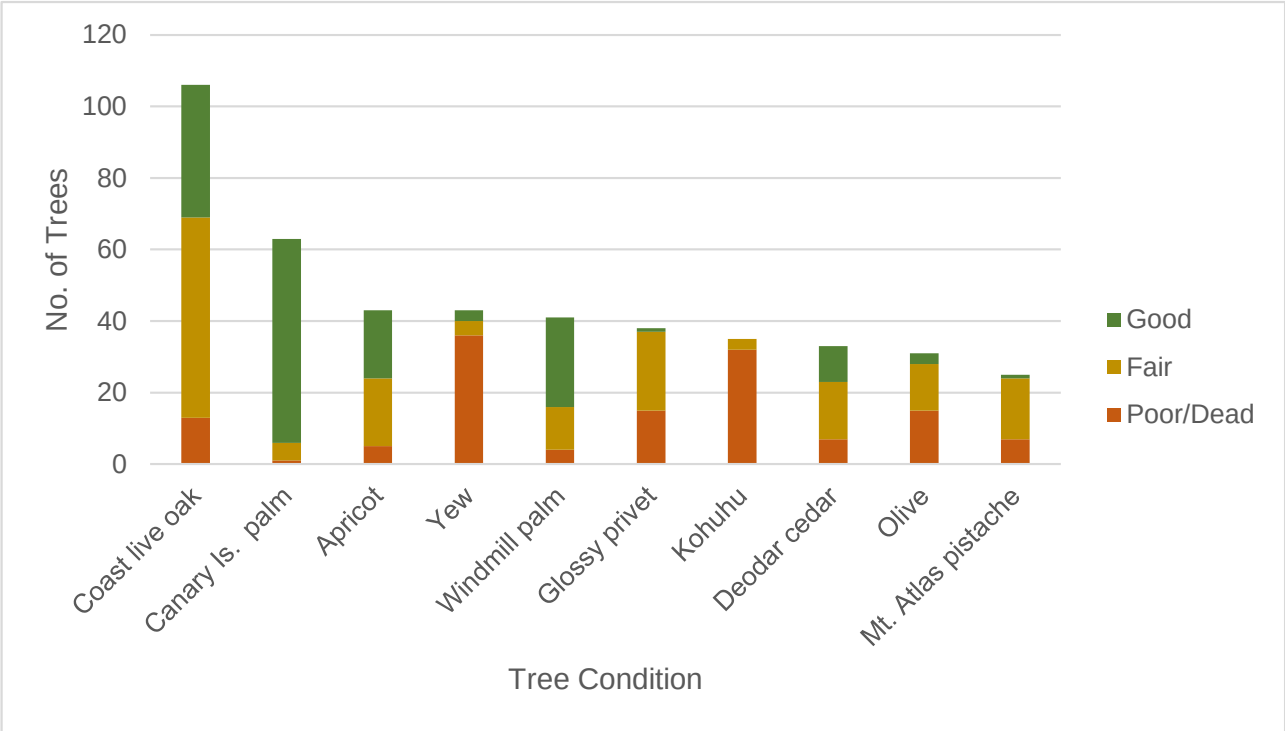


Figure 4: Tree condition ratings within each species are highly variable.

In general, species that are drought tolerant such as coast live oak, deodar and blue Atlas cedar, Canary Island date palm and Mt. Atlas pistache, tend to be in better condition than those requiring supplemental irrigation. Others had survived for many years without irrigation, but are declining rapidly because of the current drought and high temperatures, including elm, yew, Lombardy poplar, Fremont poplar, and magnolia.

Relatively few pests and diseases are present. The one London plane has sycamore scale which feeds sap in young foliage. Several coast live oaks have Ehrhorn scale on the lower side of shaded branches. Tortoise beetles cause foliage damage on *Eucalyptus*. None of these pest problems are significant to tree health at current populations.

Some trees are in poor condition because of significant structural defects that make them prone to failure. Defects include dead and broken branches, weak branch attachments, large girdling roots, excessive lean, cracks, codominant stem attachments with included bark, and decay. In some cases these conditions can be improved or mitigated through judicious pruning and installing support cabling systems.

Noteworthy Trees

Trees from all over the world were brought to the nursery for propagation, some of which were planted on the grounds and survive today. Unusual trees for the region included floss silk tree, Montezuma cypress, Guadalupe cypress, dawn redwood, Japanese red cedar, cockspur hawthorn, Queensland kauri, Queensland bottle tree, Senegal date palm, cliff date palm, Mt. Atlas pistache, prickly melaleuca, coral tree, and China doll.

The site has many noteworthy trees because of their large size, unique characteristics, and/or history. The City of Fremont designates certain specimens as Landmark trees if they have the following characteristics:

- Trees with trunk diameters over 4.5 feet when measured 4.5 feet from ground level,
- Excellent structure or unique structural character
- Excellent health
- High aesthetic appeal
- Good longevity

The first landmark trees were adopted by the City Council in 1972, many of which were located at California Nursery. The landmark tree list has been updated and added to a few times since then, most recently in 2012 to include 50 trees representing 14 species (Appendix 2, Fig. 5). Unfortunately between 1972 and 2010, seven landmark trees died and were removed, including Greek fir, copper beech, Colorado blue spruce, Japanese cryptomeria, David's maple, and two blue gum eucalyptus. Between 2012 and 2014, two more trees died: Kurrajong bottle tree and Lombardy poplar #525. Since 2014, one tree failed, Monterey cypress #531, and one died (Monterey cypress #540).

The remaining Landmark trees vary in condition between good to poor (Table 1). The most prominent trees are the Canary Island date palms that line the entry to the park and the eastern property line.

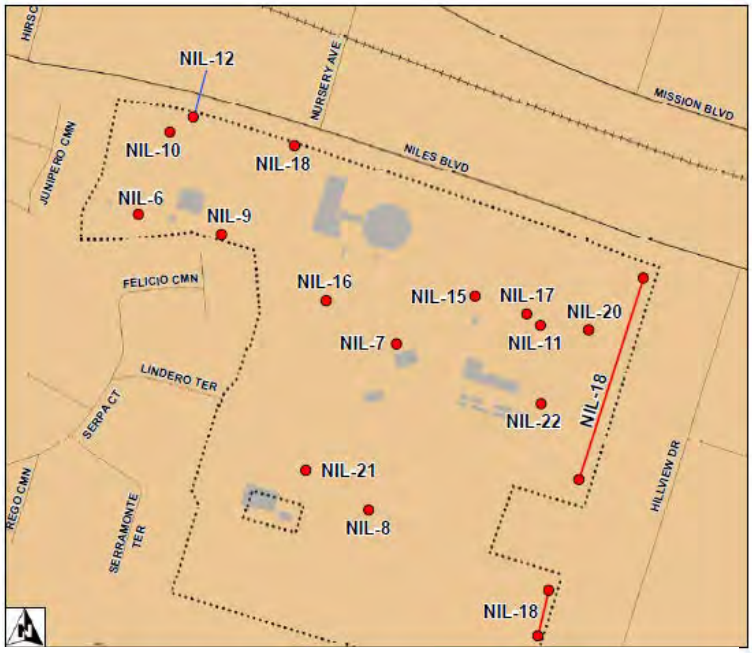


Figure 5. Map showing location of Landmark Trees at CNHP (Landmark Trees of the City of Fremont 2012).

Table 1: Status of City of Fremont Landmark Trees at CNHP.

Tag No.	Landmark No. (2012)	Species	Condition 2016
37	NIL-6	Bunya bunya	Good condition
	NIL-7	Forest kurrajong tree	Died, removed
529-531, 535, 540	NIL-8	Monterey cypress	#531 failed and removed; #540 dead; others in poor structural condition
117	NIL-9	Dwarf blue gum	Extensive basal decay.
61, 62	NIL-10	Prickly paperbark	Poor structural condition and health.
251, 364, 365, 372, 373	NIL-11	Canary Island pine	Good condition
738	NIL-12	Cork oak	Very poor condition.
263	NIL-15	Japanese zelkova	Good condition
174	NIL-16	Canary Islands juniper	Good condition
252	NIL-17	Queensland kauri pine	Fair condition
93, 94, 96, 165-167, 186; 270-279, 784, 286-291, 293, 295	NIL-18	Canary Island palm	Good condition
282, 294, 307	NIL-20	Siberian elm	Fair to poor condition
544	NIL-21	Senegal date palm	Good condition
525	NIL-22	Lombardy poplar	Dead

Because Landmark trees have and will continue to die, it is important to continue to nominate trees for Landmark status. CNHP with its diverse, mature tree population provides many possible candidates. Some trees suggested for consideration are provided in Table 2. Of particular note is the allée of boxed oak trees that have developed roots into the soil below and attained an impressive canopy (Photo 1).

Photo 1. Trees to consider for Landmark status are the coast live oak boxed forest (left), California black walnut #247 (below), and bald cypress #257 (bottom left).

Table 2: Notable trees to consider for nomination for Landmark status.

Tag No.	Species
27, 127, 211-214, 231, 497	Deodar cedar
44-46, 162	American elm
102, 107	Coast live oak
211	Incense cedar
246	Burr oak
247	California black walnut
257	Bald cypress
308-311	Pecan
453	Blue atlas cedar
613≈664	Boxed forest, coast live oak
516, 518, 520	Cliff date palm
77	Cockspur hawthorn
84	Dawn redwood
783	Mediterranean fan palm
489	Monterey cypress
65, 234	Mt. Atlas pistache
58	Portugal laurel
561-578	English spreading yew

Protecting the Urban Forest

As the CNHP Master Plan is implemented, site changes will occur that affect the urban forest. New facilities such as the Interpretive/Education Center, restrooms, parking lots, walkways as well as installation of utilities to service them will impact trees.

Construction will occur in seven phases over a period of years (Fig. 6). To the extent possible, these facilities will be designed to remove only trees in poor condition. In some cases it may be possible to transplant trees such as palms to other locations within the CNHP. The number of trees in each phase is shown in Table 3.

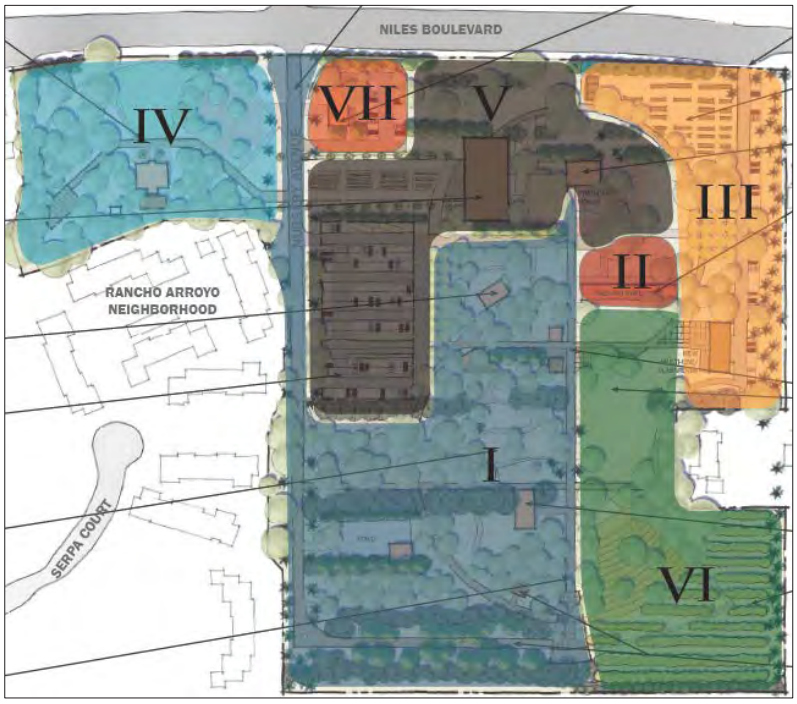


Figure 6. Preliminary CNHP phase plan by PGADesign identifies the approximate order in which portions of the Park will be renovated and enhanced.

Table 3. Number of Trees Present by Phase

Phase	No. of trees
1	337
2	3
3	50
4	167
5	92
6	131
7	13
Roeding Residence	28

The City of Fremont's tree preservation policy is defined in Municipal Code Chapter 18.215. In addition, the city's *Tree Policy Guidelines*, a 50-page document, describes policies and procedures for tree selection, establishment, maintenance and preservation.

The following guildelines are provided to retain trees in good condition during the design and construction of new facilities.

Project Design Phase

1. Inspect each tree within 50' of the project area. Identify trees suitable for preservation based on health, structural condition, and potential longevity.
2. Plot accurate locations of all trees to be preserved on all project plans. Focus on preserving trees that are in good condition.

3. Plan for tree preservation by designing adequate space around trees to be preserved. This is the TREE PROTECTION ZONE**:** No grading, excavation, construction or storage of materials should occur within that zone. Route underground services including utilities, sub-drains, water or sewer around the TREE PROTECTION ZONE. For design purposes, the TREE PROTECTION ZONE trees should be defined as the tree dripline.
4. No underground services including utilities, sub-drains, water or sewer should be placed in the TREE PROTECTION ZONE.
5. Consider the vertical clearance requirements near trees during design. Avoid designs that would require pruning more than 20% of a tree's canopy.
6. Prepare a Tree Protection Plan that identifies TREE PROTECTION ZONE for each tree and specifies work procedures to minimize injury to trees.

Demolition, Construction and Utility Installation

1. Tree protection fences should be installed to encompass the TREE PROTECTION ZONE**.** Fences should be installed prior to beginning demolition and remain until construction is complete.
2. No grading, excavation, construction or storage or dumping of materials should occur within the TREE PROTECTION ZONE.
3. Any root pruning within 20' of trees that is required for construction purposes should receive the prior approval of and be supervised. An arborist should assess the extent of tree injury and mitigation treatments.
    a. Do not cut roots of any size within 5' of tree trunks.
    b. Roots larger than 2" diameter should be left intact. Where possible, tunnel under roots. If root cutting cannot be avoided, a qualified arborist should observe and provide recommendations for action regarding effects of root removal on tree health and stability.
    c. Roots should be cut with pruners or hand saw to provide a flat and smooth cut.
4. Irrigate trees as needed that are affected by construction to provide adequate moisture to sustain tree health.
5. All contractors should conduct operations in a manner that will prevent damage to trees to be preserved.
6. Spoil from trench, footing, utility or other excavation should not be placed within the TREE PROTECTION ZONE, neither temporarily nor permanently.
7. All grading and excavation within 20' of trees should be conducted to minimize root injury to trees. The equipment should operate perpendicular to the tree and operate from outside the TREE PROTECTION ZONE.
8. If injury should occur to any tree during construction, it should be evaluated as soon as possible by the project arborist so that appropriate treatments can be applied.
9. Any tree pruning needed for clearance during construction must be performed by a Certified Arborist and not by construction personnel.

10. All tree work must comply with the Migratory Bird Treaty Act as well as California Fish and Wildlife code 3503-3513 to not disturb nesting birds. To the extent feasible tree pruning and removal should be scheduled outside of the breeding season. Breeding bird surveys should be conducted prior to tree work. Qualified biologists should be involved in establishing work buffers for active nests.

Landscape Design and Construction

1. Irrigation systems must be installed so that no trenching severs roots larger than 1/2" in diameter within the TREE PROTECTION ZONE.
2. Soils that have been compacted during construction should be decompacted by tilling with a pneumatic air spade/air knife that leaves the tree roots intact. After de-compacting the soil, spread 2" compost over the soil surface and incorporate using the pneumatic air spade/air knife.
3. New plants to be installed should have similar water requirements as nearby retained trees.

Planting the Historic Trees of the Future

Because most of the trees at CNHP are mature, a strong effort needs to be made to plant new trees that integrate into the urban forest of the future. As much as we want to preserve them, individuals will continue to die and need to be replaced. New landscape plantings are planned as new facilities are constructed, existing ones are restored, and spaces for passive and active use areas are created.

Sustaining the urban forest at CNHP requires an active planting program to replenish trees that have been lost and to replace trees as they are removed or die. Successful urban forests start with good quality nursery stock and locally-adapted species that are planted in locations that will allow them to reach their potential size with a minimum amount of maintenance.

There are four components to planting for the CNHP's future urban forest:

1. Remove dead and declining trees to allow space for new plantings.
2. Selecting species adapted to the site conditions
3. Honoring the history of planting unique species from around the world
4. Using high quality nursery stock that will thrive after planting.

Tree removal and replacement

Trees, as living organisms, eventually reach old age, decline and die. Sometimes death occurs gradually as health slowly declines, and sometimes is happens quickly when structural failure occurs. An important component of tree management is removing and replacing trees to sustain the health and function of the urban forest over time.

Dead and declining trees, however, provide important wildlife habitat. We suggest therefore, that declining and dead trees be removed in use areas where they may pose a risk to people or where new facilities will be developed. Consider retaining dead and

declining trees along the perimeters of the property where no injury or damage would occur if they failed.

Dead and poor condition trees that are candidates for removal and replacement are identified by project phase (Appendix 3). Consider removing dead and dying trees only when each phase is undertaken. This will allow retaining trees for the wildlife value as long as possible. As each phase is implemented, reassess trees to identify any change in condition that would affect preservation or removal decisions. Exceptions to this are trees that are likely to fail and cause damage in their current situation (discussed further in Tree Risk Management section).

Select species adapted to site conditions

The adage, "Right tree, right place" represents the importance of making certain that the tree species and place it is planted are a good match. There three main factors to consider when selecting species for a site: site, social and economic.

> **Site factors** include both environmental conditions such as climate, soils and topography, as well as cultural conditions that are imposed on the site by people, such as utilities, pavement and pollution.
>
> **Social factors** include neighborhood and community values, species aesthetics, public safety, and characteristics that people may find objectionable such as fruit drop or bad odors.
>
> **Economic factors** include the costs of planting, establishing and maintaining that can vary among species. Species that require a long establishment period, have a high mortality rate during establishment, require frequent pruning to develop good structure, or are prone to pests that require treatment will increase costs. These cost should be compared to the benefits that the trees provide.

Tree species selection is a series of compromises. The best we can generally hope to achieve is to match species to the most important or limiting factors of a site. At this site key environmental factors include:

- Alkaline soil pH limits use of species requiring soil pH below 6.0.
- High evapotranspiration rates in summer and lack of summer rainfall limits use of species having moderate to high water requirements unless regular irrigation is supplied.
- Depending on the quality of the water applied, trees may need to be tolerant of salts or specific ions such as boron, chloride and sodium.
- Winter low temperatures to 21°F, infrequently to 26-16°F excludes subtropical and tropical species unless winter protection is provided.
- Variable exposure – sun, part sun or shade – depending on proximity to surrounding structures and tree canopy requires selection of species for exposure at the microscale.

Once the basic environmental conditions are considered, features associated with management and use become key concerns. Examples include:

- *Above-ground growing space limited by overhead utilities.* Keys for selection: mature tree height less than 25 feet.
- *Below-ground space limited due to soil volume.* Key for selection: small trees with some drought tolerance. Large growing trees will not grow to their mature size in a limited soil volume.
- *Narrow planting space between curb and sidewalk.* Key for selection: minimal litter and pavement-friendly rooting pattern, minimal basal flare, and mature trunk diameter less than two-thirds planting strip width.
- *Parking lot.* Keys for selection: good shade with resistance to sucking insects and fruit not eaten by birds.
- *No pest control available.* Key for selection: resistance to pests & disease significant to area.
- *Water quality.* Key for selection: tolerance to concentrations of boron, sodium and chloride in well water and recycled water.
- *High vandalism areas.* Key for selection: thorny trees; non-brittle trees not easily snapped when young.

Select species with historical significance

For a plant person, one of the most fascinating characteristics of CNHP is that it was a living laboratory for unusual and unfamiliar species. Plants from around the world were propagated and planted to test them for suitability for California's growing conditions. In 2006 Boy Sout Troup 143 indentified 412 trees comprising 112 species. There were 20 species then that are no longer present at the site. There are an additional 10 species that are in poor condition and probalby will not survive for long. It is likely that they did not survive because the site environmental conditions - most likely low winter temperatures and drought condition - were unfavorable. We suggest considering planting these in appropraite locations where the site can be managed to meet the horticultural requirements of the plant and the historical significance warrants the extra care required to sustain them (Table 4). In addition, planting new and unusual species for the region would continue to legacy of the nursery's living laboratory.

Photo 2. Japanese red cedar is an example of a declining tree scheduled to be removed in Phase 5 that could be considered for replacement planting.

Table 4: Unusual species lost from the urban forest or at risk at CNHP

Scientific Name	Common Name
Abies cephalonica	Greek fir
Abies numidica	Algerian fir
Abies pinsapo	Spanish fir
Acer capillipes	Red snake-bark maple
Acer davidii	David's maple
Acmena smithii	Lilipily
Agathis robusta	Queensland kauri
Archontophoenix	King plam
Brachychiton discolor	Queensland lacebark
Brachychiton polpulneus	Bottle tree
Calodendron capense	Cape chestnut
Chorisia speciosa	Floss silk tree
Corylus maxima	Hazelnut
Crinodendron sp.	Lantern tree
Cryptomeria japonica	Japanese red cedar
Cupresus guadalupensis	Guadalupe cypress
Eucalyptus botryoides	Bangalay mahogany
Fagus sylvantica	European beech
Juniperus cedrus	Canary Islands juniper
Hesperocyparis guadalupensis	Guadalupe cypress
Ligustrum ovalifolium	California privet
Magnolia acuminata	Cucumber tree
Paulownia tomentosa	Empress tree
Pinus edulis	Pinon pine
Platanus racemosa	Western sycamore
Quercus chrysolepis	Canyon live oak
Quercus virginiana	Southern live oak
Radermachera sinica	China doll
Sequoia sempervirens 'Pendula'	Weeping redwood
Strelitzia nicolai	Giant bird of paradise

Select quality nursery stock

There is no substitute for starting the life of a tree than using a quality plant. While good planting and aftercare practices can correct some problems CNHP should strive to obtain high quality plants that have the vigor to establish rapidly and the structure to support future growth.

All trees should be inspected before they are accepted to be sure they meet criteria for size and quality. They should meet the general specifications for size and proportion contained within the most recent edition of ANSI Z60.1 and the Guidelines Specifications for Nursery Tree Quality (www.urbantree.org/pdf/NurseryTreeSpecs1.pdf). Further, no matter the site of origin, stock type and size, a tree to be planted in the urban forest should have the following characteristics:

- True to type.
- A well-developed, healthy root system without kinked or circling roots.
- Height to trunk caliper ratio adequate to support the crown without staking.
- Adequate and well-developed taper.
- Good vertical and radial branch distribution.
- Good vigor, as indicated by foliage size and color; branch size, color and turgor; and smooth, bright bark (if normal for species).
- Free of injuries and wounds.
- Free of pests and disease.

Maintaining the Urban Forest

If nurturing the urban forest is the strategic objective of an urban forestry management plan, then maintenance activities are the tactics to achieve that goal. There is no question that healthy, structurally sound trees are greater assets than declining, compromised trees. The benefits provided by urban trees, from energy conservation to property values, are greatest when trees are in good condition. Maintenance treatments, from post-planting care to ultimate removal, maximize those benefits.

Like any other component of the infrastructure, trees require routine maintenance. The primary tasks are pruning, managing competing vegetation, irrigation, pest management, and, eventually, removal when they reach the end of their life span. The type of maintenance required depends on the age and species of the tree (Table 5).

Tree Pruning

Pruning is one of the most important treatments to develop and maintain a stable tree structure. It typically represents the greatest expenditure in tree maintenance as well. Pruning is the primary tree care activity that can either enhance or destroy the beauty

and structural stability of a tree. It is also one of the most hazardous activities. It is therefore very important that those engaged in pruning be well trained and have appropriate equipment and safety gear.

Table 5. Typical maintenance tasks and stages of tree development.

Stage of tree development	Maintenance task
Planting	Select tree and location.
	Prepare site and tree.
	Install tree.
	Improve soil conditions if needed
Young	Irrigate.
	Mulch soil surface.
	Prune to develop good structure.
	Maintain and remove stakes and ties.
	Manage pests.
	Fertilize.
	Control competing vegetation.
	Protect soil quality.
Mature	Irrigate.
	Inspect routinely for pests, defects in structure, and other problems.
	Prune to maintain clearance and structural stability.
	Install support systems.
	Manage pests.
	Control competing vegetation.
	Manage roots/infrastructure conflicts.
	Protect soil quality.
Decadent or dying	Determine if can be retained for wildlife value.
	Remove tree.
	Replace tree.

Pruning enhances tree health and structure and reduces the likelihood for failure thereby increasing longevity and enhancing safety. Based on the current inventory, we recommend pruning 407 trees over the next 5 to 10 years (Exhibit 3). The most

commonly required pruning treatments for mature trees are removal of dead and dying branches (crown cleaning), weight reduction on lateral branches, and pruning to reduce risk of tree failure. Pruning needs vary depending with tree species, age, size and history of care.

The primary document that establishes pruning standards *is Best Management Practices: Tree Pruning* (International Society of Arboriculture). All pruning should be in accordance with this document and adhere to the most recent editions of the American National Standard for Tree Care Operations (Z133.1) and Pruning (A300). Anyone doing tree pruning at CNHP should be an International Society of Arboriculture (ISA). Certified Arborist or Tree Worker.

Time of pruning

Winter is generally the best time to prune most trees. Pines and eucalyptus should not be pruned between April and October to reduce the likelihood of attracting borers and bark beetles to the trees.

To the extent feasible tree pruning and removal should be scheduled outside of the breeding season. All tree work must comply with the Migratory Bird Treaty Act as well as California Fish and Wildlife code 3503-3513 to not disturb nesting birds. Breeding bird surveys should be conducted prior to tree work.

Types of pruning

Pruning should be undertaken with specific objectives. For CNHP the primary objectives are to reduce the risk of tree failure, to provide clearance for park activities, and to develop good structure in young trees that are planted.

Training young trees. Young trees should be trained to develop a sturdy, tapered trunk with well-spaced lateral branches proportional in size. Proper training when trees are young will greatly reduce pruning frequency, intensity and costs as they age, and reduce public risk from tree failures due to structural defects. The tree structure training process is accomplished by annual pruning over a 3-5 year period until the desired branch structure is established.

The first pruning following planting is primarily to restore a central leader in trees that were headed in the nursery and to remove branches broken or damaged during shipment. Care should be taken to avoid removal of excessive leaf area as this will slow tree growth. This work typically should involve no more than 3 cuts on any one tree.

Enhance tree structure and reduce likelihood for failure. For mature trees, this is the most important task to promote longevity and enhance safety.

- Reduce the risk of failure by removing or reducing the weight on dead, cracked or damaged branches that could fall onto use areas.
- Improve weight distribution by removing or reducing the length and weight of long, heavy horizontal branches or leaning trees.
- Develop and maintain good structure by subordinating branches that are competing with the central leader.

- Restore good structure to trees whose crown was damaged by dieback from drought or wind.

Provide clearance for park activities and visibility.

- Remove or shorten branches using reduction cuts to allow access for pedestrians and vehicles by raising the crown to 8 feet (2.5 meters) over the sidewalk and 14 feet (4.3 meters) over the street.

Restore canopy through coppicing

- For English spreading yews that have died back due to drought, pruning hard to remove dead stems and stimulate growth of new buds will help restore the canopy (photo 3).
- Prune to remove dead stems above new sprouts; allow to resprout.
- Two to three years after coppicing, inspect trees and determine if thinning to reduce stem density is needed.

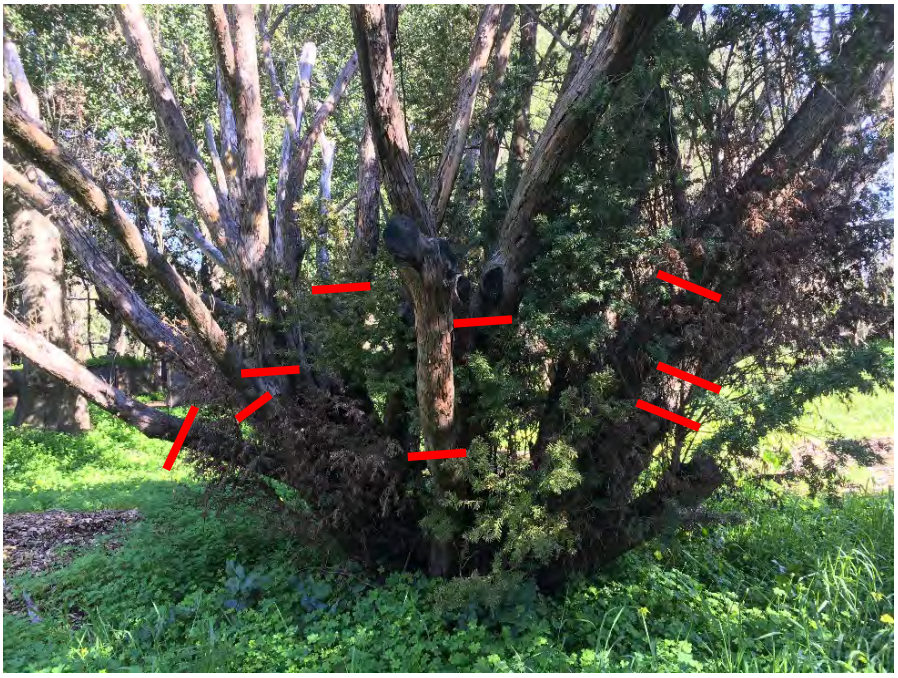


Photo 3. Coppice yews that have died back by pruning above live tissue using heading cuts.

Pruning activities that should be avoided include

- Topping unless used to manage wildlife tree or to coppice.
- Lacing-out, lions tailing or lightening the crown.
- Removing more than 20 percent of live foliage unless needed to adequately manage risk.

- Tipping back all branches.
- Pruning cuts larger than four inches in diameter unless needed to adequately manage risk.

Pruning to achieve stated objectives should employ primarily removal and reduction cuts. In the former, the entire branch is removed at its point of origin. The final cut should be made outside the branch collar. Where reduction cuts are made, a limb is shortened to a branch of similar or smaller size. The rule of thumb is that the lateral must be at least one-third the diameter of the limb being removed.

In general, heading cuts should be avoided. Cutting to a stub is rarely appropriate and should be the exception in routine pruning rather than the rule. Heading may be required during crown restoration.

Priority pruning recommendations for CNHP

At this time we recommend pruning 57 trees (Table 6). All pruning treatments should include crown cleaning to remove dead, dying and weak branches, and an aerial inspection to assess potential problems not visible from the ground. As each phase of the CNHP is developed, trees should be inspected and reevaluated for pruning needs.

Table 6. Trees recommended for pruning as first priority.

Phase	Tag #	Species	Trunk Diameter	Pruning Objective
1	376	Deodar cedar	21”	Prune to clean crown
1	401	Deodar cedar	33”	Prune to clean crown
1	410	Deodar cedar	35”	Prune to clean crown
1	411	Deodar cedar	29”	Prune to clean crown
1	434	Blue atlas cedar	25,19”	Prune to reduce risk of failure
1	443	Blackwood acacia	22”	Prune to reduce risk of failure
1	489	Monterey cypress	55"	Prune to reduce risk of failure
1	497	Deodar cedar	44"	Prune to reduce risk of failure
1	498	River she-oak	10"	Prune to improve form
1	506	River she-oak	11"	Prune to clean crown
1	529	Monterey cypress	50"	Prune to reduce risk for failure
1	534	River she-oak	26"	Prune to reduce risk of failure
1	536	River she-oak	19"	Prune to reduce risk of failure

Phase	Tag #	Species	Trunk Diameter	Pruning Objective
1	537	River she-oak	44"	Prune to reduce risk of failure
1	556	Coast live oak	22"	Prune to improve weight distribution
1	588	English spreading yew	36"	Prune to coppice
1	598	California black walnut	26"	Prune to coppice
1	601	English spreading yew	25 stems 4-8"	Prune to coppice
1	617	English spreading yew	7,6”	Prune to coppice
1	619	English spreading yew	8,7,6”	Prune to coppice
1	622	English spreading yew	13 stems 2-5"	Prune to coppice
1	625	Coast live oak	19"	Prune to improve weight distribution
1	632	Coast live oak	23"	Prune to improve weight distribution
1	652	Monterey cypress	38"	Prune to clean crown
1	653	Cork oak	19"	Prune to improve weight distribution
1	658	Cork oak	30"	Prune to improve weight distribution
1	659	Cork oak	28"	Prune to improve weight distribution
1	660	Mt. Atlas pistache	26"	Prune to improve weight distribution
3	282	Siberian elm	39”	Prune to reduce risk of failure
3	294	Siberian elm	47”	Prune to improve weight distribution
3	308	Pecan	24,20,18”	Prune to reduce risk of failure
3	309	Pecan	36”	Prune to reduce risk of failure
3	310	Pecan	16”	Prune to reduce risk of failure
3	311	Pecan	29	Prune to reduce risk of failure

Phase	Tag #	Species	Trunk Diameter	Pruning Objective
4	1	Coast live oak	24"	Prune to improve weight distribution
4	4	Coast live oak	14"	Prune to improve weight distribution
4	6	Coast live oak	15"	Prune to improve weight distribution
4	8	Coast live oak	11"	Prune to improve weight distribution
4	30	Olive	34"	Prune to reduce risk of failure
4	31	Olive	27"	Prune to reduce risk of failure
4	32	Olive	33"	Prune to reduce risk of failure
4	33	Olive	23"	Prune to reduce risk of failure
4	38	American elm	43"	Prune to reduce risk of failure
4	40	American elm	14”	Prune to improve weight distribution
4	44	American elm	22”	Prune to reduce risk of failure
4	61	Prickly melaleuca	59"	Prune to reduce risk of failure
4	62	Prickly melaleuca	55"	Prune to reduce risk of failure
4	65	Mt. Atlas pistache	32"	Prune to clean crown
4	77	Cockspur hawthorn	26"	Prune to clean crown
4	83	Deodar cedar	21"	Prune to clean crown
4	162	American elm	31”	Prune to reduce risk of failure
5	213	Deodar cedar	31”	Prune to clean crown
6	825	Deodar cedar	33”	Prune to reduce risk of failure
6	826	Deodar cedar	33”	Prune to reduce risk of failure
6	827	Deodar cedar	31”	Prune to reduce risk of failure
Residence	833	Coast live oak	44”	Prune to improve weight distribution

Phase	Tag #	Species	Trunk Diameter	Pruning Objective
Residence	852	Deodar cedar	43”	Prune to reduce risk of failure

Tree support systems

Tree support systems provide structural support to reduce the likelihood for tree failure. Treatments include cabling, bracing, guying and propping. Standards for installation and maintenance of these systems are defined in the American National Standards Institute (ANSI) A300 Part 3, and the ISA Best Management Practices Tree Support Systems: Cabling, Bracing and Guying (Smiley and Lilly 2001). Before installing support systems (Table 7), the tree should be pruned to reduce weight and balance the crown to the extent possible.

Photo 4. Coast live oak #621 has fallen so that the trunk is outside the box. A prop is needed to support the tree.

Table 7. Trees recommended for installation of a support system.

Phase	Tag #	Species	Trunk Diameter	Type of Support System
1	539	Cork oak	22"	Install prop
1	621	Coast live oak	21"	Install prop
1	530	Monterey cypress	50"	Install cable system
4	107	Coast live oak	25"	Install cable system
5	211	Incense cedar	41"	Install cable system

Advanced inspection

The tree inventory included a visual inspection of each tree from the ground. In some cases an advanced inspection is needed to assess the structural condition of the tree. The three types of advanced inspections recommended currently are (Table 8):

- Aerial inspection by an arborist to evaluate presence and severity of structural defects that may not be visible from the ground. Aerial inspections should be included any time an arborist is in a tree to provide pruning or installation of support systems.
- Decay testing to assess the presence and extent of internal decay that is not visible.
- Root collar inspection that removes the soil around the base of the tree to expose the buttress roots, and then tests the roots and lower trunk for presence and extent of internal decay.

Table 8. Trees recommended for advanced inspection.

Phase	Tag #	Species	Trunk Diameter	Type of Inspection
1	101	Deodar cedar	29"	Perform decay inspection
1	489	Monterey cypress	55"	Perform aerial inspection
1	530	Monterey cypress	50"	Perform aerial inspection
1	543	Monterey cypress	32"	Perform decay inspection
4	27	Deodar cedar	43"	Perform aerial inspection
4	51	Deodar cedar	48"	Perform aerial inspection
4	93	Canary Island date palm	38"	Perform aerial inspection
4	107	Coast live oak	25"	Perform aerial inspection
4	738	Cork oak	37,31,16”	Perform root collar inspection
5	166	Canary Island date palm	30”	Perform aerial inspection
5	211	Incense cedar	41”	Perform aerial inspection
6	825	Deodar cedar	33”	Perform aerial inspection
6	826	Deodar cedar	33	Perform aerial inspection
6	827	Deodar cedar	31”	Perform aerial inspection
7	750	Canary Island date palm	30"	Perform aerial inspection

Girdling roots

For three trees, there were visible surface roots circling the trunk that were girdling the tree. This condition can lead to tree decline and failure. Girdling roots often can be rectified by cutting with a saw and removing the section impacting the trunk (photo 5).

Photo 5. Remove the girdling root impacting tree #72.

One tree, a mature coast live oak #833 at the Roeding residence was being girdled by a chain wrapped around the trunk. The chain should be removed as soon as possible.

Table 9. Treatments for trees being girdled.

Phase	Tag #	Species	Trunk Diameter	Pruning Objective
1	380	Coast live oak	30	Remove girding root
4	72	Queensland bottle tree	12"	Remove girding root
4	146	Queensland bottle tree	19"	Remove girding root
Residence	833	Coast live oak	44”	Remove girding chain

Irrigation

The Mediterranean climate at CNHP provides average winter rainfall of 16 inches per year. The evapotranspiration rate averages 47 inches per year, leaving a shortfall of 31 inches of water per year. For trees to be successful in this environment, they must be able to control their water loss and survive eight to nine months of no rainfall. While there are many tree species at the site that are drought adapted such as the native coast live oak, tree species that are not native to Mediterranean or desert climates require irrigation.

The Park’s history as a testing grounds for plants from around the world has included species in its urban forest that are not adapted to drought. Those species must be irrigated if they are to grow and maintain good health. Many of the non-drought adapted species have already disappeared from the urban forest. Establishing an irrigation program is vital to halt the continued decline and loss of non-drought adapted trees.

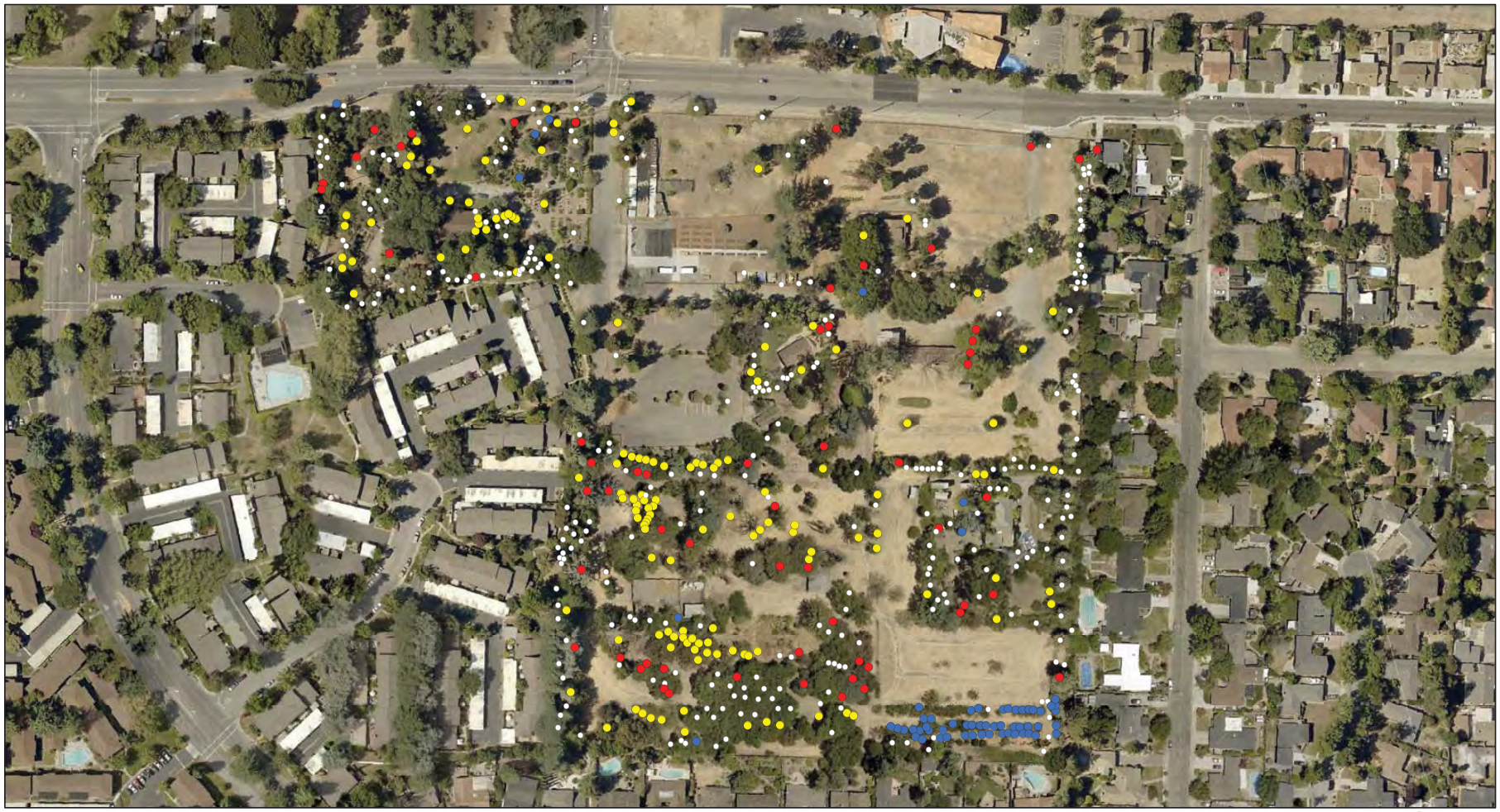
Trees requiring supplemental irrigation are identified in Appendix 3 and plotted on figure 7. They fall into one of three categories:

A Irrigate to lengthen the rainy season: approximately late spring and early summer

B Irrigate monthly during dry season, generally June to September

C Irrigate approximately every two weeks during the dry season, generally May through October.

Irrigation schedules should be adjusted depending on actual winter rainfall amount and distribution, and actual evapotranspiration rates as affected by temperatures, humidity and wind.



Irrigation Requirements of Trees

Figure 7
California Nursery Historic Park
Fremont, CA

Prepared for:
City of Fremont

March 2017

Notes:
1. Basemap provided by City of Fremont.

2. Tree locations are approximate.

3. Colors indicate the irrigation requirements trees planned for preservation.

Irrigation Requirements

- No irrigation
- Irrigate late spring and lante summer
- Irrigate monthly June - Sept
- Irrigate every 2 weeks May - Oct

N

180 Feet

HORT SCIENCE
325 Ray Street
Pleasanton, CA 94566
Phone (925) 484-0211
Fax (925) 484-0596

There are several ways to supply irrigation water depending on frequency irrigation will be applied, access to a water source, and ability to install a permanent irrigation system. Options include:

- Install irrigation pipes with quick couplers on risers. Distribute water through impact spray heads over groups of trees requiring irrigation
- Place a series of drip hoses (e.g. leaky pipe) around target trees.
- In level areas without foot traffic, create berms around the tree dripline; fill basins with water from hoses.
- As new landscape in each phase is installed, include irrigation system for trees within that area. Bubblers or drip irrigation on a grid system tend to work best for established trees.

Soil management

A healthy, biologically diverse soil is required to sustain a healthy landscape. An important maintenance goal is to sustain the organic components of the soil, which will then provide nutrient elements as needed for healthy and attractive plants while avoiding excessive growth that might attract pests or need to be removed through pruning, edging or mowing. Landscape maintenance activities should be implemented to nurture biological activity, provide organic material, and protect soil from damage.

Protect soil from compaction by:

- Cultivating soil when it is moderately moist; wet and dry soils should not be cultivated.
- Scheduling maintenance operations that require driving equipment over the soil when the soil is dry.
- Confining traffic to paved areas.
- When temporary access is needed over non-paved areas, distribute the load over the soil with 6” thick coarse organic mulch or reusable planks.
- When constructing new facilities, limit traffic and storage areas and protect valuable soil resources from compaction.

Protect the soil from erosion by:

- Maintaining vegetative cover over the soil to the extent possible.
- Maintaining a minimum of three inches mulch cover over bare soil.
- Minimizing use of blowers in planting beds and on turf.
- Create leaf repositories in planting beds as appropriate.

The best mulch material is leaves and stems from pruning operations that has been chipped. Identify a location at the site where these materials can be stored and processed. Avoid removing organic materials that than be recycled on site.

Mature trees rarely need fertilization, especially if soil organic content is replenished continually by maintaining an organic mulch cover.

Plant health care

As medicine has become more holistic in its approach to human health and well-being, so too has arboriculture and urban forestry in its concern for plant health and performance. A plant health care approach to tree management considers the whole plant in relation to it growing environment over its entire life. Integrated pest management (IPM) is the foundation on which plant health care is based. IPM is a method of controlling plant pests combining biological, cultural and chemical controls. It relies on monitoring and a stepwise response, all in a context of ecological, social, and economic acceptability.

Relatively few pests and diseases were present at the time the tree inventory was conducted. The one London plane had sycamore scale which feeds sap in young foliage (photo 5). Several coast live oaks have Ehrhorn scale on the lower side of shaded branches. Tortoise beetles cause foliage damage on *Eucalyptus*. None of these pest problems are significant to tree health at current populations.

Developing an Integrated Pest Management program

Pest populations can sometimes increase to where significant plant damage does occur. In addition, new pests are introduced into the landscape occasionally that may compromise tree health. For these reasons it is important to have a tree health and pest monitoring program in place to identify developing problems and provide appropriate treatment before populations get out of hand. IPM includes the following concepts:

- A plant or landscape planting is a component of a functioning ecosystem. Hence, actions should be designed to develop, restore, preserve, or augment natural checks and balances, not necessarily to eliminate pest species.
- The mere presence of a pest organism does not necessarily constitute a pest problem. Acceptable population and damage levels must be determined.
- All possible pest control options should be considered before action is taken. Techniques employed should be as compatible with each other as possible.

An IPM program is based on certain operating principles.

1. Understand the biology of the plants involved, especially the manner in which they are influenced by the surrounding ecosystem.
2. Identify the key pests, know their biology, recognize the kind of damage they inflict, and study the economic and aesthetic consequences of control measures.
3. Identify the key environmental factors that impinge (favorably or unfavorably) upon pest species and potential pest species in the ecosystem.
4. Consider concepts, methods, and materials that, individually and in concert, will facilitate permanent suppression or restraint of pest and potential pest species.
5. Structure a program so that it can be adjusted to meet change or varying situations.

6. Seek the weak links in the life cycle and population structure of important pest species, and direct control practices as narrowly as possible at those weak links. Avoid broad impact on the plant ecosystem.
7. Whenever possible, employ methods that preserve, complement, and augment the biological dynamics that characterize the ecosystem. Whenever possible, diversify the ecosystem.
8. Monitor pests, natural enemies, and tree health regularly.
9. Anticipate unforeseen developments, move with caution, and be aware of the complexity of the landscape ecosystem and the changes that can occur within it.

Monitoring

Monitoring is a critical component of pest management for trees and shrubs. Regular inspection of plants for insect, disease, and cultural problems allows a landscape manager to pinpoint control actions. Population levels of predators and parasitoids as well as insect pests within a landscape will indicate whether or not control measures are needed.

It is essential to be able to distinguish pests from beneficial insects particularly in their immature stages. Growth and development of insects and plants can vary as much as two to three weeks from the "normal" time, depending on whether temperatures are above or below average. Insects often become a problem about the same time that certain plants in the area begin to grow or bloom.

Control Options

Maintenance of plant health and avoidance of stress factors are central tenets of IPM programs. Treatments aimed at these two goals can be applied at any time. Some of the most economical and effective management tactics are preventive and should be employed even before pests are observed. Three major types of control measures—biological, cultural, and chemical—contribute to a plant health care program.

Biological Control

Control by natural enemies can be effective, long-lasting, economical, and minimally disruptive to the ecosystem. Natural enemies include organisms that feed on (predators), parasitize (parasitoides), kill (pathogens) or displace pests (competitors). Biological control includes conservation of natural enemies by managing a plant or landscape in a manner that supports beneficial organisms. Where natural enemies are nonexistent or are present in numbers too low to provide effective control, they can be introduced.

Cultural Control

A number of maintenance practices or modifications of them can make the environment unfavorable for pest reproduction, movement, or survival. Other mechanical or physical practices may specifically combat plant pests or increase host resistance. Such controls, including some of the oldest cultural practices known, are usually more effective for preventing pest build-up than for correcting an existing pest problem.

In other cases, pest build-up may be prevented more effectively if the timing or specific method of a cultural practice is altered. Timing is often critical to the success of much cultural pest control. Certain practices are described here to indicate the range of possibilities.

Maintaining plant vigor not only enhances plant appearance but can increase tolerance to damage and infestation by borers. The goal is moderate plant vigor through careful management of nutrition, aeration, and moisture.

Pruning can reduce the likelihood of certain disease infections and pest infestation, or stop or slow them.

Sanitation in and around plants can remove or destroy the breeding, refuge, and overwintering sites of pests. Sanitation which usually involves removing infected, fallen twigs, leaves, and fruit, is effective against various insects, plant pathogens, rodents, and nematodes.

Mulching can often reduce splashing and the drops of mud that would protect spores deposited on plant surfaces. Mulches can effectively eliminate or reduce weeds in landscape plantings.

Traps can be used not only to monitor population levels but also as a means of control. Sticky, yellow surfaces are sometimes used in small areas to trap whiteflies. Mechanical traps can also be used to control rodents.

Chemical Control

In an IPM program, chemicals are used as a last resort when adequate pest control has not been possible using other means. When chemicals are used, the least toxic material to non-target organisms should be selected. Spot treatments should be applied rather than broad cover sprays. Highly selective rather than broad spectrum pesticides are preferable.

Tree Risk Management

The goal of a Tree Risk Management Program is to reduce the likelihood of personal injury and property damage posed by tree failures. This is accomplished by implementing a program of tree inspection and treatment that identifies the trees with the greatest potential to cause damage, and apply treatments to reduce their failure in a systematic way. It is recommended that CNHP develop such a plan.

Tree risk assessment is the systematic process of evaluating the potential for a tree or one of its parts to fail and, in so doing, injure people or damage property. All trees have the potential to fail. Even a structurally sound tree can fail if exposed to unusually strong winds. Under normal climatic conditions, however, most tree failures appear to involve specific defects of structure such as the presence of decay or weak branch attachments. These defects become significant in situations with saturated soil, strong winds, snow/ice loads and other extremes of climate. The most likely failure situation involves a combination of structural defects and unusual or severe weather. By regularly

examining trees for specific defects, evaluating their potential to fail, and applying appropriate treatments, safety can be enhanced.

Following are the key components of a risk management plan:

- Policy statement
- Goals of the program
- Standard of care statement
- Determination of acceptable risk
- Training and qualifications of risk assessors
- Rating system for assessing relative risk
- Risk assessment procedures
- Frequency of assessments
- Management options to mitigate risks
- Record keeping protocols
- How the program is funded
- Program assessment and reporting

Risk management policy

The first step in developing any risk management plan is to prepare a policy statement that frames the scope of the plan, assigns responsibility for managing the plan, and describes what is to be accomplished. A policy statement should include:

- A statement of commitment which says top officials believe the practice of risk management is important and identifies the overall purpose of risk management.
- A statement identifying who is responsible for risk management and what the person's authority is.
- A charge to identify and assess risks.
- A charge to select and implement risk control and financing measures.
- A charge to audit and report on risk management efforts.

Developing a tree risk assessment program

Developing a tree risk assessment program requires considerable planning before going into the field. Prior to actual implementation, management must frame the program to meet the organization's programmatic and budgetary goals. Questions to answer and decisions to make include:

- What are the goals of the program?
- How will the information be used?
- Which trees will be included in the assessment?

- When and how often will trees be inspected (inspection interval)?
- What risk rating system will be used?
- How will information be collected, recorded and managed?
- Who will perform the evaluations and how will they be trained?
- What are the field procedures?

It is not yet possible to quantify the risk of failure associated with trees. We lack the quantitative data necessary to develop such statistics. The standard of care for evaluating risk associated with tree failure is application of the arborist's experience and training to evaluate the structural condition of the tree, the site in which it grows, and weather conditions to which it is exposed in an objective manner.

The current standard for tree risk assessment is defined in *Best Management Practices: Tree Risk Assessment* (Smiley, Matheny and Lilly, ISA, 2011).

Inspecting trees for structural weaknesses

Visual examination from the ground of the tree structure for defects begins with an assessment of overall vigor and health, then focuses on an examination of roots, root crown, trunk, scaffold limbs and branches. A defect is a condition that reduces the structural stability of the tree or tree part. It may be a natural growth condition of the tree, such as branch attachments with included bark, or it may be caused by weather, site conditions, management activities, or pest activity. The severity of individual defects can be designated as severe, moderate, and low.

If the inspector identifies a tree in imminent danger of failing, immediate action must be taken. Action should be defined in the risk assessment procedures, and typically include informing appropriate personnel, restricting access to the target area, and implementing abatement treatments (pruning, removal, moving the target etc.) as soon as possible.

Some common characteristics to look for in trees are:

History of failure - Trees that have failed in the past tend to do so again. This is true for individual trees, as well as for trees within a stand. On individual trees, check for broken stubs, split out limbs; in stands, look for fallen trees.

Recent exposure - Trees that used to be protected by other vegetation or structures are more likely to fail if their neighbors are removed, leaving the tree more exposed to wind.

Root injury - Trees with root rot or severed roots (construction, sidewalk repair) are likely to fail.

Lack of basal flare - Lack of flare may indicate fill soil has been placed around the trunk. The tree should be checked further for decay in the buttress roots.

Cracks - Cracks in branches and trunks indicate areas of weakness.

Bark - Loss of bark, esp. in non-uniform patterns; buckled bark, horizontal cracks and "popping off" of pieces may indicate wood under tension or compression. Internal cracks may be indicated by bulges and ridges in the bark.

Decay - Decayed wood is weak and likely to fail. Look for discoloration, conks, mushrooms, cavities.

Crooks - Crooks are formed primarily as a result of pruning. Branches with crooks tend to break.

Seams - A seam is a line formed by included bark at branch junctions, or when two edges of woundwood meet at the center of a wound (behind which there may be decay). They indicate areas of weakness than should be checked further.

Narrow branch attachments with included bark - Branches with narrow angles of attachment do not form connective tissue between the branch and trunk. As tree size increases, the branches tend to split out.

Clustered scaffold branches (poor vertical distribution) - Where several scaffold branches of similar size arise from one level, weakness occurs.

Dead branches - Dead branches quickly decay, making them more likely to break out of the tree.

Limbs with poor taper, end weight - These limbs tend to break.

Topping - Branches in topped trees are likely to fail because of weak attachment of the regrowth, dense regrowth limiting taper formation, and decay in the headed branch.

There is no clear, universally accepted distinction among arborists for what constitutes a hazardous tree versus a non-hazardous tree. A tree is hazardous if it is structurally unsound and the risk of injury or damage exceeds the tolerable threshold. The assessment of likelihood of failure is one of professional judgment. Opinions often differ. Within an CNHP's tree risk management program, however, it is possible to define, as a matter of policy, what is considered hazardous based on the agency's risk rating system.

Tree failure risk rating systems allow the Park staff to rank the relative risk posed by each tree within a population. It is a management tool that helps staff:

- Identify the highest-risk trees so that they can be treated first.
- Determine what portion of the tree population can be treated with the budget available, and to what degree that would reduce risk of tree failure within the population.
- Assess the adequacy of the current budget to fund abatement treatments, and determine if additional funds are needed.
- Evaluate the difference between funding committed to risk management and the community's tolerance for risk.
- Schedule tree care activities in a systematic way.
- Demonstrate the agency is acting reasonably to protect public safety.

Tree risk reduction

Development of abatement options should be as systematic as evaluating the failure potential, considering the nature of the site, tree, and target. Where targets are mobile, such as picnic tables, it may be possible to move the target outside the fall zone of the

tree. For walkways or parking, it may be possible to restrict the use by realigning pathways or closing off parking areas. Fences may be needed to exclude use.

The purpose of the treatments applied to trees is to reduce the potential for the tree to fail. Treatments may include pruning, cabling, bracing, propping, modifying site conditions, or removing the tree.

After abatement treatments are applied, a follow-up evaluation should occur, for the potential for the tree to fail has changed. Treatment effects on neighboring trees should be evaluated as well. For instance, consider the effects of change in exposure to wind if a protecting tree is removed.

Retention of dead and decaying trees may be desirable because they provide wildlife habitat. Selection of suitable wildlife trees must consider the risk presented, as well as the stability of the tree and its value for wildlife. Retention of hazardous trees or tree parts, even those with significant wildlife value, is not appropriate in public use areas where risk of damage or injury is unacceptable.

Proactive methods to minimize risk of tree failure

A comprehensive tree risk management program should incorporate activities and treatments into the tree planting and maintenance program that foster structurally stable trees. Risk management is put into practice when appropriate tree species are selected for the site and good quality trees are planted with adequate space for the crown and roots to develop. Trees that receive proper early care, including training to develop a strong branch structure, have fewer defects when they mature, and therefore pose less risk than trees that are incorrectly pruned.

Proactive methods to minimize risk associated with trees include:

Right tree, right place

- Plant small trees under power lines.
- Plant species suited to the climate and site conditions.
- Plant species and cultivars with inherently strong structure.
- Plant trees in locations that provide adequate space for development.
- Avoid planting species that develop large buttress roots near pavement.

Select good quality planting stock

- Plant trees having good structure.
- Plant trees having root systems free from circling or kinked roots.

Plant properly and provide appropriate early care

- Modify adverse soil conditions prior to planting to enhance root development.
- Prune circling roots before planting.
- Plant at proper depth so that root collar is at finish grade.
- Prune young trees to develop strong branch structure.
- Stake properly when needed and remove stake as early as possible.

- Maintain a turf-free area around the base of tree to avoid damage from mowers and string trimmers.

Use proper maintenance practices

- Avoid wounding roots, trunk or structural branches.
- Prune properly; avoid topping, excessive thinning, flush cuts, large cuts.
- Avoid excessive irrigation and wetting trunk of root rot-sensitive species.
- Avoid creating new edges along stands that expose trees with poor taper and high live crown ratios to wind.
- Avoid excessive root removal, especially near the buttress.

Maintaining records

Observations, ratings and actions taken should be documented, as well as dates and names of assessors. This not only creates a record that demonstrates performance of duty of care, but it creates history that facilitates tree management, and provides a tool for analyzing and preparing budgets. Records also should be kept to document training activities for every person involved in tree care.

Summary and Conclusions

California Nursery Historical Park is unique site that is vegetated with a highly diverse population of 823 trees representing 130 taxa from around the world. Many of the trees were planted at the turn of the 20th century; others are progeny of those plantings. The site has many noteworthy trees because of their large size, unique characteristics and history. The City of Fremont City Council has adopted 40 trees as landmark trees.

Because many of the trees are not native to the area, preserving and sustaining this valuable resource requires on-going maintenance. Since 1973, seven landmark trees have died. Sixteen (14%) of the 117 species that the Boy Scout Troup 143 surveyed and identified (http://www.fremontica.net/CNCo/tree_inventory2.php) the trees in 2006 were absent in our inventory. We think that most have been lost because of lack of adequate irrigation. More drought-sensitive trees and species are likely to disappear if irrigation is not supplied in the future. In our view, supplying adequate water according to tree need is the most important maintenance task at this park.

The Urban Forest Management Plan outlines the maintenance tasks needed to sustain the trees, including as well as recommending a tree risk management program to support tree longevity while providing for public safety.

As future CNHP uses are discussed and plans prepared, design to include significant and unique trees that are in good condition. Trees require space for not only their canopies, but also their root systems. Planning for adequate space is the first step towards protecting and preserving trees.

We noted the presence of structural defects we could see from the ground that tend to be associated with tree failure. Pruning often can abate these problems and preserve trees. In some cases it may be necessary to remove trees where the risk to park workers and the public cannot be managed.

Trees change over time. Our recommendations represented the condition of the tree we could observe at the time of inspection. Annual tree inspections of trees in use areas are recommended to identify changes to tree health and structure. In addition, large trees should be inspected after storms of unusual severity to evaluate damage and structural changes. Failure of apparently defect-free trees does occur, especially during storm events. Wind forces can exceed the strength of wood causing branches and trunks to break. Wind forces coupled with rain can saturate soils, decrease stability, and blow over defect-free trees. Although we cannot predict all failures, identifying and managing trees with observable defects is an important component of enhancing public safety.

Appendix 1: Summary of Tree Species and Condition Ratings

Appendix 1

Summary of Tree Species and Condition Ratings

Condition Ratings and Frequency of Occurrence of Trees
California Nursery, Fremont, CA

Common Name	Scientific Name	Condition				Total
		Dead (0)	Poor (1-2)	Fair (3)	Good (4-5)	
Algerian fir	*Abies numidica*	-	-	1	-	**1**
Spanish fir	*Abies pinsapo*	1	-	-	-	**1**
Purple-leaf acacia	*Acacia baileyana* 'Purpurea'	-	-	-	1	**1**
Blackwood acacia	*Acacia melanoxylon*	1	1	4	2	**8**
Bigleaf maple	*Acer macrophyllum*	-	1	-	-	**1**
Japanese maple	*Acer palmatum*	-	2	2	2	**6**
Silver maple	*Acer saccharinum*	-	3	-	1	**4**
California buckeye	*Aesculus californica*	-	-	-	1	**1**
Red horsechestnut	*Aesculus* x *carnea*	-	-	-	1	**1**
Queensland kauri	*Agathis robusta*	-	-	1	-	**1**
River she-oak	*Allocasuarina cunninghamiana*	-	4	5	1	**10**
Black alder	*Alnus glutinosa*	1	-	-	-	**1**
Bunya-bunya	*Araucaria bidwillii*	-	-	1	1	**2**
Norfolk Island pine	*Araucaria heterophylla*	-	-	1	-	**1**
Bottle tree	*Brachychiton populneus*	-	-	1	-	**1**
Queensland bottle tree	*Brachychiton rupestris*	-	-	1	1	**2**
Guadalupe palm	*Brahea edulis*	-	-	-	2	**2**
Pindo palm	*Butia capitata*	-	1	-	2	**3**
Incense cedar	*Calocedrus decurrens*	1	3	2	1	**7**
Cape chestnut	*Calodendrum capense*	-	-	-	1	**1**
Pecan	*Carya illinoinensis*	-	-	4	-	**4**
Blue atlas cedar	*Cedrus atlantica* 'Glauca'	-	-	3	4	**7**
Deodar cedar	*Cedrus deodara*	-	7	16	10	**33**
Carob	*Ceratonia siliqua*	-	-	1	-	**1**
Mediterranean fan palm	*Chamaerops humilis*	-	-	-	1	**1**
Floss silk tree	*Chorisia speciosa*	-	-	1	1	**2**
Orange	*Citrus sinensis*	-	-	1	-	**1**
Cabbage palm	*Cordyline australis*	-	3	1	1	**5**
Dracaena palm	*Cordyline stricta*	-	-	1	-	**1**
Hazelnut	*Corylus maxima*	-	-	-	1	**1**
Cotoneaster	*Cotoneaster lacteus*	-	-	1	-	**1**
Cockspur hawthorn	*Crataegus crus-galli*	-	-	1	-	**1**
Japanese red cedar	Cryptomeria japonica	1	2	1	-	**4**
Italian cypress	*Cupressus sempervirens*	-	-	1	1	**2**
Persimmon	*Diospyros kaki*	-	2	6	1	**9**
Loquat	*Eriobotrya japonica*	1	5	9	-	**15**
Coral tree	*Erythrina lysistemon*	-	1	1	-	**2**
Silver dollar tree	*Eucalyptus cinerea*	-	-	1	-	**1**
Blue gum	*Eucalyptus globulus*	-	-	-	1	**1**
Compact blue gum	*Eucalyptus globulus* 'Compacta'	-	-	1	-	**1**

Condition Ratings and Frequency of Occurrence of Trees
California Nursery, Fremont, CA

Common Name	Scientific Name	Condition				Total
		Dead (0)	Poor (1-2)	Fair (3)	Good (4-5)	
White ironbark	*Eucalyptus leucoxylon*	-	3	-	-	**3**
Silver dollar gum	*Eucalyptus polyanthemos*	-	-	1	1	**2**
Swamp mahogany	*Eucalyptus robusta*	-	1	1	-	**2**
Fig	*Ficus carica*	-	-	1	-	**1**
Raywood ash	*Fraxinus angustifolia* 'Raywood'	-	-	-	1	**1**
Evergreen ash	*Fraxinus uhdei*	-	-	1	-	**1**
Ginkgo	*Ginkgo biloba*	-	-	1	-	**1**
Silk oak	*Grevillea robusta*	-	1	-	-	**1**
Guadalupe cypress	*Hesperocyparis guadalupensis*	-	-	-	3	**3**
Monterey cypress	*Hesperocyparis macrocarpa*	1	5	1	1	**8**
Kentia palm	*Howea forsteriana*	-	-	-	1	**1**
California black walnut	*Juglans hindsii*	-	2	3	1	**6**
English walnut	*Juglans regia*	-	-	-	1	**1**
Chinese juniper	*Juniperus chinensis*	-	-	-	1	**1**
Hollywood juniper	*Juniperus chinensis* 'Kaizuka'	-	-	1	-	**1**
Canary Is. juniper	*Juniperus cedrus*	-	-	1	1	**2**
Chinese flame tree	*Koelreuteria bipinnata*	-	1	-	-	**1**
Glossy privet	*Ligustrum lucidum*	-	15	22	1	**38**
Catalina ironwood	*Lyonothamnus floribundus*	-	1	-	-	**1**
Southern magnolia	*Magnolia grandiflora Magnolia*	-	2	2	1	**5**
Saucer magnolia	x *soulangiana Malus*	-	-	1	-	**1**
Apple	*domestica*	2	4	-	-	**6**
Crabapple Mayten	*Malus sylvestris*	-	1	-	-	**1**
Flaxleaf paperbark	*Maytenus boaria*	-	3	2	-	**5**
Prickly melaleuca	*Melaleuca linariifolia*	-	-	-	2	**2**
Dawn redwood	*Melaleuca styphelioides*	-	2	-	-	**2**
Mulberry	*Metasequoia glyptostroboides*	-	1	-	1	**2**
Myoporum	*Morus* sp.	-	1	-	-	**1**
Olive	*Myoporum laetum*	-	2	-	-	**2**
Sweet olive	*Olea europaea*	-	15	13	3	**31**
	Osmanthus fragrans	-	-	1	-	**1**
Canary Island date palm	*Phoenix canariensis*	-	1	5	57	**63**
Senegal date palm	*Phoenix reclinata*	-	-	-	1	**1**
Cliff date palm	*Phoenix rupicola*	-	-	-	3	**3**
Chinese photinia	*Photinia serrulata*	-	1	1	1	**3**
Colorado spruce	*Picea pungens*	-	2	1	-	**3**
Canary Island pine	*Pinus canariensis*	-	8	5	2	**15**
Aleppo pine	*Pinus halepensis*	1	-	-	-	**1**
Italian stone pine	*Pinus pinea*	-	-	-	1	**1**
Japanese black pine	*Pinus thunbergiana*	-	1	1	-	**2**

Condition Ratings and Frequency of Occurrence of Trees
California Nursery, Fremont, CA

Common Name	Scientific Name	Condition				Total
		Dead (0)	Poor (1-2)	Fair (3)	Good (4-5)	
Mt. Atlas pistache	*Pistacia atlantica*	1	6	17	1	**25**
Chinese pistache	*Pistacia chinensis*	-	-	2	1	**3**
Kohuhu	*Pittosporum tenuifolium*	4	28	3	-	**35**
Victorian box	*Pittosporus undulatum*	1	-	2	1	**4**
London plane	*Platanus* x *hispanica*	-	-	1	-	**1**
Fremont cottonwood	*Populus fremontii*	-	3	-	-	**3**
Lombardy poplar	*Populus nigra* 'Italica'	1	3	-	-	**4**
Apricot	*Prunus armeniaca*	1	4	19	19	**43**
Cherry	*Prunus avium*	-	1	5	5	**11**
Carolina cherry laurel	*Prunus caroliniana*	-	1	1	-	**2**
Purpleleaf plum	*Prunus cerasifera*	-	2	-	1	**3**
Plum	*Prunus domestica*	1	6	11	-	**18**
Almond	*Prunus dulcis*	-	1	-	-	**1**
Hollyleaf cherry	*Prunus ilicifolia*	-	1	-	-	**1**
Catalina cherry	*Prunus ilicifolia* subsp. *lyonii*	-	-	-	1	**1**
English laurel	*Prunus laurocerasus*	-	-	1	-	**1**
Portugal laurel	*Prunus lusitanica*	-	-	1	1	**2**
Peach	*Prunus persica*	-	1	-	-	**1**
Nectarine	*Prunus persica*	-	-	-	2	**2**
Douglas fir	*Pseudotsuga menziesii*	-	1	-	-	**1**
Pomegranate	*Punica granatum*	-	-	1	-	**1**
Coast live oak	*Quercus agrifolia*	1	12	56	37	**106**
Holly oak	*Quercus ilex*	-	1	1	3	**5**
Valley oak	*Quercus lobata*	-	-	1	-	**1**
Burr oak	*Quercus macrocarpa*	-	-	-	1	**1**
Cork oak	*Quercus suber*	-	1	3	1	**5**
China doll	*Radermachera sinica*	-	1	-	-	**1**
Italian buckthorn	*Rhamnus alaternus*	-	2	-	-	**2**
African sumac	*Rhus lancea*	-	5	-	-	**5**
Black locust	*Robinia pseudoacacia*	-	3	-	1	**4**
California pepper	*Schinus molle*	-	3	5	1	**9**
Coast redwood	*Sequoia sempervirens*	-	-	5	1	**6**
Giant sequoia	*Sequoiadendron giganteum*	-	-	1	-	**1**
Queen palm	*Syagrus romanzoffianum*	-	1	1	-	**2**
Australian bush cherry	*Syzygium paniculatum*	-	-	2	2	**4**
Bald cypress	*Taxodium distichum*	1	-	-	3	**4**
Montezuma cypress	*Taxodium mucronatum*	-	-	-	1	**1**
Yew	*Taxus baccata* cvs.	10	26	4	3	**43**
Eastern arborvitae	*Thuja occidentalis*	-	1	1	-	**2**
Windmill palm	*Trachycarpus fortunei*	-	4	12	25	**41**

Condition Ratings and Frequency of Occurrence of Trees
California Nursery, Fremont, CA

Common Name	Scientific Name	Condition				Total
		Dead (0)	Poor (1-2)	Fair (3)	Good (4-5)	
Winged elm	Ulmus alata	-	1	-	-	**1**
American elm	*Ulmus americana*	-	8	3	1	**12**
Camperdown elm	*Ulmus glabra* 'Camperdownii'	-	-	1	-	**1**
Chinese elm	*Ulmus parvifolia*	-	-	1	-	**1**
Siberian elm	*Ulmus pumila*	-	1	2	-	**3**
California bay	*Umbellularia californica*	-	1	9	-	**10**
California fan palm	*Washingtonia filifera*	-	-	-	3	**3**
Mexican fan palm	*Washingtonia robusta*	-	-	5	5	**10**
Spanish dagger	*Yucca gloriosa*	-	-	-	1	**1**
Sawleaf zelkova	*Zelkova serrata*	-	-	-	1	**1**
Total		**31**	**237**	**311**	**244**	**823**

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix 2:
Landmark Trees

Appendix 2

Landmark Trees

LANDMARK TREES

City of Fremont

LANDMARK TREES

OF THE

CITY OF FREMONT

Printed: August 2012

Landscape Architecture Division
Community Services Department

Landmark Trees

introduction

Drawings: Phillip Eaker

In May of 1966, the City of Fremont, sponsored by the City Beautiful Committee, adopted a tree preservation ordinance to encourage and promote the preservation of trees. In August of 1970, the City Beautiful Committee received approval by the city council to conduct a survey of specimen trees for the final selection of outstanding landmark trees. The survey indicated the findings of 124 landmark trees to be preserved under resolution no. 3027, adopted in May 16, 1972. Several locations of the original 124 trees were inaccessible or hidden from public view. As a result, the list was reduced to sixty.[1]

The first publication containing the sixty landmark trees was published in 1973. The pages were black and white and each tree had beautifully hand-drawn sketches for visual reference. Since then, the publication has been a living encyclopedia of Fremont's natural heritage. New trees were given landmark status by City Council over the years, but the publication remained the same.

Almost 40 years later, in August 2010, the City's landmark trees were revisited. Several did not survive the test of time and some suffered from urbanization. However, the majority of the original sixty still exists today and continues to tower above Fremont's changed landscape. The original sets of trees along with new additions are included in this updated version of the Landmark Trees publication. On June 19, 2012, the City Council approved the de-listing of 42 missing or dead landmark trees and added to the landmark list 23 new qualifying trees. This updated book will hopefully encourage citizen stewardship for the protection of the city's great trees.

"No town can fail of beauty, though its walks were gutters and houses hovels, if venerable trees make magnificent colonnades along its streets."

Henry Ward Beecher, Proverbs, 1887

The Importance of Landmark Trees

Landmark or historical trees provide a rich heritage and a vital link to the City of Fremont's past. They offer references to a point in time, particularly for the younger generations, on "where we've been, where we are and where we're going."[2]

The location of landmark trees in Fremont coincides with the clustering of old farm ranches, nurseries, orchards and wineries in the Irvington and Warm Springs District. These trees provided a skyline relief from the broad plain of the original farming areas from the bay to the hills. Many of the landmark trees are located on land developed by pioneer families such as Shinn, Rock, Leland, Stanford, Vallejo, Patterson and Chadbourne.[2]

Trees play a major role in providing and maintaining future identity with the community. They provide softness to streets, and are often the only spokesmen for the community's character. Besides contributing natural beauty and tranquility, they also provide environmental benefits. Trees screen unsightly areas, limit the impact of air pollution, and reduce traffic noise and solar radiation. In short, trees are a direct means of reinforcing human dignity, and provide contrast to the world of cars, signs, wires, sounds and gases. A tangible cooperative community effort can provide for the continuity of this valuable resource.[2]

To sum it up: no place is complete without trees. A home without trees is charmless. A street without trees is shadeless. A park without trees is purposeless. A country without trees is hopeless.[2]

How a Tree Qualifies for Landmark Status

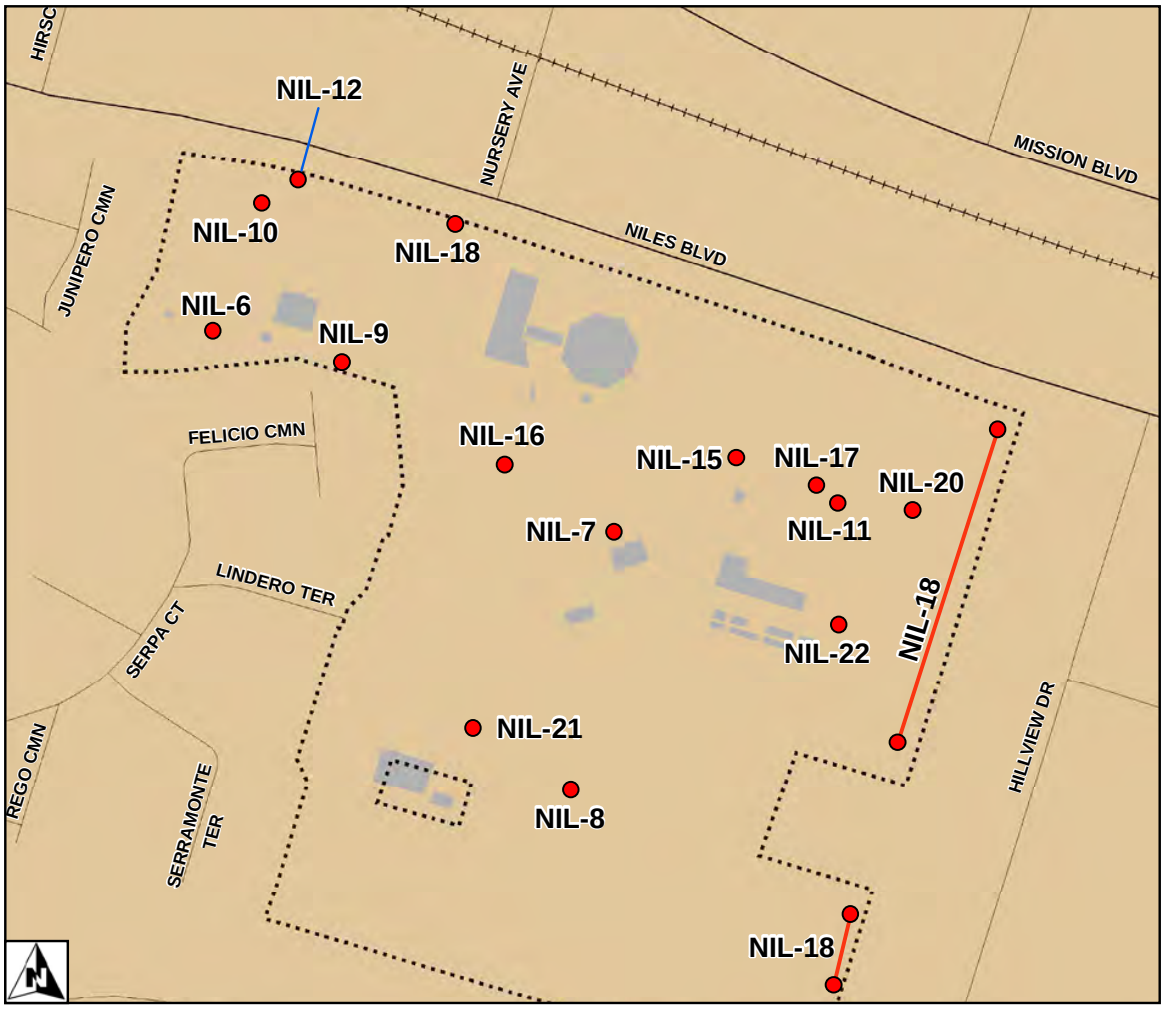
Today, a tree will presumptively qualify for landmark status if it meets the following criteria as spelled out in the City Tree Preservation Ordinance No. FMC 4-5112.

A tree meeting all of the following criteria qualifies for designation as a landmark tree:

a) The tree has a DBH is 54 inches or greater;
b) The tree's structure and character exemplify its species or it has an extraordinary form caused by environmental influences;
c) The tree is free, or can practicably be made to be free, of any structural defect posing a threat or injury to persons or of substantial damage to property;
d) The tree has substantial aesthetic appeal, or its lack of such appeal can be remedied by standard arboricultural practices; and
e) The tree has a probability of at least 50 percent that it will for survive more than 5 years from date of landmarking while retaining substantial aesthetic appeal.

If a tree does not meet the criteria as stated previously, it may still qualify for landmark designation if the tree meets any of the following criteria:

a) The tree has important historic significance in that:
   1. It is associated with events that have made a significant contribution to local state or national cultural heritage; or
   2. It is associated with the life of a person important to local, state or national history.
b) The tree is a native tree or a tree of exceptional adaptability to the Fremont Area which has a special significance to the community;
c) The tree has an especially prominent and beautiful visual impact;
d) The tree is one of a group of trees that as a group meets one or more of the criteria for landmark tree designation;
e) Any other factor causing the tree to have a special and important significance to the community.[3]



California Nursery Company Introduction

36501 Niles Boulevard

The California Nursery Company was once a grand nursery operation covering 463 acres when it was established in 1884.[9] It brought notable presence to the East Bay and was "significantly associated with the evolution of the nursery industry on a statewide level."[10]

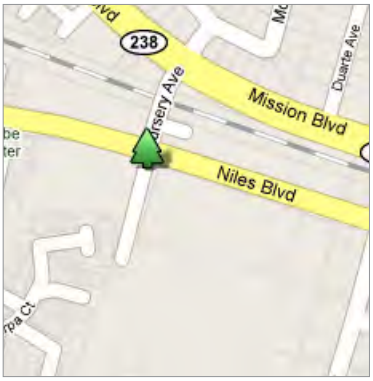
Today, the 20.1 acre nursery remains a public property available to visitors to enjoy the historic landmark trees and buildings.[9] There are fourteen species of landmark trees located throughout the site as of 2012.

To read more about the California Nursery Company, please refer to Appendix F.

Agathis robusta

Queensland Kauri Pine

36501 Niles Boulevard
Niles District



Approximate location on map.

Close-up detail of the peeling bark of a Queensland Kauri Pine.

Photo Taken: February 2011

NIL-17 TREE INFORMATION/June 2012

HEIGHT: 40 ft.

SPREAD: 35 ft.

DBH: 1 ft.

QUANTITY: 1

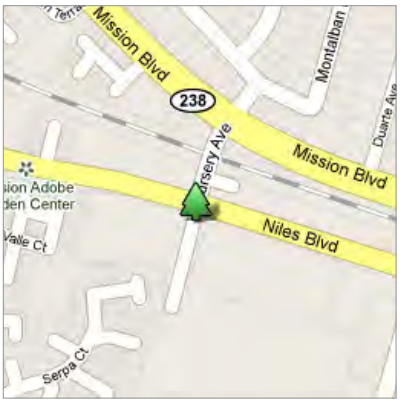
NATIVE TO: Eastern Queensland, Australia

LANDMARK DATE: June 19, 2012

The Queensland Kauri Pine is located in the California Nursery and is a rare specimen in the Bay Area. There are only two populations in its native Queensland where these trees are extensively found. This tree is characterized by a multicolored peeling bark and a very straight trunnk. According to Gold Coast Nursery, its leaves are 2-5 cm wide and 5-12 cm long. In the past, the Queensland Kauri Pine was extensively logged for its high quality soft wood.

Araucaria bidwillii
Bunya Bunya

36501 Niles Boulevard
Niles District



Approximate location on map.

Green alternate leaves.

Photo Taken: August 2010

NIL-6 TREE INFORMATION/August 2010

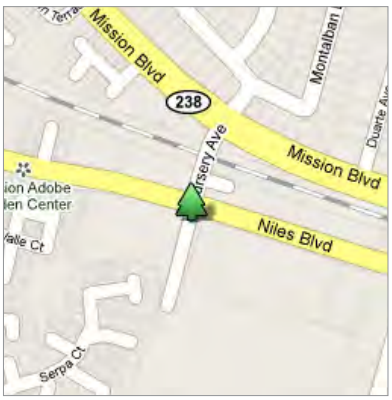
HEIGHT: 60 ft.
SPREAD: 30 ft.
DBH: 4 ft. 2 in.
QUANTITY: 1
NATIVE TO: Australia
LANDMARK DATE: March 17, 1972

This landmark tree can be found in the historic California Nursery Company near the experimental vegetable garden. The top of this tree broke off during a storm in 1980s.

The Bunya Bunya, native to Austalia, is a conifer that is planted in coastal and valley regions of California. It has a dense, wide-spreading, pyramidal crown with horizontal branches that dip gradually downward and turn up at the tips.[8]

Brachychiton rupestris
Forest Kurrajong Tree

36501 Niles Boulevard
Niles District



Approximate location on map.

Produces bell-shaped flowers.

Photo Taken: July 2010

NIL-7 TREE INFORMATION/September 2010

HEIGHT: 30 ft.

SPREAD: 25 ft.

DBH: 2 ft. 3 in.

QUANTITY: 1

NATIVE TO: Australia

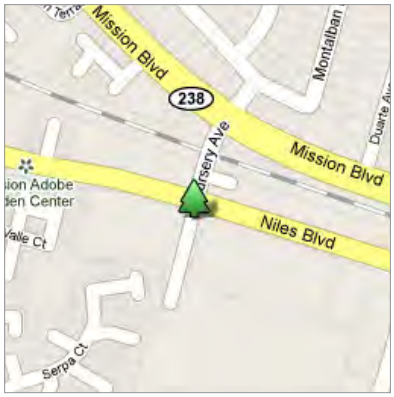
LAST INVENTORIED: March 17, 1972

This landmark Kurrajong Bottle Tree can be found in the California Nursery Company near the Vallejo Adobe.

This tree is a broadleaf evergreen native to Australia. It stands out among other landmark trees because of its odd bottle-shaped trunk that bulges at the base. This tree produces bell-shaped whitish flowers that appear around May to June, followed by canoe-shaped woody brown pods.[6]

Cupressus macrocarpa
Monterey Cypress

36501 Niles Boulevard
Niles District



Approximate location on map.

Scale-like leaves.

Photo Taken: Septemper 2010

NIL-8 TREE INFORMATION/September 2010

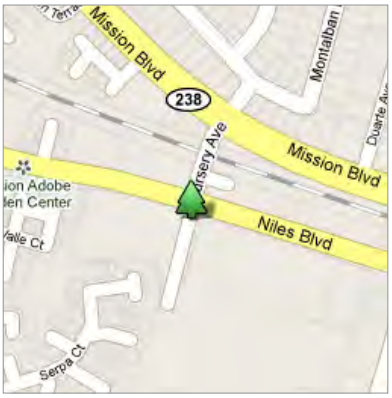
HEIGHT: Average 55 ft.
SPREAD: Average 45 ft.
DBH: Average 4 ft.
QUANTITY: Grouping of 5
NATIVE TO: Monterey Peninsula
LAST INVENTORIED: March 17, 1972

The City has five Monterey Cypresses located in the California Nursery Historical Park near the landmark Senegal Date Palm.

The Monterey Cypress is an evergreen tree native to the Monterey Peninsula. It is there that the Monterey Cypress's famous irregular windswept appearance makes a popular scenic look-out along the famous 17-mile drive. Monterey Cypresses have deep-green, cord-like foliage and globular cones that grow up to one inch in diameter.[12]

Eucalyptus globulus 'Compacta'
Dwarf Blue Gum

36501 Niles Boulevard
Niles District



Approximate location on map.

The trunk of this tree was cut in half and now has a gaping hole making it highly susceptible to disease and decay.

Photo Taken: August 2010

NIL-9 TREE INFORMATION/August 2010

HEIGHT: 15 ft.

SPREAD: 26 ft. 5 in.

DBH: 3 ft. 7 in.

QUANTITY: 1

NATIVE TO: Australia

LANDMARK DATE: March 17, 1972

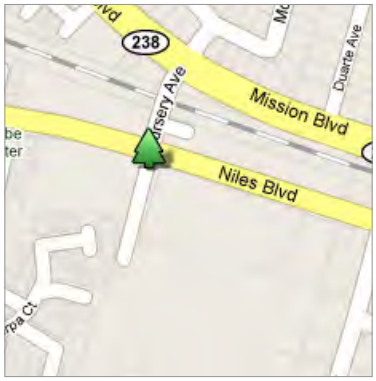
Similar to the Blue Gum, Dwarf Blue Gums are characterized with dark green sickle-shaped leaves and fibrous peeling bark.[13] This particular Dwarf Blue Gum was the mother tree bred by John Rock in the 1800s. It was propagated and sold all over California. Dwarf Blue Gums are used for low screening and is often planted next to larger blue gums for monarch butterly habitat.

Unfortunately, due to the development of nearby land the tree's health has been in decline. The trunk of the tree was cut in half making it highly susceptible to decease and decay.

Juniperus cedrus

Canary Islands Juniper Pine

36501 Niles Boulevard
Niles District



Approximate location on map.

Close-up detail of the bark of a Canary Island Juniper Pine.

Photo Taken: February 2011

NIL-16 TREE INFORMATION/June 2012

HEIGHT: 25 ft.

SPREAD: 10 ft.

DBH: 1 ft. 8 in, 1 ft.

QUANTITY: 1

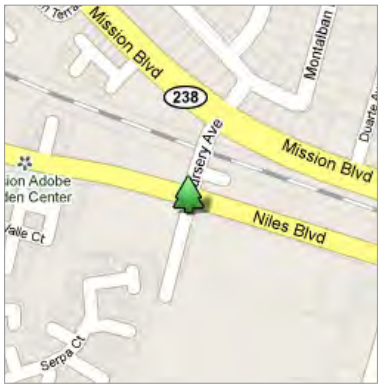
NATIVE TO: Western Canary Islands

LANDMARK DATE: June 19, 2012

This landmark Canary Islands Juniper Pine can be found in the parking lot of the California Nursery. This tree is special because, according to the International Union for Conservation of Nature and Natural Resources, it is an endangered species due to over-grazing, deforestation and fires. Therefore, its rarity is an outstanding trait for a landmark tree. According to the IUCN Red List of Threatened Species, there are about 572 trees remaining on the Canary Islands (Spain) and 40 trees remaining in Madeira (Portugal).

Melaleuca styphelioides
Prickly Paperbark

36501 Niles Boulevard
Niles District



Approximate location on map.

Sessile unstalked leaves with pointy tips.

Photo Taken: July 2010

NIL-10 TREE INFORMATION/August 2010

HEIGHT: Average 60 ft.
SPREAD: Average 39
DBH: Average 4 ft 5 in.
QUANTITY: 2
NATIVE TO: Australia
LANDMARK DATE: March 17, 1972

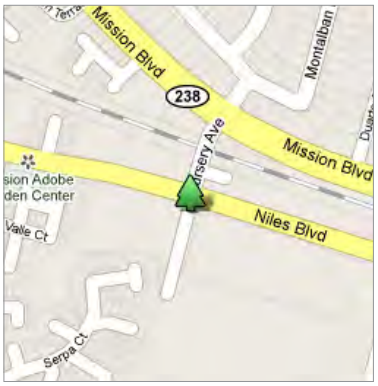
These two landmark Melaleucas are located near the California Nursery's main office building and the landmark Cork Oak. Each of these Melaleucas were observed to have multiple trunks.

The Prickly Paperbark is an evergreen tree native to Australia. It has deep roots, dense pendulous branches, light green leaves and clusters of creamy white flowers that appear from summer through fall.[14]

Phoenix canariensis

Canary Island Date Palm

36501 Niles Boulevard
Niles District



Approximate location on map.

Canary Island Palms at the entrance of the California Nursery.

Photo Taken: May 2012

NIL-18 TREE INFORMATION/June 2012

HEIGHT: 60 ft.

SPREAD: 35 ft.

DBH: avg 3 ft. 8 in.

QUANTITY: row of 19, set of 7

NATIVE TO: Canary Islands

LANDMARK DATE: June 19, 2012

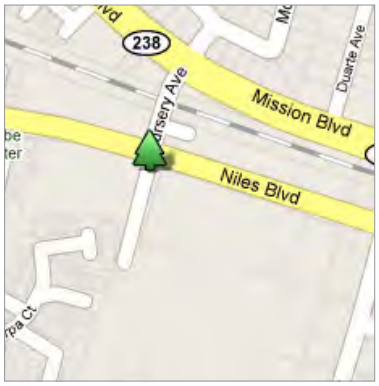
These Canary Island Date Palms exemplify old age and were planted when the California Nursery Company thrived under John Rock and the Roeding Family in the late 1880s to late 1900s. Many of these palms are single-trunked, but a few multi-trunked specimens are amongst the set.

A row of 19 landmark palm trees are located near the Lander's House and another set of 7 are located at the entrance to the California Nursery.

Phoenix reclinata

Senegal Date Palm

36501 Niles Boulevard
Niles District



Approximate location on map.

View of the multi-trunk structure of the Senegal Date Palm.

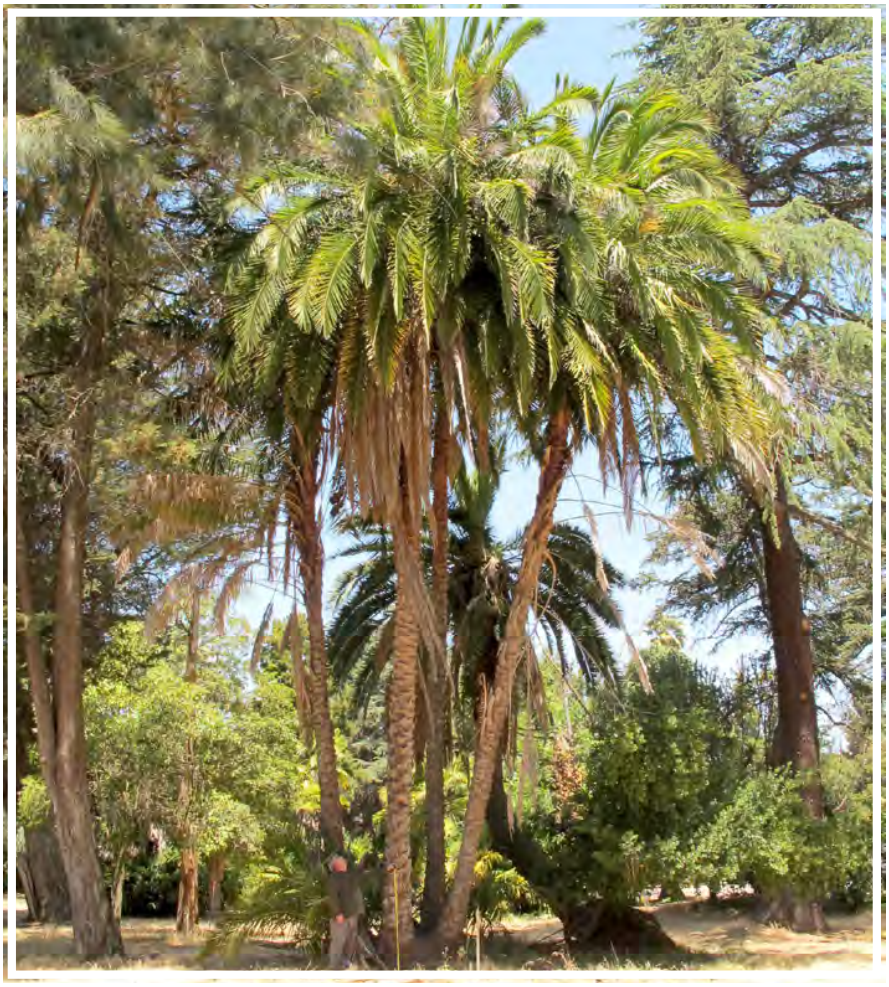


Photo Taken: May 2012

NIL-21 TREE INFORMATION/June 2012

HEIGHT: 54 ft.

SPREAD: 25 ft.

DBH: avg. 1 ft 5 in.

QUANTITY: 1

NATIVE TO: Africa

LANDMARK DATE: June 19, 2012

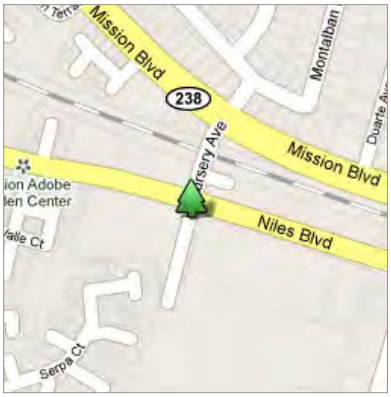
The Phoenix reclinata is on the Register of California Big Trees. According to the Western Sunset Western Garden Book, the Senegal Date Palm can grow up to 30 feet. However, this specimen located in the California Nursery is 54 feet tall. The Senegal Date Palm produces offshoots, which allows it to regenerate quickly.

This landmark specimen is located towards the rear of the nursery near the landmark Monterey Cypresses.

Pinus canariensis

Canary Island Pine

36501 Niles Boulevard
Niles District



Approximate location on map.

Cone of a Canary Island Pine.

Photo Taken: September 2010

NIL-11 TREE INFORMATION/September 2010

HEIGHT: 75 ft.

SPREAD: 48 ft.

DBH: 3 ft. 7 in.

QUANTITY: 2 Groups Totalling 6 Trees

NATIVE TO: Canary Islands off of Western Africa

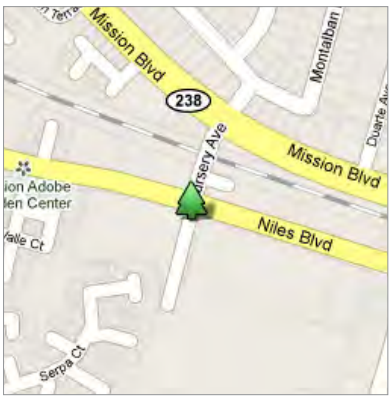
LANDMARK DATE: March 17, 1972

There are two groups of landmark Canary Island Pines on the California Nursery Company property. One landmark tree is located near the historic Landers House and is visible from Niles Boulevard. The group of five Canary Island Pines is located near the Vallejo Adobe.

This tree is pyramidal in shape with distinctive tiers of branches and whorls representing one year's growth.[15] Canary Island Pines have 3 needles per fascicle bundle.

Quercus suber
Cork Oak

36501 Niles Boulevard
Niles District



Approximate location on map.

Multiple-trunk and
wide branching pattern.

Photo Taken: September 2010

NIL-12 TREE INFORMATION/November 2010

HEIGHT: 35 ft.

SPREAD: 45 ft.

DBH: 5 ft. 8 in.

QUANTITY: 1

NATIVE TO: Western Mediterranean & North Africa

LANDMARK DATE: March 17, 1972

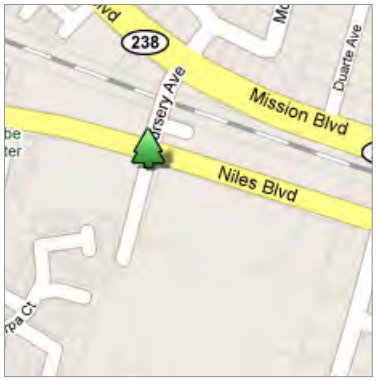
This landmark Cork Oak is located in the California Nursery Company along Niles Boulevard. It has an unique split trunk branching structure that is not common among Cork Oaks.

The Cork Oak is an evergreen tree whose thick cork bark is cut from the trunks on an average of every twelve years. The cork is often used as wine bottle toppers and flooring, among other purposes. The tree regenerates a new layer of cork bark, making it a renewable resource. [7]

Zelkova serrata

Japanese Zelkova

36501 Niles Boulevard
Niles District



Approximate location on map.

The Sawleaf Zelkova displaying its colorful leaves in the fall.

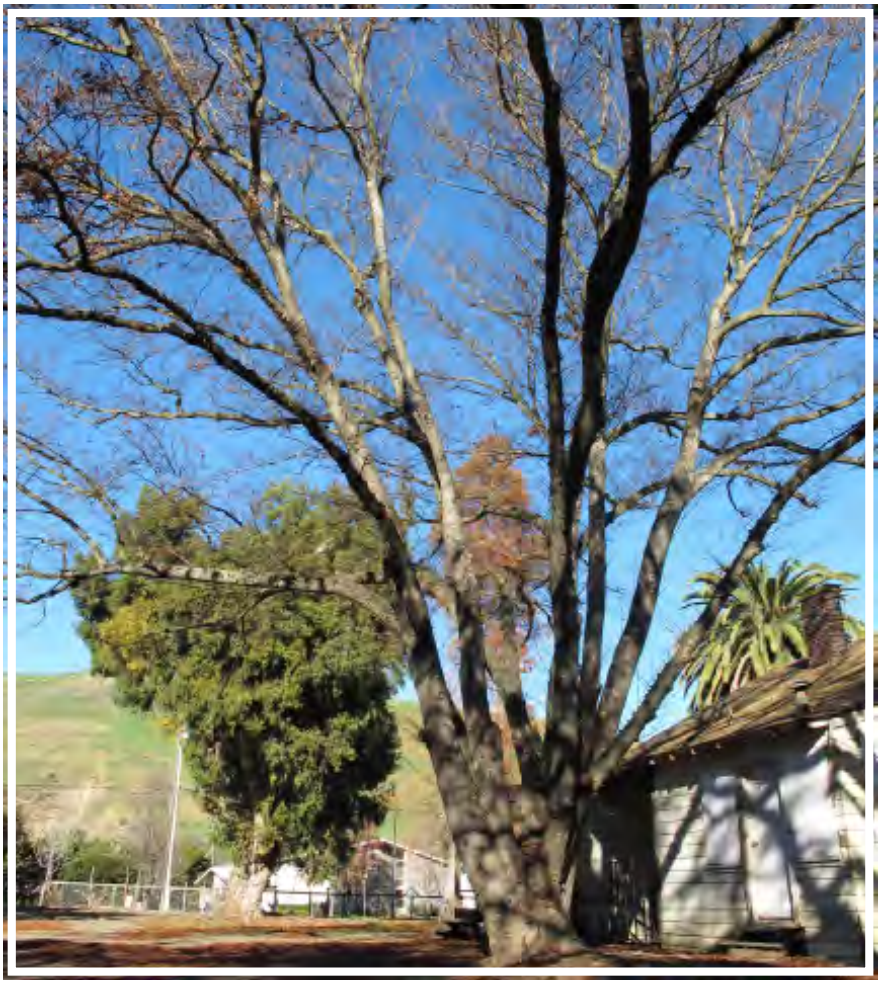


Photo Taken: February 2011

NIL-15 TREE INFORMATION/June 2012

HEIGHT: 50 ft.

SPREAD: 35 ft.

DBH: 4ft. 3 in.

QUANTITY: 1

NATIVE TO: Japan

LANDMARK DATE: June 19, 2012

The Sawleaf Zelkova, also known as the Japanese Zelkova, is a deciduous tree native to Japan. It has wide spreading branches and a colorful display of yellow to dark red leaves before they drop. Just as its name suggests, the margins of its leaves are serrated.

This zelkova is located behind the Lander's House in the California Nursery. It provides a bountiful amount of shade when its leaves are apparent.

came a great experimental farm, where all varieties of plants, secured from various countries, were tested and those suited to the climate and soil conditions of California were distributed throughout the state."[10] In 1893, the California Nursery Company took first prize at the Columbian Exposition for its exhibit of roses, and furnished Golden Gate Park with about 600 deciduous trees and shrubs in that same year. The nursery's land was divided into acres that served different purposes such as the cultivation of over 600 varieties of roses, experimental efforts, and for ornamental plants and trees. Its immense stock of plants drew attention from the Washington Press, where in 1898, the nursery was commented on having the most variety of trees, plants, shrubs, flowers, etc, "than at any other [nursery] in the United States."[9]

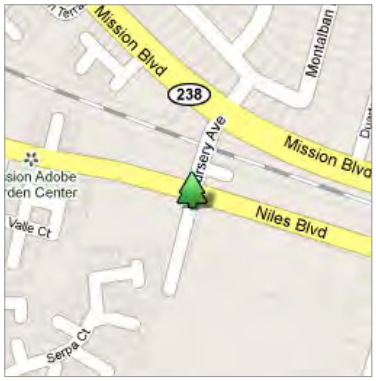
After the ownership of John Rock, the nursery was sold to William J. Landers on August 17, 1899. John Rock continued to serve as the manager until his death in August 1904 when William V. Eberly took over the position. Under Lander's ownership, the nursery was commissioned to supply palm trees for the "Avenue of Palms" at the 1915 Panama-Pacific International Exposition in San Francisco. In 1917, Landers sold the nursery to the George C. Roeding Company.[9]

The Roeding Family was well-known for their nursery businesses in Fresno, Modesto and Sacramento. When George C. Roeding Sr. acquired the California Nursery Company, it became the headquarters for the wholesale of fruit and ornamental trees. In 1928, George Jr. became the owner following his father's death. He opted to shift the business to the retail production of roses and bulbs. From 1939-1940, The California Nursery Company provided plants for the Golden Gate Park International Exposition on Treasure Island. The nursery prospered from demands for fruit trees in residential orchards and wartime properties to garden supply and landscape services until its bankruptcy in 1968.[9]

The California Nursery covered 463 acres of land when it was established in 1884. Due to residential and industrial development, the nursery presently covers 20.1 acres under the ownership of the City of Fremont. The grounds were leased to Mission Adobe Nursery for retail business and Naka Nursery for wholesale business. Many of the buildings that were built during its heyday, such as the Vallejo Adobe(1842), Tankhouse remnant(1890), Office Building(1907), President's House(1907), and Garden Store(1932), still exist on the historical nursery grounds. Presently, the California Nursery is home to nine of the City'shistorical landmark trees.[9]

Populus nigra 'Italica'
Lombardy Poplar

36501 Niles Boulevard
Niles District



Approximate location on map.

View of the canopy and numerous sprouts growing from the branches.

Photo Taken: May 2012

NIL-22 TREE INFORMATION/June 2012

HEIGHT: 55 ft.

SPREAD: 20 ft.

DBH: 5 ft. 4 in.

QUANTITY: 1

NATIVE TO: Europe

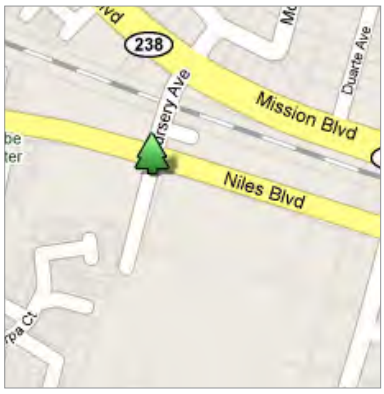
LANDMARK DATE: June 19, 2012

This landmark Lombardy Poplar has a wide girth of about 64 inches. It is located towards the back of the California Nursery. This poplar, in comparsion to the other poplars in the nursery, is in good health.

Lombardy Poplars have bright green, 4 inch leaves that turn golden yellow in the fall. They are widely used as windbreaks and skyline enhancement.

Ulmus pumila
Siberian Elm

36501 Niles Boulevard
Niles District



Approximate location on map.

One of the three landmark Siberian Elms with a split-trunk.

Photo Taken: May 2012

NIL-20 TREE INFORMATION/June 2012

HEIGHT: 65 ft. (tallest)

SPREAD: 45 ft.

DBH: 3 ft. 1 in.

QUANTITY: 3

NATIVE TO: Russia, northern China

LANDMARK DATE: June 19, 2012

The California Nursery is home to three landmark Siberian Elms. They are located between the Landers House and the row of 19 landmark Canary Island Date Palms (NIL-18).

The Siberian Elm has smooth dark green leaves that grow up to 2 inches long. This tree is resistant to the Dutch elm disease and can endure various extreme climates. It also produces papery, winged seeds.

The California Nursery Company

The California Nursery Company was once a grand nursery operation that brought notable presence to the East Bay and was "significantly associated with the evolution of the nursery industry on a statewide level."[10]

The California Nursery Company's history dates back to Jose de Jesus Vallejo(1797-1882) who served as the administrator of the old Mission San Jose and military commander of San Jose. He owned Rancho Arroyo de la Alameda which comprised 17,705 acres of land spreading west of Alameda Creek. Vallejo's property included a mill that gave name to a town called Vallejo Mills, later re-named Niles when the railroad was established in 1869. J.J. Vallejo sold a third of his land but was still able to retain title to his property after surviving extensive development in the region in the 1850s. However, on July 1862, he was forced to give up about 11,000 acres of his land due to legal debts to Jonas G. Clark, a San Francisco merchant and real estate speculator. J.J. Vallejo's rancho property was formed into the present-day Niles District of Fremont and the majority of Union City. [9]

On November 10, 1884, Jonas G. Clark sold 463.38 acres of land to John Rock, the founder of the California Nursery Company in 1865. Under the ownership of John Rock, the nursery "be-

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix 3:
Recommended Action for Trees

Appendix 3

Recommended Action for Trees

California Nursery Historic Park Urban Forest Management Plan
Recommended Action for Trees
2016

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
1	101	Deodar cedar	29"	4			Perform decay inspection	
1	323	Bald cypress	9	5				B
1	324	Loquat	10	2		x		
1	325	Kohuhu	11	2		x		
1	326	Kohuhu	13	2		x		
1	327	Kohuhu	10,9	2		x		
1	328	Kohuhu	15	2		x		
1	329	Pindo palm	21	1		x		
1	330	Japanese maple	13	3				B
1	331	Loquat	9	2		x		
1	332	Windmill palm	7	4				B
1	333	Loquat	13	2		x		
1	334	Queen palm	10	3				B
1	335	Silver dollar gum	23	3				
1	336	Kohuhu	12, 10, 7	2		x		
1	337	Kohuhu	8	2		x		
1	338	Kohuhu	8	2		x		
1	339	Kohuhu	9	2		x		
1	340	Kohuhu	6	0		x		
1	341	Mexican fan palm	20	3				
1	342	Kohuhu	9,7	2		x		
1	343	Kohuhu	10,9	2		x		
1	344	Kohuhu	7	2		x		
1	345	Kohuhu	11	2		x		
1	346	Kohuhu	10,10	2		x		
1	347	Kohuhu	7	2		x		
1	348	Kohuhu	8	2		x		
1	349	Kohuhu	11,8	3		x		
1	350	Kohuhu	6	2		x		
1	351	Kohuhu	14,9,5	2		x		
1	352	Kohuhu	5	2		x		
1	353	Kohuhu	6,5	0		x		

California Nursery Historic Park Urban Forest Management Plan
Recommended Action for Trees
2016

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
1	354	Kohuhu	9,6	2		x		
1	355	Kohuhu	14,11	2		x		
1	356	Kohuhu	9	2		x		
1	357	Kohuhu	10	2		x		
1	358	Olive	17	1		x		
1	359	Cabbage palm	8	2		x		
1	360	Bottle tree	6	3				A
1	361	Mexican fan palm	12	3				
1	362	Kentia palm	12	4				B
1	363	Cabbage palm	10,10,9	3				A
1	364	Canary Island pine	31	1	Landmark	x		
1	365	Canary Island pine	27	2	Landmark	x		
1	367	Windmill palm	8	4				B
1	368	Kohuhu	10,8	2		x		
1	369	Kohuhu	10	2		x		
1	370	Kohuhu	11,7	2		x		
1	371	Valley oak	15	3				A
1	372	Canary Island pine	19	2	Landmark	x		
1	373	Canary Island pine	20	2	Landmark	x		
1	374	Chinese photinia	10,10,9	1		x		
1	375	Cabbage palm	7,7,5,4	2		x		
1	376	Deodar cedar	21	3			Prune to clean crown	
1	377	Deodar cedar	14	3				
1	378	Blue atlas cedar	21	3				A
1	379	California pepper	15	3				
1	380	Coast live oak	30	3			Remove girding root	
1	381	Kohuhu	17	3				B
1	382	California bay	9,9,8	3				A
1	383	California bay	,10,10,9,8,9,9,	3				A
1	384	California pepper	14	2		x		
1	385	Kohuhu	9,9	0		x		
1	386	Olive	25	3				

California Nursery Historic Park Urban Forest Management Plan
Recommended Action for Trees
2016

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
1	387	Italian cypress	11	3				
1	388	Kohuhu	13,11	0		x		
1	389	Mulberry	10	1		x		
1	390	Mexican fan palm	29	3				
1	391	Bald cypress	26	0		x		
1	392	Coast live oak	6	4				
1	393	Black locust	10,9	2		x		
1	394	Olive	5	2		x		
1	395	Black locust	18	2		x		
1	397	Coast live oak	10,8	3		x		
1	398	Coast live oak	17,12	4				
1	399	Mt. Atlas pistache	15,9	2				A
1	400	Coast live oak	15	2		x		
1	401	Deodar cedar	33	3			Prune to clean crown	
1	402	California bay	11,8,7,6,4	3				
1	403	Coast live oak	17	3				
1	404	Windmill palm	10	2		x		
1	405	Windmill palm	9	2				B
1	406	Windmill palm	7	3				B
1	407	Windmill palm	6	3				B
1	408	Windmill palm	7	3				B
1	409	Windmill palm	10	2				B
1	410	Deodar cedar	35	3			Prune to clean crown	
1	411	Deodar cedar	29	3			Prune to clean crown	
1	412	Victorian box	6	4				B
1	413	Deodar cedar	30	4				
1	414	Windmill palm	7	3				B
1	415	Windmill palm	6	3				B
1	416	Windmill palm	9	3				B
1	417	Windmill palm	7	3				B
1	418	Windmill palm	6	3				B
1	419	Windmill palm	7	2				B

California Nursery Historic Park Urban Forest Management Plan
Recommended Action for Trees
2016

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
1	420	California bay	11	3				A
1	421	California bay	50	3				A
1	422	Deodar cedar	33	3				
1	423	Incense cedar	18,4	2				B
1	424	California fan palm	30	4				
1	425	California fan palm	30	4				
1	426	Hollyleaf cherry	6,6,5,5,4,4	2				
1	427	Coast live oak	19	3				
1	428	Deodar cedar	26	3				
1	429	Coast live oak	6	2				
1	430	California bay	14,12	2				A
1	432	Mt. Atlas pistache	18	2				A
1	433	Chinese elm	18	3				B
1	434	Blue atlas cedar	25,19	3			Prune to reduce risk of failure	A
1	436	Incense cedar	19	0		x		
1	437	Incense cedar	18,11	0		x		
1	438	Coast live oak	7	2				
1	439	California pepper	9	1		x		
1	440	Coast live oak	21	4				
1	441	Blackwood acacia	7	4				
1	442	Blackwood acacia	18	3				
1	443	Blackwood acacia	22	3			Prune to reduce risk of failure	
1	444	Blackwood acacia	7	2				
1	445	Plum	5	3				
1	446	Coast live oak	12,6	4				
1	447	California fan palm	6	4				
1	448	Plum	6	2				
1	449	Coast live oak	5,3	3				
1	450	Coast live oak	7	3				
1	451	Holly oak	6"	3				

California Nursery Historic Park Urban Forest Management Plan
Recommended Action for Trees
2016

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
1	453	Blue atlas cedar	33"	4	Consider			A
1	454	Glossy privet	10"	0		x		
1	455	Plum	24"	3				
1	456	Mt. Atlas pistache	20"	1		x		
1	457	Plum	6"	3				
1	458	Southern magnolia	36"	2				B
1	459	Plum	11"	1		x		
1	460	Coast live oak	7"	3				
1	461	Coast live oak	10,9	3				
1	462	Mt. Atlas pistache	7"	3				A
1	463	Coast live oak	12"	3				
1	464	Coast live oak	24"	3				
1	465	Sweet olive	12"	3				B
1	466	Loquat	12"	3				
1	467	Coast live oak	25"	3				
1	468	Coast live oak	20"	3				
1	469	Chinese pistache	13"	3				
1	470	Blue atlas cedar	38"	4				A
1	471	Windmill palm	9"	4				B
1	472	Windmill palm	6"	4				B
1	473	Windmill palm	6"	4				B
1	474	Windmill palm	8"	4				B
1	475	Windmill palm	7"	4				B
1	476	Windmill palm	9"	4				B
1	477	Windmill palm	7"	4				B
1	478	Windmill palm	7"	4				B
1	479	Windmill palm	6"	4				B
1	480	Blackwood acacia	9"	4				
1	481	Windmill palm	9"	4				B
1	482	Windmill palm	8"	4				B
1	483	Windmill palm	10"	4				B
1	484	Windmill palm	7"	4				B

California Nursery Historic Park Urban Forest Management Plan
Recommended Action for Trees
2016

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
1	485	Windmill palm	7"	4				B
1	486	Windmill palm	6"	4				B
1	487	Windmill palm	6"	4				B
1	488	Windmill palm	6"	4				B
1	489	Monterey cypress	55"	2			Prune to reduce risk of failure; aerial inspection	A
1	490	Mexican fan palm	14"	3				
1	491	Mexican fan palm	16"	4				
1	492	English spreading yew	20"	1		x		
1	493	Coast live oak	8"	3				
1	494	Spanish fir	19"	0		x		
1	495	English spreading yew	14"	0		x		
1	496	Blackwood acacia	20"	0		x		
1	497	Deodar cedar	44"	4	Consider		Prune to reduce risk of failure	
1	498	River she-oak	10"	3			Prune to improve form	B
1	499	English spreading yew	23"	1		x		
1	501	Kohuhu	23"	2				B
1	502	Mexican fan palm	19"	4				
1	503	Cabbage palm	7"	4				A
1	504	River she-oak	12"	4				B
1	505	River she-oak	7"	3				B
1	506	River she-oak	11"	3			Prune to clean crown	B
1	507	Fremont cottonwood	36"	1		x		
1	509	Colorado spruce	10"	1		x		
1	510	Colorado spruce	11"	2				B
1	511	Colorado spruce	9"	2				B
1	515	Deodar cedar	16"	2				
1	516	Cliff date palm	36"	4				B
1	525	Lombardy poplar	64"	0	Landmark	x		
1	526	River she-oak	18"	2		x		B
1	527	Guadalupe palm	18"	4				B

California Nursery Historic Park Urban Forest Management Plan
Recommended Action for Trees
2016

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
1	528	Guadalupe palm	21"	5				B
1	529	Monterey cypress	50"	2	Landmark		Prune to reduce risk for failure; aerial inspection	A
1	530	Monterey cypress	50"	4	Landmark		Install support system	A
1	531	Monterey cypress	49"	0	Landmark	Gone		
1	532	River she-oak	25"	1		x		B
1	533	River she-oak	23"	3				B
1	534	River she-oak	26"	3			Prune to reduce risk of failure	B
1	535	Monterey cypress	48"	1	Landmark	x		
1	536	River she-oak	19"	2			Prune to reduce risk of failure	B
1	537	River she-oak	44"	2			Prune to reduce risk of failure	B
1	538	Coast live oak	35"	3				
1	539	Cork oak	22"	3			Install prop	
1	540	Monterey cypress	27"	0	Landmark	x		
1	541	Glossy privet	10"	3				
1	542	Victorian box	4"	0		x		
1	543	Monterey cypress	32"	2	Landmark		Perform decay inspection	A
1	544	Senegal date palm	65" Cluster	4	Landmark			B
1	545	Canary Island date palm	28"	3				
1	546	Incense cedar	10"	0		x		
1	547	Coast live oak	11"	3				
1	548	Chinese pistache	7"	4				
1	549	Coast live oak	32"	4				
1	550	English spreading yew	15"	4				B
1	551	California pepper	6"	2				
1	552	California bay	13"	3				A
1	553	Coast live oak	37"	0		x		
1	554	Coast live oak	16"	2				
1	555	Coast live oak	21"	3			Build box around tree	

California Nursery Historic Park Urban Forest Management Plan
Recommended Action for Trees
2016

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
1	556	Coast live oak	22"	4			Prune to improve weight distribution	
1	557	Glossy privet	24"	3				
1	558	California black walnut	7"	3				C
1	559	Coast live oak	7"	3				
1	560	Bigleaf maple	13"	2				B
1	561	English spreading yew	36"	3				B
1	562	English spreading yew	36"	3				B
1	563	English spreading yew	24"	3				B
1	564	English spreading yew	18"	3				B
1	565	English spreading yew	7"	3				B
1	566	English spreading yew	24"	2				B
1	567	English spreading yew	18"	3				B
1	568	English spreading yew	24"	3				B
1	569	English spreading yew	12"	3				B
1	570	English spreading yew	18"	3				B
1	571	English spreading yew	36"	3				B
1	572	English spreading yew	18"	3				B
1	573	English spreading yew	24"	3				B
1	574	English spreading yew	36"	3				B
1	575	English spreading yew	24"	3				B
1	576	English spreading yew	36"	3				B
1	577	English spreading yew	18"	3				B
1	578	English spreading yew	40"	3				B
1	579	Mt. Atlas pistache	7"	3				A
1	580	Mt. Atlas pistache	8"	3				A
1	581	Loquat	7"	3				
1	582	Italian buckthorn	11"	2				A
1	583	Loquat	8"	3				
1	584	Mt. Atlas pistache	8,6,6,4	1		x		
1	585	Mt. Atlas pistache	12"	3				A
1	586	Mt. Atlas pistache	27"	3				A

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
1	587	Purpleleaf plum	24"	1		x		B
1	588	English spreading yew	36"	1			Prune to coppice	B
1	589	Douglas fir	7"	1		x		
1	590	English spreading yew	36"	0		x		
1	591	English spreading yew	44"	0		x		
1	592	English spreading yew	42"	0		x		
1	593	English spreading yew	31"	0		x		
1	594	Persimmon	7"	3				B
1	595	Persimmon	8"	4				B
1	596	Persimmon	7"	3				B
1	597	Persimmon	6"	3				B
1	598	California black walnut	26"	1			Prune to coppice	C
1	599	Persimmon	7"	2				B
1	600	Coast live oak	27"	4				
1	601	English spreading yew	25 stems 4-8"	1			Prune to coppice	B
1	602	Coast live oak	9"	4				
1	603	Coast live oak	8"	3				
1	604	Coast live oak	6"	3				
1	605	California black walnut	23"	4				C
1	606	Purpleleaf plum	6,4,4,2,2,1	2		x		B
1	607	English spreading yew	6,5,5,4,4	0		x		
1	608	English spreading yew	7,7,6,5,5,5,4,4	0		x		
1	609	Plum	4,3,3	3				
1	610	Holly oak	6"	4				
1	611	Canary Island pine	18"	2		x		
1	612	Coast live oak	24"	3	Consider			
1	613	Coast live oak	35"	3	Consider			
1	614	Coast live oak	27"	3	Consider			
1	615	Coast live oak	29"	3	Consider			
1	616	Coast live oak	21"	3	Consider			
1	617	English spreading yew	7,6	2			Prune to coppice	B
1	618	English spreading yew	15 stems 4-6"	3				B

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
1	619	English spreading yew	8,7,6	2			Prune to coppice	B
1	620	Coast live oak	26"	4	Consider			
1	621	Coast live oak	21"	2	Consider		Install prop	
1	622	English spreading yew	13 stems 2-5"	2			Prune to coppice	B
1	623	Coast live oak	21"	3	Consider			
1	625	Coast live oak	19"	2	Consider		Prune to improve weight distribution	
1	626	Coast live oak	29"	4	Consider			
1	627	English spreading yew	7,6,5	3				B
1	628	English spreading yew	8,7,5,5,4	3				B
1	629	Coast live oak	31"	4				
1	630	Mt. Atlas pistache	5,4,3	4				A
1	631	Coast live oak	29"	3	Consider			
1	632	Coast live oak	23"	2	Consider		Prune to improve weight distribution	
1	633	Coast live oak	24"	3	Consider			
1	634	Coast live oak	20"	3	Consider			
1	635	Coast live oak	17"	3	Consider			
1	636	Coast live oak	24"	3	Consider			
1	637	Coast live oak	22"	3	Consider			
1	638	Coast live oak	22"	3	Consider			
1	639	Coast live oak	30"	4	Consider			
1	640	Coast live oak	6,4	3				
1	641	California bay	8,7,5	3				A
1	642	Loquat	6"	3				
1	643	Loquat	9"	3				
1	644	Loquat	9"	3				
1	645	Loquat	7"	3				
1	646	Loquat	7,5,4	3				
1	647	Loquat	6,5,3	3				
1	648	Italian buckthorn	7"	2				A
1	649	English spreading yew	7,6,4	1		x		

California Nursery Historic Park Urban Forest Management Plan
Recommended Action for Trees
2016

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
1	650	English spreading yew	8,7	1		x		
1	651	Glossy privet	8,7,3	1		x		
1	652	Monterey cypress	38"	3	Consider		Prune to clean crown	A
1	653	Cork oak	19"	3			Prune to improve weight distribution	
1	654	Mt. Atlas pistache	15"	3				A
1	655	Olive	8"	3				
1	656	English spreading yew	28 stems 3-14'	0		x		
1	657	Coast live oak	7"	4				
1	658	Cork oak	30"	3			Prune to improve weight distribution	
1	659	Cork oak	28"	4			Prune to improve weight distribution	
1	660	Mt. Atlas pistache	26"	3			Prune to improve weight distribution	A
1	661	Mt. Atlas pistache	21"	3				A
1	662	Blue atlas cedar	39"	4				A
1	663	Coast live oak	21"	3	Consider			
1	664	Coast live oak	23"	3	Consider			
1	665	Mt. Atlas pistache	8"	3				A
1	666	Coast live oak	9"	4				
1	667	Mt. Atlas pistache	7"	3				A
1	668	Coast live oak	7"	4				
1	669	Holly oak	7"	4				
1	670	Holly oak	6"	4				
1	671	Loquat	6,7,5	0		x		
1	672	Mt. Atlas pistache	6"	2		x		
1	673	Coast live oak	28"	3				
1	674	Coast live oak	13"	2			Build box around tree	
1	675	Mt. Atlas pistache	10"	0		x		
1	676	Mt. Atlas pistache	9,6,6,4,3	3				A
1	784	Carob	6,4,4,4,4	3				

California Nursery Historic Park Urban Forest Management Plan
Recommended Action for Trees
2016

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
2	319	Silver maple	33	2		x		
2	320	Silver maple	31	2		x		
2	321	Silver maple	35	1		x		
3	266	Blue atlas cedar	14	3				A
3	267	Canary Island date palm	31	5				
3	268	Mt. Atlas pistache	6"	3				A
3	269	Fig	12	3				A
3	270	Canary Island date palm	50	4	Landmark			
3	271	Canary Island date palm	36	4	Landmark			
3	272	Canary Island date palm	36	4	Landmark			
3	273	Canary Island date palm	39	4	Landmark			
3	274	Canary Island date palm	38	4	Landmark			
3	275	Canary Island date palm	45	5	Landmark			
3	276	Canary Island date palm	44	5	Landmark			
3	277	Canary Island date palm	31	4	Landmark			
3	278	Canary Island date palm	33	4	Landmark			
3	279	Canary Island date palm	30	4	Landmark			
3	280	Glossy privet	11	4				
3	281	Fremont cottonwood	80	2		x		
3	282	Siberian elm	39	3	Landmark		Prune to reduce risk of failure	B
3	283	Glossy privet	17	3				
3	284	Canary Island date palm	38	4	Landmark			
3	285	Black locust	9	4				
3	286	Canary Island date palm	32	4	Landmark			
3	287	Canary Island date palm	40	4	Landmark			
3	288	Canary Island date palm	28	4	Landmark			
3	289	Canary Island date palm	27	4	Landmark			
3	290	Canary Island date palm	38	4	Landmark			
3	291	Canary Island date palm	44	4	Landmark			
3	292	Lombardy poplar	48	2		x		
3	293	Canary Island date palm	51	4	Landmark			

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
3	294	Siberian elm	47	3	Landmark		Prune to improve weight distribution	B
3	295	Canary Island date palm	37	4	Landmark			
3	296	Canary Island date palm	38	4	Landmark			
3	297	Canary Island date palm	32	4	Landmark			
3	298	Canary Island date palm	26	4	Landmark			
3	299	Canary Island date palm	38	4	Landmark			
3	300	Canary Island date palm	30	4	Landmark			
3	301	Canary Island date palm	32	3	Landmark			
3	302	Canary Island date palm	45	4	Landmark			
3	303	Canary Island date palm	44	3	Landmark			
3	304	Coast live oak	13	2		x		
3	305	Coast live oak	7,2	2				
3	306	Coast live oak	7,6	2				
3	307	Siberian elm	19,19	2	Landmark			B
3	308	Pecan	24,20,18	3	Consider		Prune to reduce risk of failure	A
3	309	Pecan	36	3	Consider		Prune to reduce risk of failure	A
3	310	Pecan	16	3	Consider		Prune to reduce risk of failure	A
3	311	Pecan	29	3	Consider		Prune to reduce risk of failure	A
3	312	Loquat	15	2		x		
3	313	Black alder	8	0		x		
3	314	Coral tree	29	2				B
3	322	Glossy privet	5,4,3,3,2,2,2	2		x		
4	1	Coast live oak	24"	3			Prune to improve weight distribution	
4	2	Plum	21"	1		x		
4	4	Coast live oak	14"	3			Prune to improve weight distribution	

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
4	5	Canary Island pine	17"	3				
4	6	Coast live oak	15"	3			Prune to improve weight distribution	
4	7	Coast live oak	20"	4				
4	8	Coast live oak	11"	3			Prune to improve weight distribution	
4	9	Coast live oak	18"	4			Monitor insects	
4	10	Mt. Atlas pistache	24"	3				A
4	11	Mt. Atlas pistache	26"	3				A
4	12	Coast live oak	21"	3				
4	13	Plum	9"	3				
4	14	Mexican fan palm	21"	4				
4	15	Southern magnolia	36"	3				B
4	16	Southern magnolia	32"	2				B
4	17	Olive	9"	3				
4	18	Olive	14	2				
4	22	Southern magnolia	32"	3				B
4	23	Bald cypress	9"	5				B
4	24	Southern magnolia	27"	4				B
4	25	Coast live oak	11"	3				
4	27	Deodar cedar	43"	4	Consider		Perform aerial inspection	
4	28	Coast live oak	10"	4				
4	29	London plane	18"	3			Monitor insects	B
4	30	Olive	34"	3			Prune to reduce risk of failure	
4	31	Olive	27"	3			Prune to reduce risk of failure	
4	32	Olive	33"	3			Prune to reduce risk of failure	
4	33	Olive	23"	3			Prune to reduce risk of failure	
4	34	Glossy privet	7"	3				

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
4	35	Glossy privet	10"	2				
4	36	Olive	37"	4				
4	37	Bunya-bunya	55"	4	Landmark			A
4	38	American elm	43"	2			Prune to reduce risk of failure	B
4	39	American elm	14	1		x		B
4	40	American elm	14	2			Prune to improve weight distribution	B
4	41	American elm	14"	2				B
4	42	American elm	12"	2				B
4	43	American elm	9"	2				B
4	44	American elm	22	3	Consider		Prune to reduce risk of failure	B
4	45	American elm	32"	2	Consider			B
4	46	American elm	20	2	Consider			B
4	47	Norfolk Island pine	6"	3				B
4	48	Olive	20	2				
4	49	Olive	30	2				
4	50	Plum	11"	3				
4	51	Deodar cedar	48"	3			Perform aerial inspection	
4	52	Coast live oak	18	4				
4	53	Mt. Atlas pistache	23"	3				A
4	54	Olive	6"	3				
4	55	Olive	6"	2				
4	56	Olive	6"	1		x		
4	57	Olive	8"	2				
4	58	Portugal laurel	40"	4	Consider			B
4	59	Persimmon	17"	3				B
4	60	Persimmon	12"	3				B
4	61	Prickly melaleuca	59"	2	Landmark		Prune to reduce risk of failure	A

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
4	62	Prickly melaleuca	55"	2	Landmark		Prune to reduce risk of failure	A
4	63	Deodar cedar	25"	3				
4	64	Coast live oak	6"	4				
4	65	Mt. Atlas pistache	32"	3	Consider		Prune to clean crown	A
4	66	Olive	12"	2		x		
4	67	Olive	7"	2		x		
4	68	Olive	6"	2		x		
4	69	Olive	8"	2		x		
4	70	Olive	9"	3				
4	71	Montezuma cypress	9"	5				B
4	72	Queensland bottle tree	12"	4			Remove girding root	B
4	74	Chinese juniper	7"	4				
4	75	Canary Island date palm	22"	4				
4	76	Canary Island date palm	30"	4				
4	77	Cockspur hawthorn	26"	3	Consider		Prune to clean crown	B
4	78	Canary Island date palm	45"	5				
4	80	California pepper	19"	4				
4	81	Olive	9"	4				
4	82	Guadalupe cypress	9"	5				A
4	83	Deodar cedar	21"	4			Prune to clean crown	
4	84	Dawn redwood	25"	5	Consider			C
4	85	Apple	6"	2				C
4	86	Myoporum	19"	2				
4	87	Apple	6"	2				C
4	88	Plum	20"	2				
4	90	Red horsechestnut	21"	4				B
4	91	Persimmon	23"	3				B
4	92	Saucer magnolia	15"	3				B
4	93	Canary Island date palm	38"	2	Landmark		Aerial inspection	
4	94	Canary Island date palm	37"	5	Landmark			
4	95	Purple-leaf acacia	9"	4				

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
4	96	Canary Island date palm	33"	4	Landmark			
4	97	Coral tree	13"	3				B
4	98	Cape chestnut	6"	4				A
4	99	Kohuhu	16"	2				
4	100	Canary Island date palm	13"	4				
4	102	Coast live oak	31"	5	Consider		Monitor insects	
4	104	Coast live oak	8"	5				
4	106	Coast live oak	9"	3				
4	107	Coast live oak	25"	3	Consider		Install support system	
4	108	Mayten	12"	3				B
4	109	Holly oak	6"	2				
4	110	Plum	10"	3				
4	111	Plum	14"	2				
4	112	Cotoneaster	10"	3				
4	113	Plum	7"	3				
4	114	Coast live oak	11"	4				
4	115	Olive	9"	1		x		
4	116	Coast live oak	17"	3				
4	117	Compact blue gum	113"	3	Landmark			
4	118	Coast live oak	8"	3				
4	119	Glossy privet	6"	3				
4	120	Glossy privet	5"	3				
4	121	Glossy privet	9"	3				
4	122	Portugal laurel	25"	3	Consider			B
4	123	Glossy privet	6"	3				
4	124	Glossy privet	6"	3				
4	125	Glossy privet	6"	3				
4	126	Coast live oak	9"	2				
4	127	Deodar cedar	34"	4	Consider			
4	128	Carolina cherry laurel	8"	2				A
4	129	Glossy privet	8"	2				
4	130	Plum	18"	2				

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
4	131	American elm	17"	3				B
4	132	English yew	25"	3				
4	133	English laurel	12"	3				B
4	134	American elm	7"	5				B
4	135	Japanese maple	10"	4				B
4	136	Japanese maple	7"	3				B
4	137	Dracaena palm	25"	3				
4	138	Coast live oak	8"	3				
4	139	Pindo palm	23"	5				B
4	140	Pindo palm	19"	4				B
4	141	Olive	23"	3				
4	142	Italian cypress	20"	5				
4	143	English yew	28"	4				B
4	144	Plum	13"	3				
4	145	Plum	26"	3				
4	146	Queensland bottle tree	19"	3			Remove girding root	B
4	147	Purpleleaf plum	12"	4				B
4	148	Plum	15"	3				
4	149	Japanese maple	16"	4				B
4	150	Ginkgo	12"	3				B
4	151	English yew	15	4				B
4	152	Australian bush cherry	28	3				B
4	153	Australian bush cherry	39	3				B
4	154	Australian bush cherry	24	4				B
4	155	Australian bush cherry	13	4				B
4	157	Blue gum	31	4				
4	158	Olive	16	2				
4	159	Glossy privet	18	3				
4	160	Olive	19	1		x		
4	161	Black locust	25	2		x		
4	162	American elm	31	3	Consider		Prune to reduce risk of failure	B

California Nursery Historic Park Urban Forest Management Plan
Recommended Action for Trees
2016

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
4	200	Canary Island date palm	19	5				
4	733	Glossy privet	6,4,4,4,3,2	3				
4	734	Almond	8,7,3	2				C
4	735	Mexican fan palm	32"	3				
4	736	Deodar cedar	28"	4				
4	737	California pepper	16,15,14	3				
4	738	Cork oak	37,31,16	2	Landmark		Perform root collar inspection	
4	739	Canary Island date palm	17"	5				
4	740	Italian stone pine	24,23	4				
4	741	Coast live oak	7,6	4				
4	742	Coast live oak	7"	5				
4	743	Mayten	11"	3				B
4	745	Giant sequoia	14"	3				B
4	746	Olive	15"	3				
4	747	Victorian box	1,1,1,1,1,1,1	3				B
4	748	Canary Island date palm	30"	4				
4	754	Windmill palm	12"	4				B
5	166	Canary Island date palm	30	3	Landmark		Aerial inspection	
5	167	Canary Island date palm	24	5	Landmark			
5	168	Blue atlas cedar	31	4				A
5	170	Glossy privet	25	3				
5	171	Deodar cedar	35	3				
5	172	Incense cedar	16,10	3				
5	173	Floss silk tree	8"	3				
5	174	Canary Islands juniper	9,8,8	4	Landmark			
5	175	Mexican fan palm	22"	5				
5	176	Canary Islands juniper	8,6	3				
5	177	Hollywood juniper	8"	3				
5	178	Canary Island pine	23"	4				
5	179	Canary Island pine	18"	3				
5	180	English yew	11"	3				B

California Nursery Historic Park Urban Forest Management Plan
Recommended Action for Trees
2016

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
5	181	Catalina cherry	7"	4				
5	182	Blackwood acacia	16"	3				
5	183	Floss silk tree	8"	4				
5	184	Olive	8,6,6	4				
5	185	Incense cedar	23"	4				
5	186	Canary Island date palm	21"	5	Landmark			
5	187	Windmill palm	6"	3				B
5	188	Olive	6,4	3				
5	189	Windmill palm	6"	4				B
5	190	Windmill palm	6"	4				B
5	191	California pepper	18	3				
5	192	California pepper	22	3				
5	193	Guadalupe cypress	10"	4				A
5	194	Peach	8"	2		x		
5	195	Mayten	9"	2		x		B
5	196	Flaxleaf paperbark	15"	4				
5	197	Flaxleaf paperbark	17"	4				
5	198	Windmill palm	8"	4				
5	199	Mexican fan palm	16"	5				
5	201	Windmill palm	7"	4				
5	202	Windmill palm	7"	4				
5	203	California buckeye	11"	4				
5	204	Algerian fir	24"	3				B
5	211	Incense cedar	41	3	Consider		Install support system	B
5	212	Deodar cedar	23	3	Consider			
5	213	Deodar cedar	31	4	Consider		Prune to clean crown	
5	214	Deodar cedar	33	3	Consider			
5	215	Coast live oak	7	4				
5	216	Aleppo pine	29	0		x		
5	217	Japanese red cedar	8	0		x		
5	218	Japanese red cedar	11	2		x		B
5	219	Japanese red cedar	9	2		x		B

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
5	220	Japanese red cedar	16	3				B
5	221	Canary Island pine	19	3				
5	222	Canary Island pine	21	3				
5	223	Canary Island pine	18	3				
5	224	Canary Island pine	13	1		x		
5	226	Canary Island pine	12	1		x		
5	227	Canary Island pine	12	1		x		
5	228	Deodar cedar	19	3				
5	229	Deodar cedar	14	2		x		
5	230	Deodar cedar	19	2		x		
5	231	Deodar cedar	25	2		x		
5	232	Glossy privet	24	2		x		
5	233	Glossy privet	8	3				
5	234	Mt. Atlas pistache	26"	3	Consider			A
5	235	Coast live oak	7	4				
5	236	Coast live oak	5	3				
5	237	Glossy privet	35	3				
5	238	Glossy privet	50	2		x		
5	239	Glossy privet	34	3				
5	240	Silver dollar gum	35	4				
5	241	Glossy privet	12	3				
5	242	Deodar cedar	7	2		x		
5	243	Bunya-bunya	16	3				A
5	244	Mt. Atlas pistache	34"	2		x		
5	245	Olive	12	3				
5	246	Burr oak	34	4	Consider			A
5	247	California black walnut	51	3	Consider			C
5	248	Catalina ironwood	31	1		x		
5	249	Glossy privet	35	2		x		
5	251	Canary Island pine	43	4	Landmark			
5	252	Queensland kauri	12	3	Landmark			B
5	253	Canary Island date palm	43	4				

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
5	254	Swamp mahogany	31	3				A
5	255	Canary Island date palm	27	4				
5	256	Canary Island date palm	34	4				
5	257	Bald cypress	27	4	Consider			
5	258	White ironbark	38	1		x		
5	259	White ironbark	46	2		x		
5	260	White ironbark	38	2		x		
5	261	Canary Island date palm	31	5				
5	262	Canary Island date palm	33	5				
5	263	Sawleaf zelkova	42	4	Landmark			B
5	264	Silk oak	30	2		x		
5	265	Queen palm	9	2				B
5	753	Deodar cedar	7"	4				
5	783	Mediterranean fan palm	clump	4	Consider			
6	315	Coast live oak	21	3				
6	316	California bay	18	3				A
6	317	Evergreen ash	9	3				B
6	517	Raywood ash	7"	4				B
6	518	Cliff date palm	35"	4				B
6	519	Glossy privet	7"	3				
6	520	Cliff date palm	21"	4				B
6	521	Hazelnut	7"	4				B
6	522	Plum	21"	0		x		
6	523	Persimmon	10"	1		x		
6	524	Glossy privet	30"	1		x		
6	677	Coast live oak	10,8,4	4				
6	678	Coast live oak	19"	5				
6	679	Coast live oak	15"	4				
6	680	Silver maple	12"	4				B
6	681	Canary Island date palm	36"	5				
6	683	Apple	23"	0		x		
6	684	Apricot	21"	0		x		C

California Nursery Historic Park Urban Forest Management Plan
Recommended Action for Trees
2016

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
6	685	Apple	15,8,8,7	0		x		
6	686	Apricot	4,4,4,3,2	3				
6	687	California black walnut	9,8	2		x		
6	688	Apricot	2,2,2,2,2	4				
6	689	Apricot	3,2,2,1	3				
6	690	Apricot	5,3,2,2,2	4				
6	691	Apricot	5,4,3,3	4				C
6	692	Apricot	3,3,2,1,1	4				
6	693	Apricot	3,2,2,1,1	3				
6	694	Apricot	4,2,2,1	4				
6	695	Apricot	4,3,2,2,1,1	4				
6	696	Apricot	5,5,4,2,1,1	4				
6	697	Apricot	2,2,2,1,1,1,1,1	3				C
6	698	Apricot	4,2,1,1,1	3				C
6	699	Apricot	4,4,3,3	3				C
6	700	Apricot	4,4,2,1,1	4				C
6	701	Apricot	5,4	4				C
6	702	Apricot	12,6	3				C
6	703	Apricot	2,2,1,1,1,1	4				C
6	704	Apricot	2,2,1,1,1,1	3				C
6	705	Apricot	7	2				C
6	706	Apricot	10	2				C
6	707	Apricot	5,4,3,3	4				C
6	708	Apricot	4,2,2	3				C
6	709	Apricot	2,1,1,1,1,1,1	4				C
6	710	Apricot	2,2,1,1,1,1,1	3				C
6	711	Apricot	1,1,1,1,1,1,1	4				C
6	712	Apricot	3,3,1	3				C
6	713	Cherry	3,2,2,2	4				C
6	714	Cherry	4,3,2,2,1	3				C
6	715	Apple	3,2,2,2	2				C
6	716	Coast live oak	13"	5				

California Nursery Historic Park Urban Forest Management Plan
Recommended Action for Trees
2016

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
6	717	Canary Island date palm	33"	4				
6	718	Canary Island date palm	34"	4				
6	719	Canary Island date palm	29"	4				
6	720	Coast live oak	22,12	3				
6	722	Coast redwood	21"	3				C
6	723	Coast redwood	28"	4				C
6	724	Coast redwood	11"	3				C
6	725	Coast redwood	53"	3				C
6	726	Coast redwood	41"	3				C
6	727	Coast redwood	19"	3				C
6	728	Canary Island date palm	40	4				
6	729	Canary Island date palm	33"	5				
6	730	Canary Island date palm	26"	4				
6	731	Guadalupe cypress	15"	5			Remove ivy	A
6	755	Apricot	2,2,1,1	3				C
6	756	Apricot	3,2,1,1	4				C
6	757	Apricot	2,2,1,1	3				C
6	758	Cherry	1,1,1,1	4				C
6	759	Cherry	1,1,1,1	3				C
6	760	Apple	5,4,4,3	1		x		
6	761	Cherry	2,2,1,1,1,1	4				C
6	762	Cherry	2,2,1,1,1,1	4				C
6	763	Cherry	1,1,1,1	4				C
6	764	Cherry	2,1,1,1,1	3				C
6	765	Cherry	2,1,1,1	2				C
6	766	Cherry	4	3				C
6	767	Cherry	2,2,1,1	3				C
6	768	Nectarine	4,2,2,1	4				C
6	769	Nectarine	3,2,2,1	4				C
6	770	Apricot	2,2,1,1	4				C
6	771	Apricot	4,3,2,3,1,1	4				C
6	772	Apricot	5,3,2	4				C

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
6	773	Apricot	3,2,2,1	3				C
6	774	Apricot	3,3,2,1.1	3				C
6	775	Apricot	3,3,2,1,1,1	3				C
6	776	Apricot	6	4				C
6	777	Apricot	3,2,2	3				C
6	778	Apricot	3,3,3,1	3				C
6	779	Apricot	2,2,1,1,1	2				C
6	780	Apricot	14	1		x		
6	781	Apricot	2,1,1,1,1	4				C
6	782	Apricot	2,1,1,1,1	3				
6	810	Dawn redwood	46	1				C
6	812	Silver dollar tree	24	3				
6	813	Orange	7,7,5	3				C
6	814	Loquat	6,5,5	1		x		
6	815	Cabbage palm	10,7,7,4	2				A
6	816	Glossy privet	7,3,2	2				
6	817	Glossy privet	9	2				
6	818	Glossy privet	12	2				
6	819	Fremont cottonwood	32	1		x		
6	820	Glossy privet	7	3				
6	821	Glossy privet	6,6	3				
6	822	Coast live oak	10	3				
6	823	Kohuhu	7	3				B
6	824	Glossy privet	6	2				
6	825	Deodar cedar	33	3			Prune to reduce risk of failure; perform aerial inspection	
6	826	Deodar cedar	33	3			Prune to reduce risk of failure; perform aerial inspection	

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
6	827	Deodar cedar	31	3			Prune to reduce risk of failure; perform aerial inspection	
6	828	Carolina cherry laurel	7	3				A
6	829	California bay	6,5,5	3				A
6	830	Coast live oak	12	4				
6	831	Swamp mahogany	27	2				A
6	832	English walnut	7	4				B
6	834	Myoporum	6	1		x		
6	836	African sumac	7,5	2				
6	837	African sumac	6	2				
6	838	African sumac	8,6,4,3	2				
6	839	African sumac	7,6,5,5,5,3	2				
6	840	Glossy privet	6	2				
6	841	African sumac	6,5,4	2				
6	842	Eastern arborvitae	11,8	3				B
6	843	Eastern arborvitae	10,9,8,6,5,5	2				B
6	859	Canary Island date palm	25	4				
6	860	Canary Island date palm	32	4				
6	861	Canary Island date palm	36	4				
6	862	Glossy privet	8,4,4,4	3				
6	863	Victorian box	10	3				B
6	864	Kohuhu	7,7,6,6,5,3,3,3	2				B
6	865	Coast live oak	9	3				
6	866	Mayten	7	1		x		B
7	163	Japanese black pine	8	3				B
7	164	Crabapple	6	2				B
7	165	Canary Island date palm	21	5	Landmark			
7	205	Glossy privet	26	3				
7	206	Chinese photinia	32	4				
7	207	Camperdown elm	16	3				
7	208	California pepper	26	3				

California Nursery Historic Park Urban Forest Management Plan
Recommended Action for Trees
2016

Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
7	209	Spanish dagger	40	4				A
7	210	China doll	14	1		x		
7	749	Canary Island date palm	35"	5				
7	750	Canary Island date palm	30"	3			Perform aerial inspection	
7	751	Chinese photinia	13,12	3				B
7	752	Glossy privet	15,14,12,5	2				
Residence	801	Coast live oak	12	3				
Residence	802	Chinese pistache	7	3				
Residence	803	Chinese flame tree	8,4	2				B
Residence	804	Coast live oak	12,7,6,6	4				
Residence	805	Coast live oak	7,5	4				
Residence	806	Coast live oak	6	4				
Residence	807	Coast live oak	10	3				
Residence	808	Coast live oak	10	3				
Residence	809	Coast live oak	8,7,7,7,6,6,4	3				
Residence	811	Pomegranate	10	3				A
Residence	833	Coast live oak	44	4			Prune to improve weight distribution; remove girding chain	
Residence	835	Coast live oak	10	4				
Residence	844	Blackwood acacia	10,8	3				
Residence	845	Japanese maple	10	2				
Residence	846	Japanese maple	11,7	1		x		
Residence	847	Japanese black pine	8	2				
Residence	848	Windmill palm	7	3				
Residence	849	Windmill palm	7	3				
Residence	850	Winged elm	18	1		x		
Residence	851	Windmill palm	8	3				
Residence	852	Deodar cedar	43	4			Prune to reduce risk of failure	
Residence	853	Canary Island date palm	28	4				

California Nursery Historic Park Urban Forest Management Plan
Recommended Action for Trees
2016

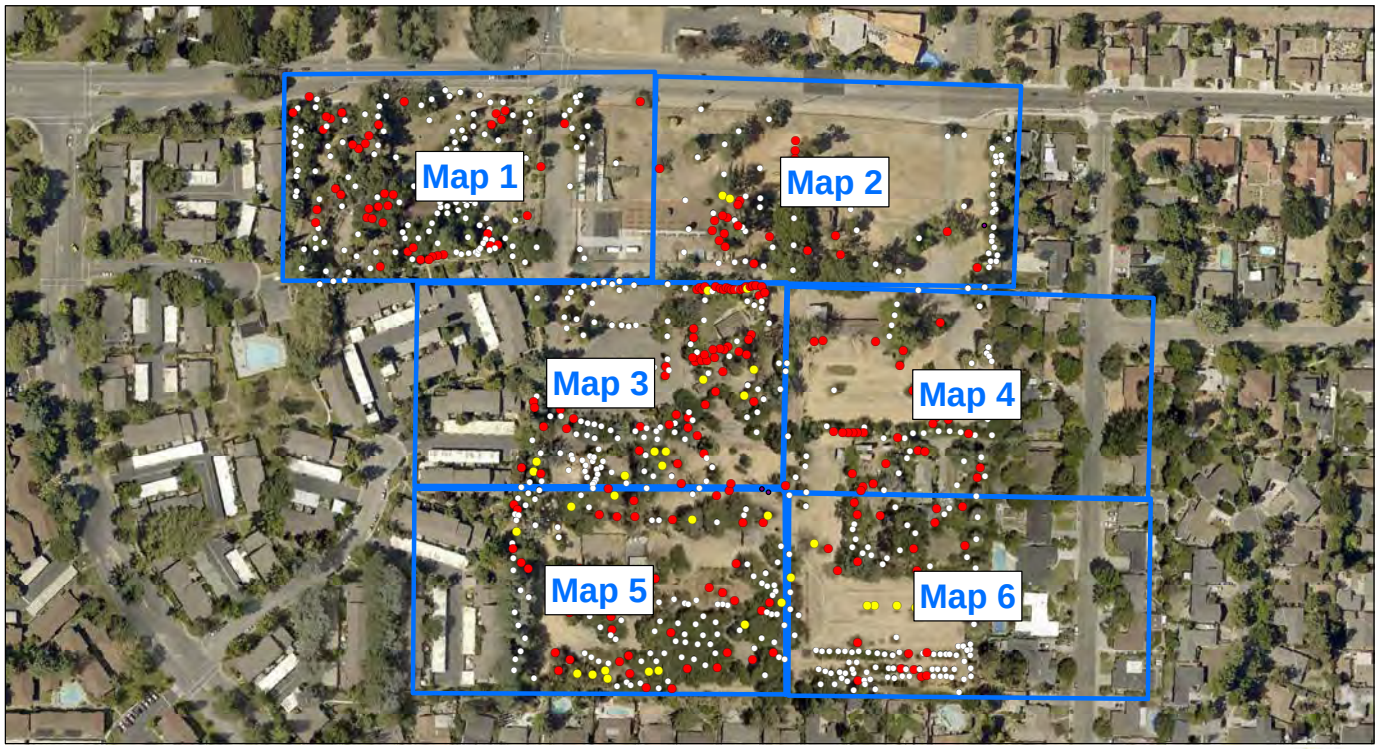
Phase	Tag #	Species	Trunk Diameter (inches)	Condition (0=dead; 5=excellent)	Significant Trees	Remove due to poor condition	Treatment Recommended (2016)	Irrigate
Residence	854	Deodar cedar	14	2				
Residence	855	Deodar cedar	19	2				
Residence	856	California black walnut	14,6	3				
Residence	857	Canary Island date palm	31	4				
Residence	858	Canary Island date palm	35	4				
Residence	867	Mayten	12	2				

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix 4:
Tree Inventory Maps

Appendix 4

Tree Inventory Maps



Tree Inventory Map

Map Key
California Nursery Historic Park
Fremont, CA

Prepared for:
City of Fremont

March 2017

Notes:
1. Basemap provided by City of Fremont.

2. Tree locations are approximate.

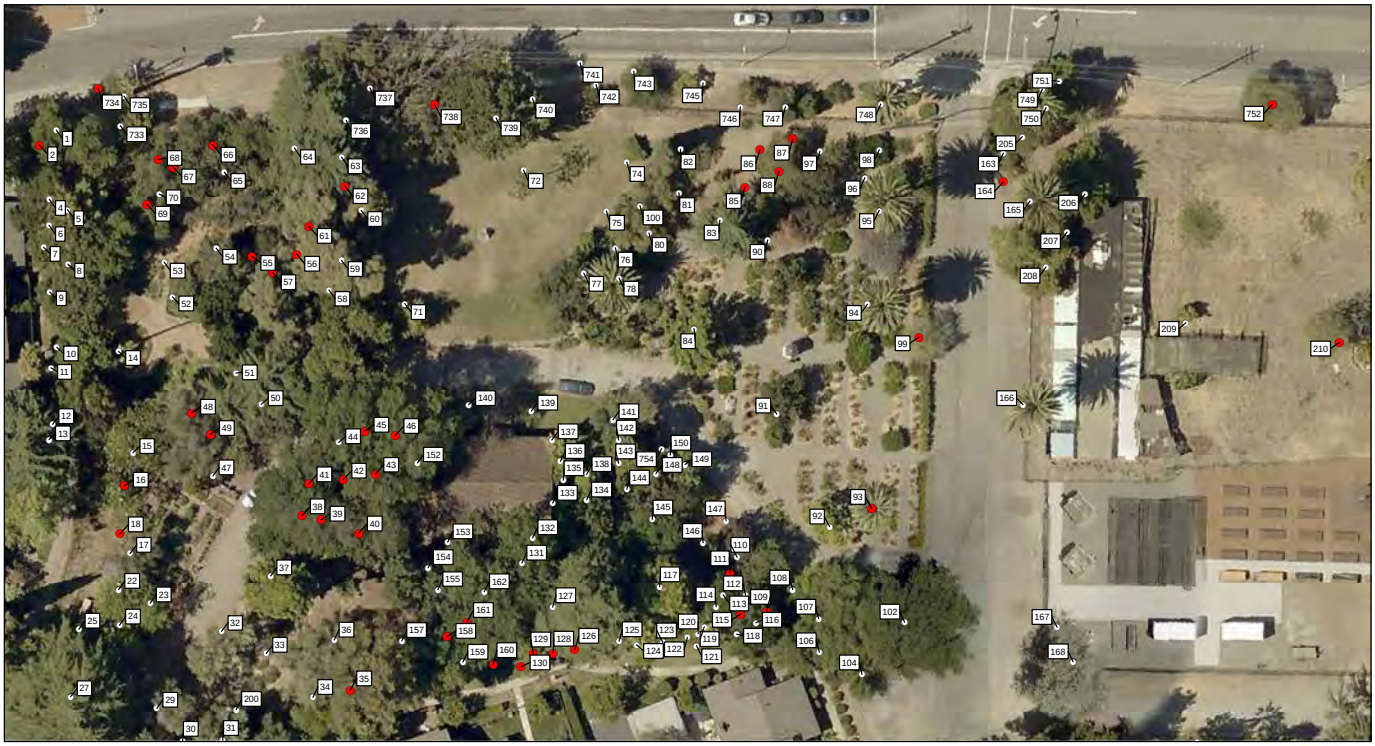
Legend

- Dead trees
- Trees in poor condition
- Trees in good and fair condition
- Map Number

N

180 Feet

HORT SCIENCE
325 Ray Street
Pleasanton, CA 94566
Phone (925) 484-0211
Fax (925) 484-0596



Tree Inventory Map

Map 1
California Nursery Historic Park
Fremont, CA

Prepared for:
City of Fremont

March 2017

Notes:
1. Basemap provided by City of Fremont.

2. Tree locations are approximate.

Legend

- Dead trees
- Trees in poor condition
- Trees in good and fair condition

N

50 Feet

HORT SCIENCE
325 Ray Street
Pleasanton, CA 94566
Phone (925) 484-0211
Fax (925) 484-0596

Tree Inventory Map

Map 2
California Nursery Historic Park
Fremont, CA

Prepared for:
City of Fremont

March 2017

Notes:
1. Basemap provided by City of Fremont.

2. Tree locations are approximate.

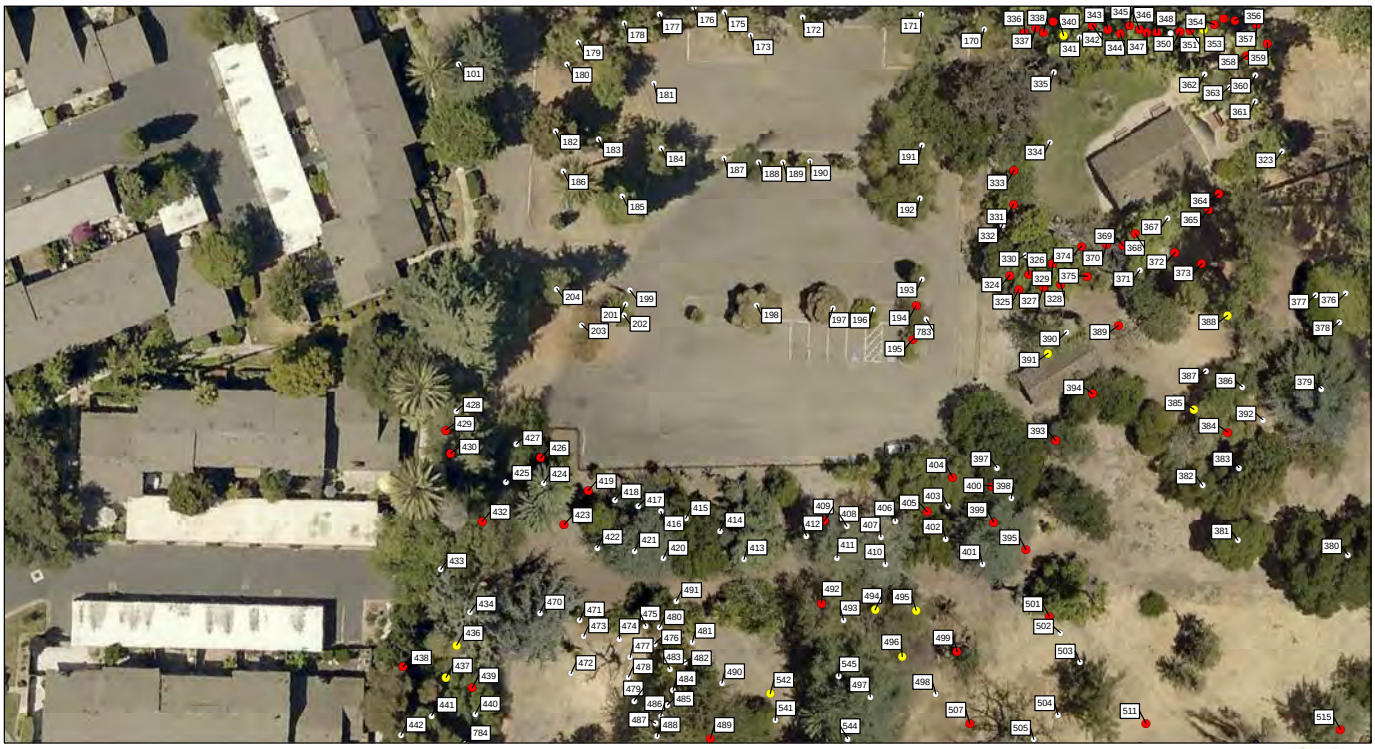
Legend

- Dead trees
- Trees in poor condition
- Trees in good and fair condition

N

50 Feet

HORT SCIENCE
325 Ray Street
Pleasanton, CA 94566
Phone (925) 484-0211
Fax (925) 484-0596



Tree Inventory Map

Map 3
California Nursery Historic Park
Fremont, CA

Prepared for:
City of Fremont

March 2017

Notes:
1. Basemap provided by City of Fremont.

2. Tree locations are approximate.

Legend

- Dead trees
- Trees in poor condition
- Trees in good and fair condition

N

50 Feet

HORT SCIENCE
325 Ray Street
Pleasanton, CA 94566
Phone (925) 484-0211
Fax (925) 484-0596

Tree Inventory Map

Map 4
California Nursery Historic Park
Fremont, CA

Prepared for:
City of Fremont

March 2017

Notes:
1. Basemap provided by City of Fremont.

2. Tree locations are approximate.

Legend

- Dead trees
- Trees in poor condition
- Trees in good and fair condition

N

50 Feet

HORT SCIENCE
325 Ray Street
Pleasanton, CA 94566
Phone (925) 484-0211
Fax (925) 484-0596

Tree Inventory Map

Map 5
California Nursery Historic Park
Fremont, CA

Prepared for:
City of Fremont

March 2017

Notes:
1. Basemap provided by City of Fremont.

2. Tree locations are approximate.

Legend

- Dead trees
- Trees in poor condition
- Trees in good and fair condition

N

50 Feet

HORT SCIENCE
325 Ray Street
Pleasanton, CA 94566
Phone (925) 484-0211
Fax (925) 484-0596

Tree Inventory Map

Map 6
California Nursery Historic Park
Fremont, CA

Prepared for:
City of Fremont

March 2017

Notes:
1. Basemap provided by City of Fremont.

2. Tree locations are approximate.

Legend

- Dead trees
- Trees in poor condition
- Trees in good and fair condition

N

50 Feet

HORT SCIENCE
325 Ray Street
Pleasanton, CA 94566
Phone (925) 484-0211
Fax (925) 484-0596

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix 5:
Tree Inventory Report

Tree Inventory Report

California Nursery Historical Park
Fremont, CA

Prepared for:
PGA Design
444 17th Street
Oakland, CA 94612

Prepared by:
HortScience, Inc.
325 Ray Street
Pleasanton, CA 94566

October 15, 2014

Tree Inventory Report
California Nursery Historical Park
Fremont, CA

Table of Contents

	Page
Introduction and Overview	1
Tree Inventory Methods	1
Description of Trees	1
Noteworthy Trees	6
Summary and Conclusions	12

List of Tables

Table 1. Condition ratings and frequency of occurrence of trees 2

Table 2. City of Fremont Landmark Trees at California Nursery 8

List of Figures

Fig. 1. Examples of trees in poor condition due to structural defects 7

Fig. 2. Examples of notable trees 9

Fig. 3. Examples of City of Fremont landmark trees 10

Fig. 4 Map of significant trees 11

Exhibits

Tree Inventory Maps

Tree Assessment Form

Tree Inventory Report
California Nursery Historical Park
Fremont, CA

Introduction and Overview

PGA Design is developing a Master Plan for the California Nursery Historical Park in Fremont, CA. The site is a historical nursery, established in 1884, that originally occupied 463 acres. Plants from around the world were propagated and planted to test them for suitability for California's growing conditions. Today the site is 20.1 acres owned by the City of Fremont. HortScience, Inc. was asked to prepare a **Tree Inventory Report** for the site to aid in planning the park.

This report provides the following information:

1. A survey of trees within and adjacent to the proposed project area.

2. An assessment of each tree's health, invasiveness and initial management recommendations.

Tree Inventory Methods

Trees were inventoried on April 24, 2014 by HortScience arborists and City of Fremont staff, and also in June and July by HortScience arborists. Trees had previously been tagged, the trunk diameter measured, and locations mapped. The survey procedure consisted of the following steps:

1. Identifying the tree as to species;
2. Evaluating the health and structural condition using a scale of 1 – 5:

   5 - A healthy, vigorous tree, reasonably free of signs and symptoms of disease, with good structure and form typical of the species.

   4 - Tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.

   3 - Tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that might be mitigated with regular care.

   2 - Tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.

   1 - Tree in severe decline, dieback of scaffold branches and/or trunk; most of foliage from epicormics; extensive structural defects that cannot be abated.
3. Describing the characteristics of each tree.

Description of Trees

Seven hundred fifty-six (756) trees were assessed. Descriptions of all trees and a map are found in the *Exhibits*.

The tree population at California Nursery was highly diverse; 122 taxa were represented (Table 1). The species most commonly present were coast live oak (13% of population), Canary Island date palm (8%), apricot (6%), yew (6%), windmill palm (5%), and lemonwood (5%). Seventy-four species were represented by only one or two trees.

Table 1: Condition ratings and frequency of occurrence of trees.
California Nursery, Fremont, CA

Common Name	Scientific Name	Condition			Total
		Poor (1-2)	Fair (3)	Good (4-5)	
Algerian fir	*Abies numidica*	-	-	1	**1**
Spanish fir	*Abies pinsapo*	-	1	-	**1**
Purple-leaf acacia	*Acacia baileyana* 'Purpurea'	-	-	1	**1**
Blackwood acacia	*Acacia melanoxylon*	2	3	2	**7**
Bigleaf maple	*Acer macrophyllum*	1	-	-	**1**
Japanese maple	*Acer palmatum*	-	2	2	**4**
Silver maple	*Acer saccharinum*	3	-	1	**4**
California buckeye	*Aesculus californica*	-	-	1	**1**
Red horsechestnut	*Aesculus x carnea*	-	1	-	**1**
Queensland kauri	*Agathis robusta*	-	1	-	**1**
River she-oak	*Allocasuarina cunninghamiana*	3	6	1	**10**
Black alder	*Alnus glutinosa*	1	-	-	**1**
Bunya-bunya	*Araucaria bidwillii*	-	1	1	**2**
Norfolk Island pine	*Araucaria heterophylla*	-	1	-	**1**
Bottle tree	*Brachychiton populneus*	-	1	-	**1**
Queensland bottle tree	*Brachychiton rupestris*	1	1	-	**2**
Guadalupe palm	*Brahea edulis*	-	-	2	**2**
Pindo palm	*Butia capitata*	1	-	2	**3**
Incense cedar	*Calocedrus decurrens*	3	3	1	**7**
Cape chestnut	*Calodendrum capense*	-	-	1	**1**
Pecan	*Carya illinoinensis*	-	4	-	**4**
Blue atlas cedar	*Cedrus atlantica* 'Glauca'	-	3	4	**7**
Deodar cedar	*Cedrus deodara*	3	14	10	**27**
Carob	*Ceratonia siliqua*	-	1	-	**1**
Mediterranean fan palm	*Chamaerops humilis*	-	-	1	**1**
Floss silk tree	*Chorisia speciosa*	-	1	1	**2**
Cabbage palm	*Cordyline australis*	2	2	1	**5**
Hazelnut	*Corylus maxima*	-	-	1	**1**
Cotoneaster	*Cotoneaster lacteus*	-	1	-	**1**
Cockspur hawthorn	*Crataegus crus-galli*	-	1	-	**1**
Japanese cedar	*Cryptomeria japonica*	-	2	1	**3**
Italian cypress	*Cupressus sempervirens*	-	1	1	**2**
Persimmon	*Diospyros kaki*	-	8	1	**9**
Loquat	*Eriobotrya japonica*	3	11	-	**14**
Naked coral tree	*Erythrina coralloides*	1	1	-	**2**
Blue gum	*Eucalyptus globulus*	-	-	1	**1**
Compact blue gum	*Eucalyptus globulus* 'Compacta'	-	1	-	**1**
White ironbark	*Eucalyptus leucoxylon*	1	2	-	**3**

Common Name	Scientific Name	Condition			Total
		Poor (1-2)	Fair (3)	Good (4-5)	
Silver dollar gum	*Eucalyptus polyanthemos*	-	1	1	**2**
Swamp mahogany	*Eucalyptus robusta*	-	-	1	**1**
Fig	*Ficus carica*	-	1	-	**1**
Raywood ash	*Fraxinus angustifolia* 'Raywood'	-	-	1	**1**
Evergreen ash	*Fraxinus uhdei*	-	1	-	**1**
Ginkgo	*Ginkgo biloba*	-	1	-	**1**
Silk oak	*Grevillea robusta*	1	-	-	**1**
Guadalupe cypress	*Hesperocyparis guadalupensis*	-	-	3	**3**
Monterey cypress	*Hesperocyparis macrocarpa*	2	5	1	**8**
Kentia palm	*Howea forsteriana*	-	-	1	**1**
California black walnut	*Juglans hindsii*	1	2	2	**5**
Canary Island juniper	*Juniperus cedrus*	-	1	1	**2**
Chinese juniper	*Juniperus chinensis*	-	-	1	**1**
Hollywood juniper	*Juniperus chinensis* 'Kaizuka'	-	1	-	**1**
Glossy privet	*Ligustrum lucidum*	10	19	1	**30**
Catalina ironwood	*Lyonothamnus floribundus*	1	-	-	**1**
Southern magnolia	*Magnolia grandiflora*	2	2	1	**5**
Saucer magnolia	*Magnolia x soulangiana*	-	1	-	**1**
Apple	*Malus domestica*	6	-	-	**6**
Crabapple	*Malus sylvestris*	1	-	-	**1**
Mayten	*Maytenus boaria*	-	3	-	**3**
Flaxleaf paperbark	*Melaleuca linariifolia*	-	-	2	**2**
Prickly melaleuca	*Melaleuca styphelioides*	2	-	-	**2**
Dawn redwood	*Metasequoia glyptostroboides*	-	-	1	**1**
Mulberry	*Morus alba*	1	-	-	**1**
Myoporum	*Myoporum laetum*	-	1	-	**1**
Olive	*Olea europaea*	15	13	3	**31**
Sweet olive	*Osmanthus fragrans*	-	1	-	**1**
Canary Island date palm	*Phoenix canariensis*	1	5	51	**57**
Senegal date palm	*Phoenix reclinata*	-	-	1	**1**
Cliff date palm	*Phoenix rupicola*	-	-	3	**3**
Chinese photinia	*Photinia serrulata*	1	1	1	**3**
Colorado spruce	*Picea pungens*	2	1	-	**3**
Canary Island pine	*Pinus canariensis*	7	6	2	**15**
Aleppo pine	*Pinus halepensis*	1	-	-	**1**
Italian stone pine	*Pinus pinea*	-	-	1	**1**
Monterey pine	*Pinus radiata*	-	1	-	**1**
Mt. Atlas pistache	*Pistacia atlantica*	7	17	1	**25**
Chinese pistache	*Pistacia chinensis*	-	1	1	**2**
Lemonwood	*Pittosporum tenuifolium*	30	4	-	**34**
Victorian box	*Pittosporus undulatum*	-	1	1	**2**

Common Name	Scientific Name	Condition			Total
		Poor (1-2)	Fair (3)	Good (4-5)	
London plane	*Platanus x hispanica*	-	1	-	**1**
Fremont cottonwood	*Populus fremontii*	2	-	-	**2**
Lombardy poplar	*Populus nigra* 'Italica'	3	-	-	**3**
Apricot	*Prunus armeniaca*	5	19	19	**43**
Cherry	*Prunus avium*	1	5	5	**11**
Carolina cherry laurel	*Prunus caroliniana*	1	-	-	**1**
Purpleleaf plum	*Prunus cerasifera*	1	1	1	**3**
Plum	*Prunus domestica*	7	12	-	**19**
Almond	*Prunus dulcis*	1	-	-	**1**
Hollyleaf cherry	*Prunus ilicifolia*	1	-	-	**1**
Catalina cherry	*Prunus ilicifolia* subsp. *lyonii*	-	-	1	**1**
English laurel	*Prunus laurocerasus*	-	1	-	**1**
Portugal laurel	*Prunus lusitanica*	-	1	1	**2**
Peach	*Prunus persica*	1	-	-	**1**
Nectarine	*Prunus persica*	-	-	2	**2**
Douglas fir	*Pseudotsuga menziesii*	-	1	-	**1**
Coast live oak	*Quercus agrifolia*	13	50	32	**95**
Holly oak	*Quercus ilex*	1	1	3	**5**
Valley oak	*Quercus lobata*	-	1	-	**1**
Burr oak	*Quercus macrocarpa*	-	-	1	**1**
Cork oak	*Quercus suber*	1	3	1	**5**
China doll	*Radermachera sinica*	-	1	-	**1**
Italian buckthorn	*Rhamnus alaternus*	2	-	-	**2**
Black locust	*Robinia pseudoacacia*	1	2	1	**4**
California pepper	*Schinus molle*	4	4	1	**9**
Coast redwood	*Sequoia sempervirens*	-	5	1	**6**
Giant sequoia	*Sequoiadendron giganteum*	-	1	-	**1**
Queen palm	*Syagrus romanzoffianum*	1	1	-	**2**
Australian brush cherry	*Syzygium paniculatum*	-	2	2	**4**
Bald cypress	*Taxodium distichum*	1	-	3	**4**
Montezuma cypress	*Taxodium mucronatum*	-	-	1	**1**
Yew	*Taxus baccata cvs.*	14	26	3	**43**
Windmill palm	*Trachycarpus fortunei*	2	11	25	**38**
American elm	*Ulmus americana*	8	3	1	**12**
Camperdown elm	*Ulmus glabra* 'Camperdownii'	-	1	-	**1**
Chinese elm	*Ulmus parvifolia*	-	1	-	**1**
Siberian elm	*Ulmus pumila*	1	-	2	**3**
California bay	*Umbellularia californica*	-	9	-	**9**
California fan palm	*Washingtonia filifera*	-	-	2	**2**
Mexican fan palm	*Washingtonia robusta*	-	4	5	**9**
Fan palm	*Washingtonia sp.*	-	1	1	**2**

Common Name	Scientific Name	Condition			Total
		Poor (1-2)	Fair (3)	Good (4-5)	
Spanish dagger	*Yucca gloriosa*	-	-	1	**1**
Sawleaf zelkova	*Zelkova serrata*	-	-	1	**1**
Total		**188**	**332**	**236**	**756**

Tree size ranged from 6” in trunk diameter to 113”; average trunk diameter was 20”. The largest single trunked tree was 80” diameter Fremont cottonwood #281. There were many large trees on the site: 143 trees had trunk diameters exceeding 30”.

Photo 1: Drought tolerant coast live oak #250 (left) was green and healthy. In contrast, yew #571 (right) was brown and defoliating due to drought stress.

Among all trees, 31% were in good condition (rating 4-5); 44%, fair (rating 3); and 25% in poor condition (rating 1-2). Condition rating distribution varied by species. In general, species that were drought tolerant such as coast live oak, deodar and blue Atlas cedar, elm, and Mt. Atlas pistache, tended to be in better condition than those requiring supplemental irrigation (Photo 1). Others had survived for many years without irrigation, but were declining rapidly because of the current drought and high temperatures, including yew, Lombardy poplar, Fremont poplar, and magnolia.

Of the 95 coast live oaks, the most common species, 34% were in good condition. Tree in poor and fair condition generally had structural defects present that downgraded their ratings. Average diameter of the single stemmed trees was 18” with a maximum of 47” and a minimum of 5”; however, 12% of coast live oaks were multi-stemmed. Several of the coast live oaks were stored in boxes for long enough that roots broke through to the ground (Photo 1).

The second most common species was Canary Island palm. Of the 57 trees, 51 (89%) were in good condition. In contrast, of the 43 yews, only three were in good condition (7%).

Photo 2: Coast live oaks planted in containers in the 1940’s have rooted into the ground.

Relatively few pests and diseases were present. The one London plane had sycamore scale which feeds sap in young foliage. Several coast live oaks had Ehrhorn scale on the lower side of shaded branches. Tortoise beetles caused foliage damage on *Eucalyptus*. None of these pest problems were significant to tree health.

Some trees were in poor condition because of significant structural defects that make them prone to failure. Defects included dead and broken branches, weak branch attachments, large girdling roots, excessive lean, cracks, codominant stem attachments with included bark, and decay. Examples are provided in Fig. 1.

City of Fremont Municipal Ordinance No. 2481 defines all trees with a trunk diameter of 6" or greater as *Protected*. Based on this definition, all 756 trees qualified as *Protected*.

Noteworthy trees

Trees from all over the world were brought to the nursery for propagation, some of which were planted on the grounds and survive today. Unusual trees for the region included floss silk tree, Montezuma cypress, Guadalupe cypress, dawn redwood, Japanese red cedar, cockspur hawthorn, Queensland kauri, Queensland bottle tree, Senegal date palm, cliff date palm, Mt. Atlas pistache, prickly melaleuca, coral tree, and China doll. Illustrations of some of these trees are provided in Fig. 2.

The site has many noteworthy trees because of their large size, unique characteristics, and/or history. The City of Fremont designates certain specimens as landmark trees if they have the following characteristics:

- Trees with trunk diameters over 4.5 feet when measured 4.5 feet from ground level,
- Excellent structure or unique structural character
- Excellent health
- High aesthetic appeal
- Good longevity

The first landmark trees were adopted by the City Council in 1972, several of which were located at California Nursery. The landmark tree list has been updated and added to a few times since then, most recently in 2012 (Table 2). Unfortunately between 1972 and 2010, seven landmark trees died and were removed. Between 2012 and the current assessment, two more trees died: Kurrajong bottle tree and Lombardy poplar #525 (Photo 3). Photographs of selected Landmark trees are provided in Fig. 3.

Photo 3: Landmark Lombardy poplar (left) died this summer, presumably from drought stress.

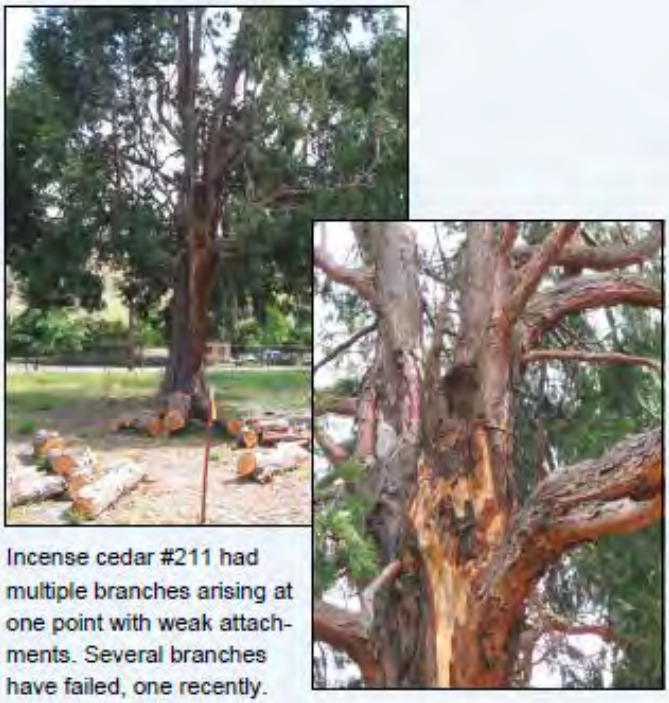
Landmark forest kurrajong (right) tree had died previously and was removed before our inventory.

Photos are from *Landmark Trees of the City of Fremont.*

Locations of selected notable trees, including Landmark trees, are plotted in Fig. 4.

Fig. 1 Examples of trees in poor condition due to structural defects.

Queensland bottle tree #72 with girdling and kinked roots.



Incense cedar #211 had multiple branches arising at one point with weak attachments. Several branches have failed, one recently.

Mt. Atlas pistachio i#244 s likely to fail due to extensive decay in the tower trunk at he attachment of two co-dominant stems.

Canary Island pines #372 and 373 have dead branches and are leaning over use areas.

Monterey cypress #529 has dead and broken branches hanging over the building. Nearby cypess # 531, 535, and 540 also had significant defects. These are Landmark trees.

Table 2: City of Fremont Landmark Trees at California Nursery. 2012.

Tag No.	Landmark No.	Tree
37	NIL-6	Bunya bunya
Removed	NIL-7	Forest kurrajong tree
529-531, 535, 540	NIL-8	Monterey cypress
117	NIL-9	Dwarf blue gum
61, 62	NIL-10	Prickly paperbark
251	NIL-11	Canary Island pine
738	NIL-12	Cork oak
263	NIL-15	Japanese zelkova
174	NIL-16	Canary Island juniper
252	NIL-17	Queensland kauri
93, 94, 96, 165-167, 186; 270-279, 784, 286-291, 293, 295	NIL-18	Canary Island palm
307	NIL-20	Siberian elm
544	NIL-21	Senegal date palm
525 (dead)	NIL-22	Lombardy poplar

Fig. 2: Examples of notable trees.

California black walnut #247, 51"

Coast live oak #250, 47"

Japanese cedar (#218-220) is an unusual species.

There were several large, beautiful deodar and Atlas cedars, including #413

Dawn redwood #84. is an unusual species for the region.

Floss silk tree #173 is an unusual species in the region.

Cliff date palm #516 (shown) and 520 are uncommon in

Cockspur hawthorn #77 is an unusually large specimen.

Montezuma cypress #71 is an unusual species in the region.

Fig. 3: Examples of City of Fremont LandmarkTrees

Queensland Kauri pine #252 (left); Canary Island Pine #251. Monterey cypress #530, 531 were unfortunately in poor condition. Canary Island juniper #174.

Sengal date palm #544. 26 Canary Island date palms planted in the late 1880 to early 1900s. Siberian elm #307.

Prickly paperbark #61, 62 was declining. Dwarf blue gum #117; unfortunately most of the trunk was dead. Cork oak #738 was in severe decline.

SignificantTree Map

California Nursery
Fremont, CA

Prepared for:
PGA Design

October 16, 2014

Notes:
1. Basemap 2012 NAIP image.

2. Tree locations are approximate.

Legend

- Landmark Trees
- Notable Trees

N

150 Feet

HORT SCIENCE
325 Ray Street
Pleasanton, CA 94566
Phone (925) 484-0211
Fax (925) 484-0596

Summary and Conclusions

California Nursery Historical Park is unique site that is vegetated with a highly diverse population of 756 trees representing 122 taxa from around the world. Many of the trees were planted at the turn of the 20th century; others are progeny of those plantings. The site has many noteworthy trees because of their large size, unique characteristics and history. The City of Fremont City Council has adopted 40 trees as landmark trees.

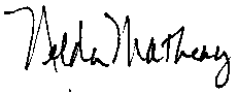
Because many of the trees are not native to the area, preserving and sustaining this valuable resource requires on-going maintenance. Since 1973, seven landmark trees have died. Sixteen (14%) of the 117 species that the Boy Scout Troup 143 surveyed and identified (http://www.fremontica.net/CNCo/tree_inventory2.php) the trees in 2006 were absent in our inventory. We think that most have been lost because of lack of adequate irrigation. More drought-sensitive trees and species are likely to disappear if irrigation is not supplied in the future. In our view, supplying adequate water according to tree need is the most important maintenance task at this park.

We recommend that as future park uses are discussed and plans prepared, design to include significant and unique trees that are in good condition. Trees require space for not only their canopies, but also their root systems. Planning for adequate space is the first step towards protecting and preserving trees.

We noted the presence of structural defects we could see from the ground that tend to be associated with tree failure. Pruning often can abate these problems and preserve trees. In some cases it may be necessary to remove trees where the risk to park workers and the public cannot be managed.

Trees change over time. Our inspections represented the condition of the tree we could observe at the time of inspection. Annual tree inspections of trees in use areas are recommended to identify changes to tree health and structure. In addition, large trees should be inspected after storms of unusual severity to evaluate damage and structural changes. Failure of apparently defect-free trees does occur, especially during storm events. Wind forces can exceed the strength of wood causing branches and trunks to break. Wind forces coupled with rain can saturate soils, decrease stability, and blow over defect-free trees. Although we cannot predict all failures, identifying and managing trees with observable defects is an important component of enhancing public safety.

HortScience, Inc.



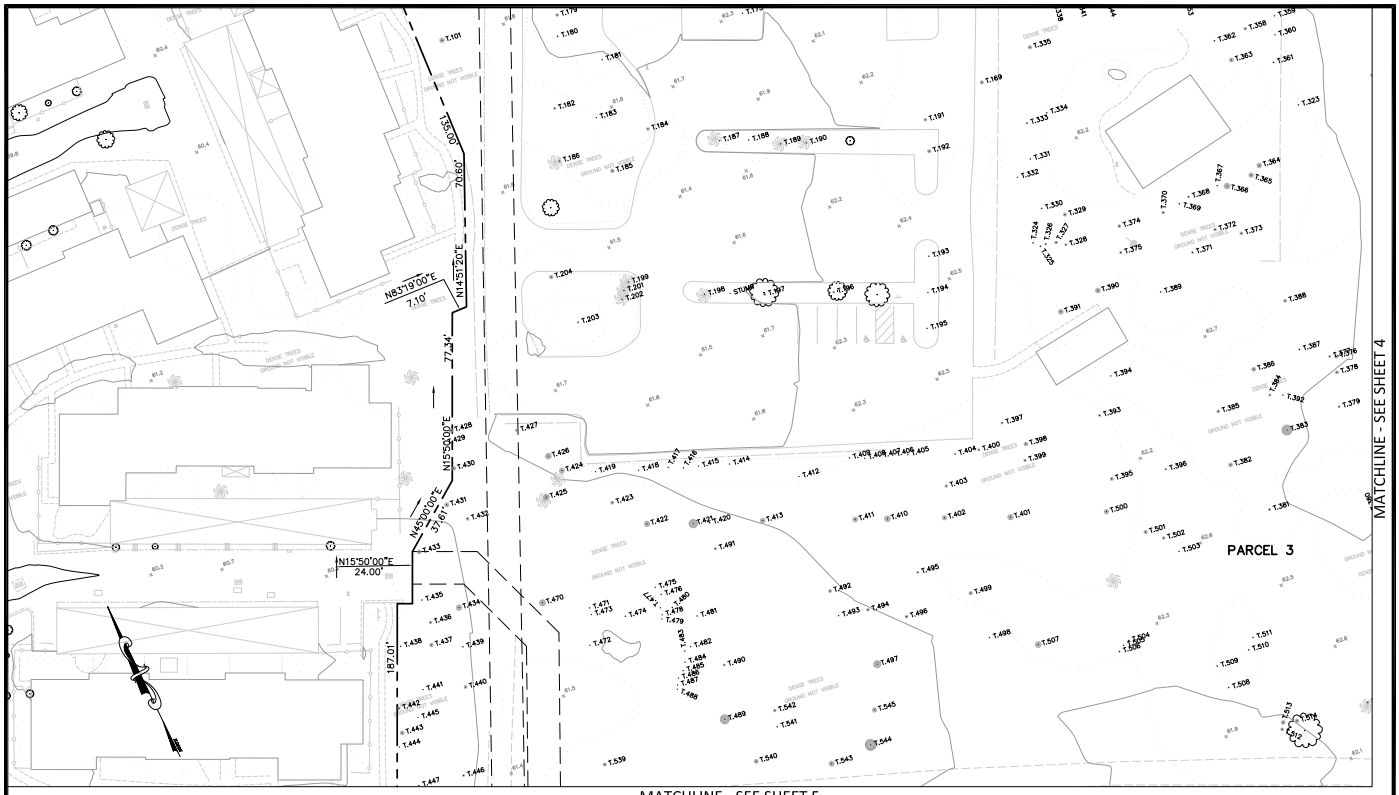
Nelda Matheny
Board Certified Master Arborist WE195B
Registered Consulting Arborist 243

Appendix 5 Exhibits:
Existing Conditions and Assessment Maps

Appendix

Tree Inventory Maps

Tree Assessment



MATCHLINE - SEE SHEET 5

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

1-800-227-2600
CALL BEFORE YOU DIG
UNDERGROUND SERVICE ALERT
1-800-227-2600

Approved --- City Engineer Date

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN LEE TRAUTMAN
No. 27959
CIVIL
STATE OF CALIFORNIA

CALIFORNIA NURSERY MASTER PLAN

EXISTING CONDITION - TREE INVENTORY

Fremont

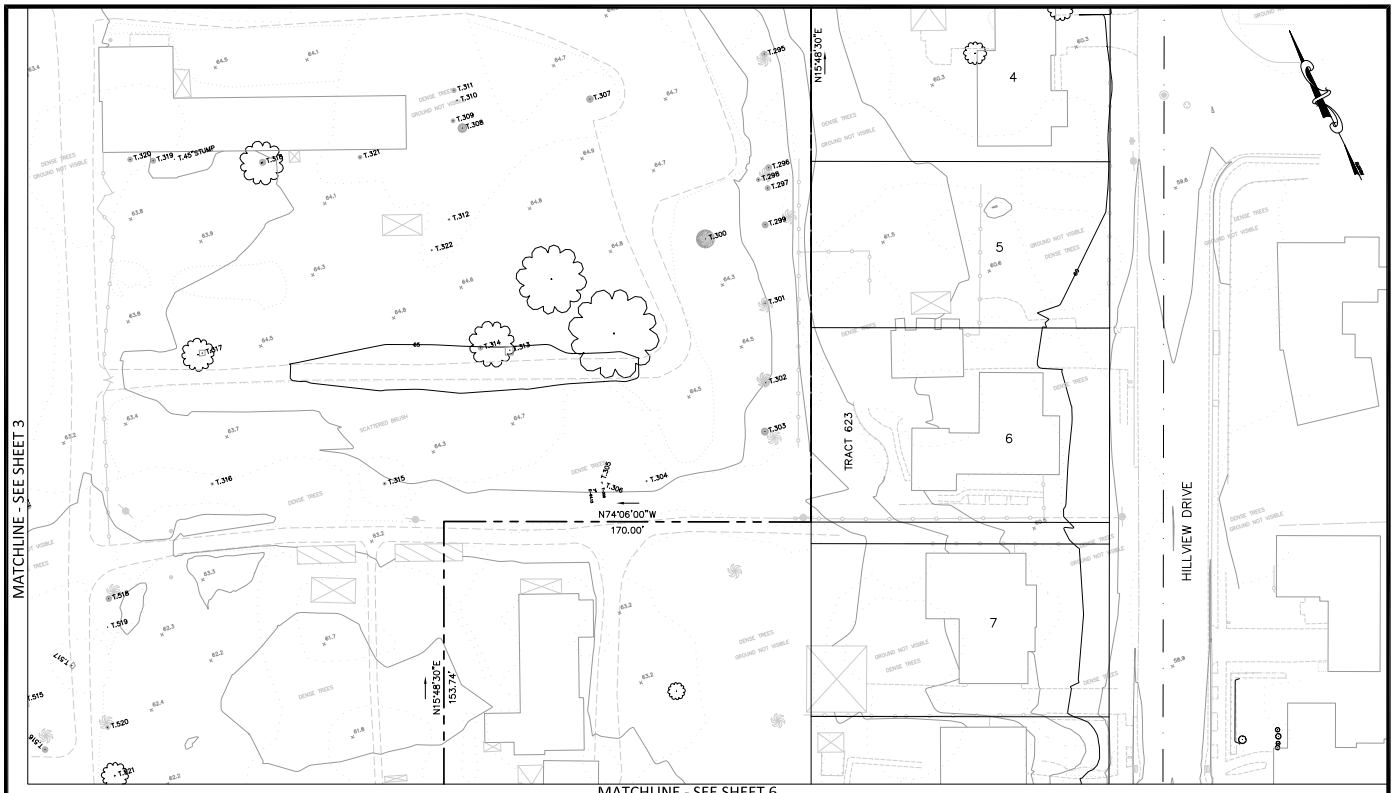
COMMUNITY SERVICES DEPARTMENT

LANDSCAPE ARCHITECTURE

Approved --- Senior Engineer | Date | Recommended---Project Manager | Date

Designed By:
Drawn By:
Date:
Project No.: 8837(PWC)
CAD File:

SHEET 3 OF 6



MATCHLINE - SEE SHEET 6

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

1-800-227-2600
CALL BEFORE YOU DIG
UNDERGROUND SERVICE ALERT
1-800-227-2600

Approved --- City Engineer Date

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN LEE TRAUTMAN
No. 27959
CIVIL
STATE OF CALIFORNIA

CALIFORNIA NURSERY MASTER PLAN

EXISTING CONDITION - TREE INVENTORY

Fremont

COMMUNITY SERVICES DEPARTMENT

LANDSCAPE ARCHITECTURE

Approved --- Senior Engineer | Date | Recommended---Project Manager | Date

Designed By:
Drawn By:
Date:
Project No.: 8837(PWC)
CAD File:

SHEET 4 OF 6

Tree Assessment

California Nursery Historical Park
Fremont, California
April - August 2014

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
2	Plum	21	2	Extensive twig and branch dieback.
4	Coast live oak	14	3	Asymmetric; bows heavily to west; trunk base located outside of dripline.
5	Canary Island pine	17	3	Replaced leader; good vigor.
6	Coast live oak	15	3	Asymmetric; bows heavily to east; trunk base located outside of dripline.
7	Coast live oak	20	4	Multiple attachments at 9'; full crown.
8	Coast live oak	11	3	Asymmetric; bows heavily to east; trunk base located outside of dripline.
9	Coast live oak	18	4	Multiple attachments at 15'; full crown; Ehrhorn scale.
10	Mt. Atlas pistache	6,6,5,5,4,4	3	Rodent damage; multiple trunks arise at ground level.
11	Mt. Atlas pistache	6,6,5,5,4,5	3	Rodent damage; multiple trunks arise at ground level.
12	Coast live oak	21	3	Codominant trunks arise at 1'; very narrow attachment; crown asymmetric to north.
13	Plum	9	3	Crown one sided to south.
14	Mexican fan palm	21	4	80' brown trunk.
15	Southern magnolia	36	3	Multiple stems arise at 3'; cavity at base with small opening on W.; wide crown; somewhat thin.
16	Southern magnolia	32	1	3 trunks; extensive basal decay; declining; very thin.
17	Olive	9	3	Poor form and structure; thin crown; bowed trunk; twig dieback.
18	Olive	14	2	Extensive dieback; poor form; crown to north.
22	Southern magnolia	32	3	Multiple attachments at 3'; thin.
23	Bald cypress	9	5	Excellent health and structure.
24	Southern magnolia	27	4	Multiple attachments at 2'; full crown; minor decay.
25	Coast live oak	11	3	Suppressed form; narrow attachment at 4'.
27	Deodar cedar	43	4	Low laterals sweep upright at 5'; center stem has narrow codominant attachment at 25'.
28	Coast live oak	10	4	Good young tree; multiple attachments at 3'.
29	London plane	18	3	Suppressed form to west; twig dieback; sycamore scale; cabled to telephone pole.

Tree Assessment

California Nursery Historical Park
Fremont, California
April - August 2014

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
30	Olive	34	3	Multiple attachments at 4'; bee hive in center of attachments; upright laterals bow to outside of center.
31	Olive	27	3	Suppressed crown bows to east; codominant at 5'.
32	Olive	33	3	Codominant at 5'; upright stem to west has ext. decay; crown is separating.
33	Olive	23	3	Small crown bows to south; poor form and structure.
34	Glossy privet	7	3	High crown; multiple attachments at 8'.
35	Glossy privet	10	2	Crossing branches; poor form and structure.
36	Olive	37	4	Multiple attachments at 5'; full but thin crown.
37	Bunya-bunya	55	4	Slight lean south; minor dead branches.
38	American elm	43	2	3 trunks arising at ground level; sulfur fungus; history of branch failure.
39	American elm	14	1	Heavy bow to east; almost dead.
40	American elm	14	2	Heavy bow to east; thin crown.
41	American elm	14	2	Upright form; thin crown.
42	American elm	12	2	Bows to west.
43	American elm	9	2	Bows to south.
44	American elm	22	3	Codominant at base; smaller stem could be removed; thin crown.
45	American elm	32	2	Multiple attachments at 2' with narrow attachment; high thin crown.
46	American elm	20	2	Crown bows east; thin crown.
47	Norfolk Island pine	6	3	Corrected form.
48	Olive	20	2	Suppressed crown to west; thin crown.
49	Olive	30	2	Suppressed to west; multiple attachments at base.
50	Plum	11	3	Suppressed form.
51	Deodar cedar	48	3	5 trunks; flat top; multiple attachments at 2'; no central leader.
52	Coast live oak	18	4	Wide codominant attachment at 7'.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
102	Coast live oak	31	5	Codominant trunks with included bark; full dense crown; minor sap sucker damage; Ehrhorn scale.
104	Coast live oak	8	5	Good young tree.
106	Coast live oak	9	3	Codominant at base; suppressed heavily to south.
107	Coast live oak	25	3	Cracked codominant attachment at 12'; bolt and cable; otherwise good tree.
108	Mayten	12	3	Good tree; but suppressed; multiple attachments at 5'.
109	Holly oak	6	2	High narrow crown; poor form.
110	Plum	10	3	Poor branch structure.
111	Plum	14	2	Decay on upright stems.
112	Cotoneaster	10	3	Shrub; multiple attachments at base.
113	Plum	7	3	Multiple attachments at 1' with included bark.
114	Coast live oak	11	4	Ok form; crowded; leaf spot.
115	Olive	9	1	Few leaves.
116	Coast live oak	17	3	Multiple attachments at base with seam below attachment.
117	Dwarf blue gum	113	3	Extensive basal decay; healthy crown; tortoise beetle damage; 75% of circumference dead.
118	Coast live oak	8	3	Codominant at 5'; leans against fence; crowded.
119	Glossy privet	6	3	High narrow crown; codominant at base.
120	Glossy privet	5	3	High narrow crown.
121	Glossy privet	9	3	High narrow crown; codominant at base.
122	Portugal laurel	25	3	Multiple attachments at base; crowded.
123	Glossy privet	6	3	High narrow crown; codominant at base.
124	Glossy privet	6	3	High narrow crown.
125	Glossy privet	6	3	High narrow crown; codominant at base.

Tree Assessment
California Nursery Historical Park
Fremont, California
April - August 2014

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
126	Coast live oak	9	2	Crown bows to east; poor form; twig dieback.
127	Deodar cedar	34	4	Excellent form and structure; history of branch failure.
128	Carolina cherry laurel	8	2	Extensive twig and branch dieback.
129	Glossy privet	8	2	High narrow crown; poor form.
130	Plum	18	2	Multiple attachments at base; twig and branch dieback.
131	American elm	17	3	Crooked form; thin crown.
132	Yew	25	3	Multiple attachments at base; open grown; epicormic growth.
133	English laurel	12	3	Twig and branch dieback; prune dead branches.
134	American elm	7	5	Excellent upright form; good young tree.
135	Japanese maple	10	4	Codominant at base; minor twig dieback.
136	Japanese maple	7	3	Codominant at 6'; close to building.
137	Cabbage palm	25	3	Multiple attachments at base; close to building.
138	Coast live oak	8	3	Codominant at base; suppressed form.
139	Pindo palm	23	5	3' brown trunk; good young tree.
140	Pindo palm	19	4	3' brown trunk; slightly off color.
141	Olive	23	3	Crown with dieback bows to east.
142	Italian cypress	20	5	Excellent health and structure; not typical form.
143	Yew	28	4	Multiple attachments at base; open grown.
144	Plum	13	3	Multiple attachments at 5'; twig and branch dieback.
145	Plum	26	3	Poor form and structure.
146	Queensland bottle tree	19	3	Girdling roots; curved trunk.
147	Purpleleaf plum	12	4	Good health; poor branching structure.
148	Plum	15	3	Poor form and structure.
149	Japanese maple	16	4	Good young tree; crowded.

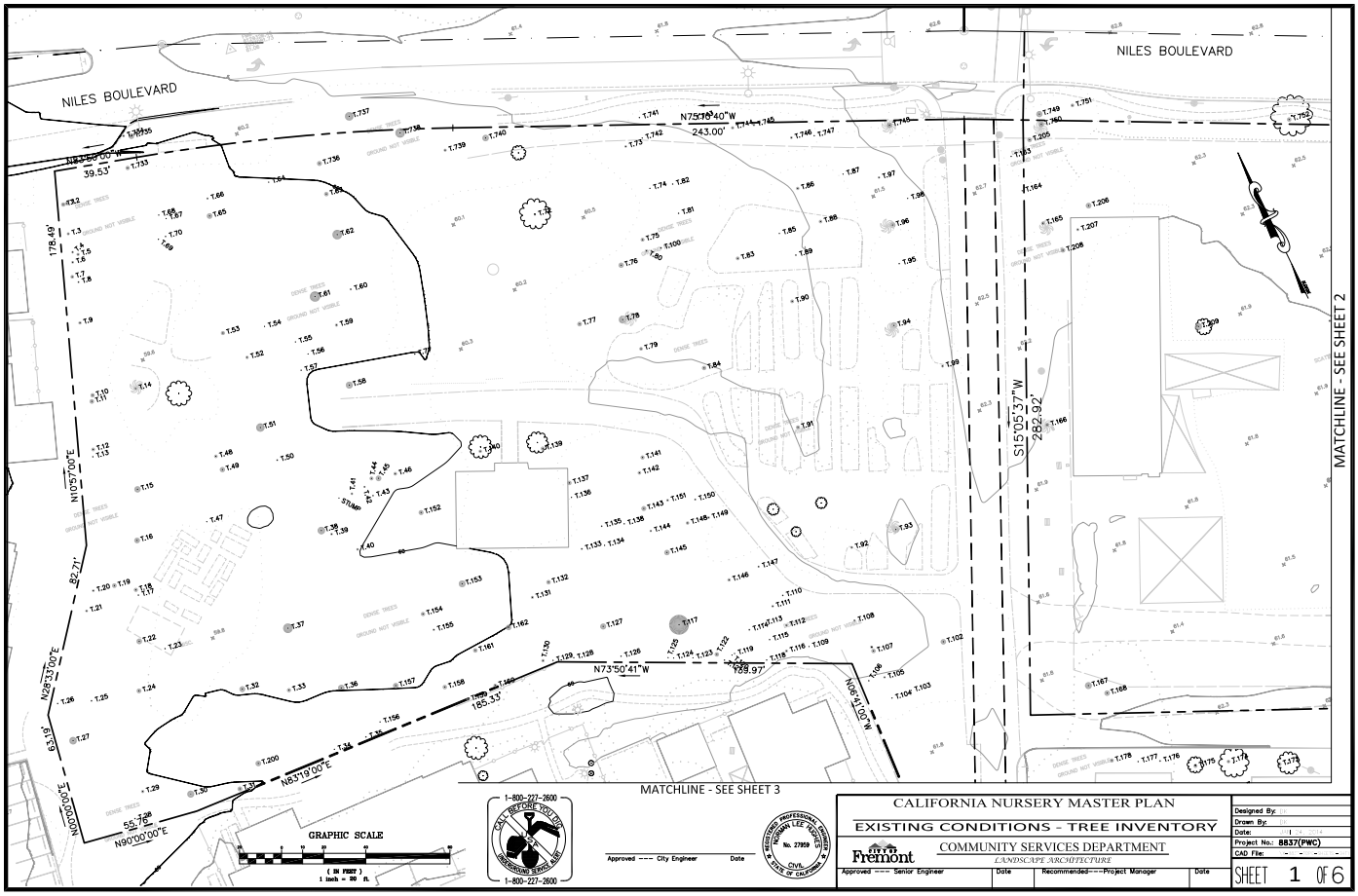
Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
196	Flaxleaf paperbark	15	4	Multiple attachments at 7'; low branch at 5'; full dense crown.
196.1	Mediterranean fan palm	clump	4	No tag; large clump of many stems; 8' tall.
197	Flaxleaf paperbark	17	4	Multiple attachments at 6'; full dense crown.
198	Windmill palm	8	4	10' brown trunk; narrow base.
199	Mexican fan palm	16	5	70' brown trunk; excellent form and structure.
200	Canary Island date palm	19	5	2' brown trunk height; full crown; in raised boxed.
201	Windmill palm	7	4	20' brown trunk; corrected form.
202	Windmill palm	7	4	30' brown trunk; corrected form.
203	California buckeye	11	4	Low branching; low crown; good young tree.
204	Algerian fir	24	4	Crooked form; replaced leader; seam on trunk 2.5' long on SW.
205	Glossy privet	26	3	Multiple attachments at 3'; good form; trunk decay.
206	Chinese photinia	32	4	Multiple attachments at ground; good form; trunk decay.
207	Camperdown elm	16	3	Unique distorted form; asymmetric crown; branch failures.
208	California pepper	26	3	Asymmetric form; full crown leans west.
209	Spanish dagger	40	4	Multiple attachments at 1'; full dense crown; old boxed specimen rooted above ground.
210	China doll	14	3	Good form; trunk sweeps east; large surface roots; girdling roots.
211	Incense cedar	41	3	Multiple large branch failures; one recent large branch failure; included bark between attachments.
212	Deodar cedar	23	3	Good form; codominant at 35'; crown somewhat open on west.
213	Deodar cedar	31	4	Good form; crown somewhat open on east; branch failures to 6"; broken branches to 6" still attached in crown.
214	Deodar cedar	33	4	Good form; crown somewhat open on east; branch failures to 6".
215	Coast live oak	7	4	Good young tree.
216	Aleppo pine	29	2	Severe decline; thin crown; branch dieback; trunk leans southeast.

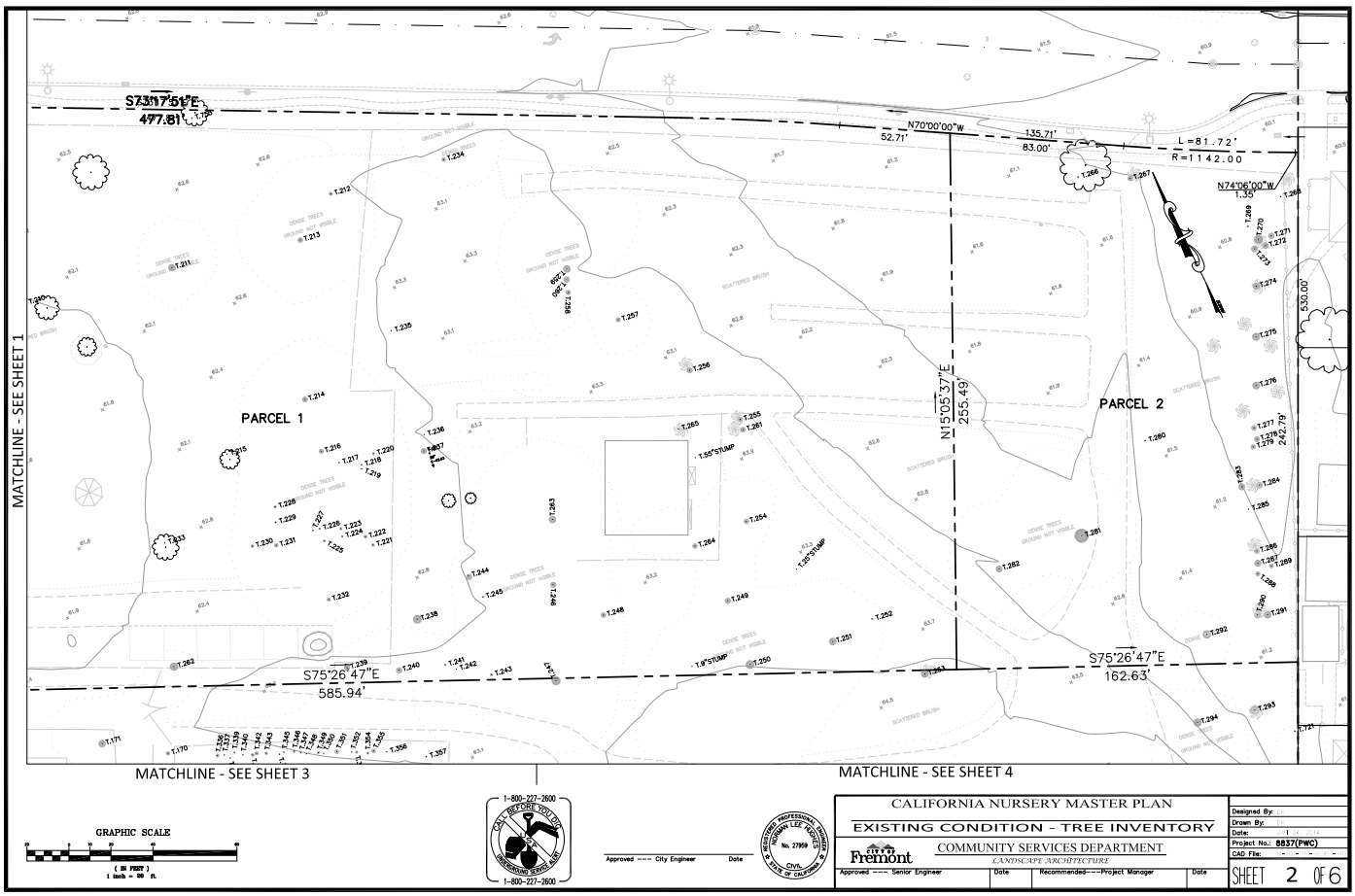
Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
218	Japanese cedar	11	3	Narrow form; small branch dieback.
219	Japanese cedar	9	3	Narrow form; small branch dieback.
220	Japanese cedar	16	4	Good form and structure; full crown; minor branch dieback.
221	Canary Island pine	19	3	Tall narrow form; suppressed crown on northwest.
222	Canary Island pine	21	3	Tall narrow form; suppressed crown on southeast; minor branch dieback.
223	Canary Island pine	18	3	Tall narrow form; high crown; branch dieback.
224	Canary Island pine	13	1	Poor form and structure; trunk with severe bow to northwest.
226	Canary Island pine	12	1	Poor form and structure; trunk with severe bow to north.
227	Canary Island pine	12	1	Poor form and structure; trunk with severe bow to north.
228	Deodar cedar	19	3	Good form; thin crown; lost top.
229	Deodar cedar	14	1	Poor form and structure; trunk with severe bow to southeast.
230	Deodar cedar	19	2	Poor form; thin crown; branch failures.
231	Deodar cedar	25	3	Trunk and crown leans south; heavy weight on south side of crown needs to be reduced;
232	Glossy privet	24	2	Multiple attachments at 1'; narrow form; included bark in attachments; wire embedded in trunk.
233	Glossy privet	8	3	Multiple attachments at 1'; narrow form; included bark in attachments; hose bib at base of trunk .
234	Mt. Atlas pistache	26	3	Crown somewhat thin; crown leans north towards Niles Blvd.; large branch failure on south.
235	Coast live oak	7	4	Good young tree; trunk with minor bow.
236	Coast live oak	5	3	Trunk leans north.
237	Glossy privet	35	3	Multiple attachments at 1'; narrow form; included bark in attachments; pipe embedded in trunk.
238	Glossy privet	50	2	Multiple attachments at 1'; narrow form; included bark in attachment; chain link fabric embedded in trunk.

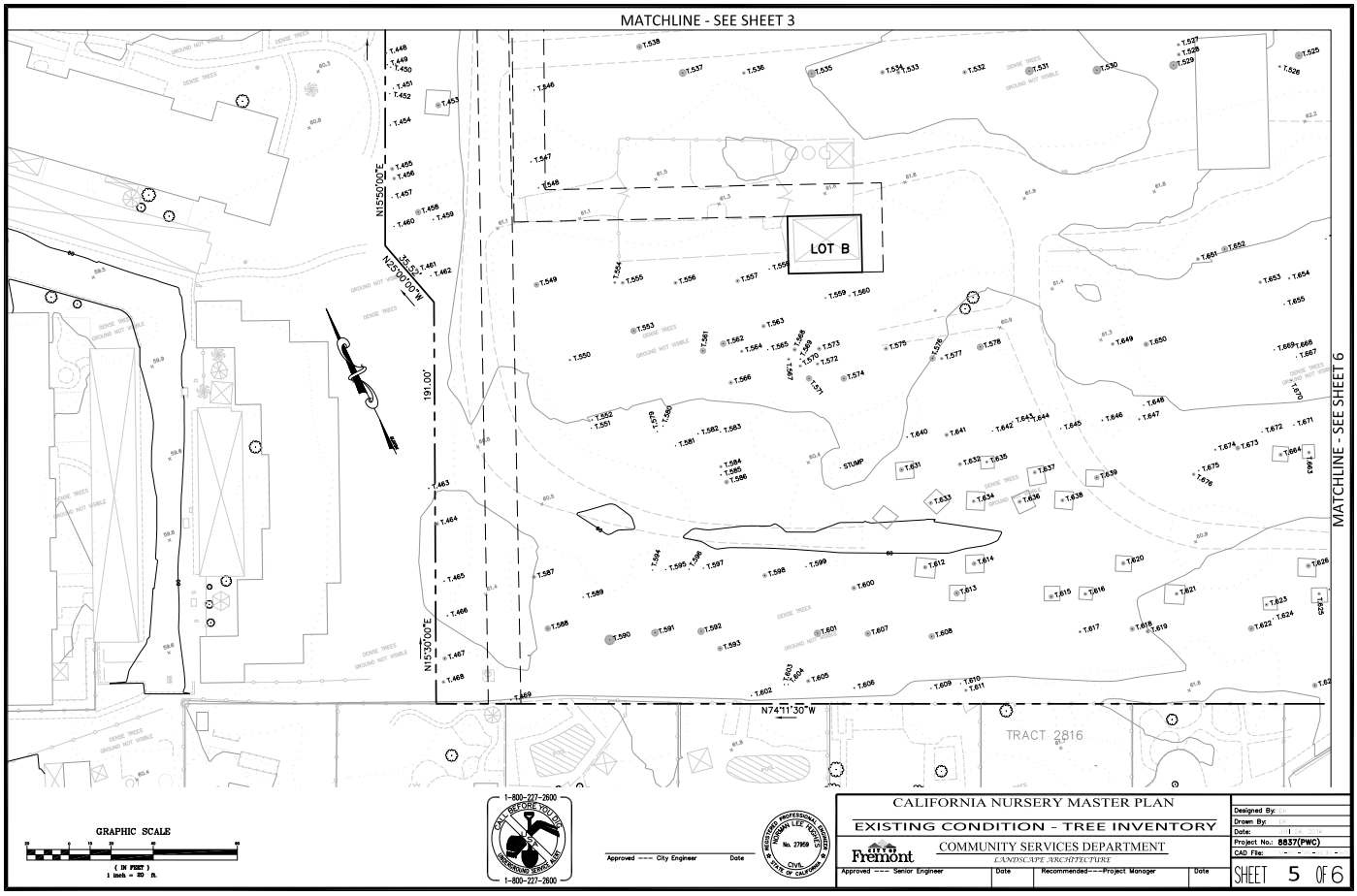
Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
283	Glossy privet	17	3	Multiple attachments at 3' with included bark; narrow form; branch dieback.
284	Canary Island date palm	38	4	35' brown trunk height; full crown.
285	Black locust	9	4	Good young tree; central leader form.
286	Canary Island date palm	32	4	20' brown trunk height; full crown; cluster of palms.
287	Canary Island date palm	40	4	40' brown trunk height; full crown; cluster of palms.
288	Canary Island date palm	28	4	25' brown trunk height; full crown; cluster of palms.
289	Canary Island date palm	27	4	30' brown trunk height; full crown; cluster of palms.
290	Canary Island date palm	38	4	35' brown trunk height; full crown; cluster of palms.
291	Canary Island date palm	44	4	18' brown trunk height; full crown; cluster of palms.
292	Lombardy poplar	48	2	Over mature; thin crown; decay in trunk; branch dieback.
293	Canary Island date palm	51	4	30' brown trunk height; full crown; ivy on trunk.
294	Siberian elm	47	4	Good form; full crown; branch failures.
295	Canary Island date palm	37	4	50' brown trunk height; full crown; ivy on trunk.
296	Canary Island date palm	38	4	50' brown trunk height; full crown; cluster of palms.
297	Canary Island date palm	32	4	30' brown trunk height; full crown; cluster of palms.
298	Canary Island date palm	26	4	5' brown trunk height; full crown; cluster of palms.
299	Canary Island date palm	38	4	35' brown trunk height; full crown.
300	Canary Island date palm	30	4	30' brown trunk height; full crown; with cluster of 4 small palms ≈ 105" diameter taken together.
301	Canary Island date palm	32	3	Brown trunk height 50'; round-headed.
302	Canary Island date palm	45	4	Brown trunk height 50'; full crown.
303	Canary Island date palm	44	3	Brown trunk height 50'; round-headed.
304	Coast live oak	13	2	Multiple attachments at 2'; bark wounds; ivy on trunk.
305	Coast live oak	7,2	2	Codominant at base; upright stems; crowded by adjacent trees.

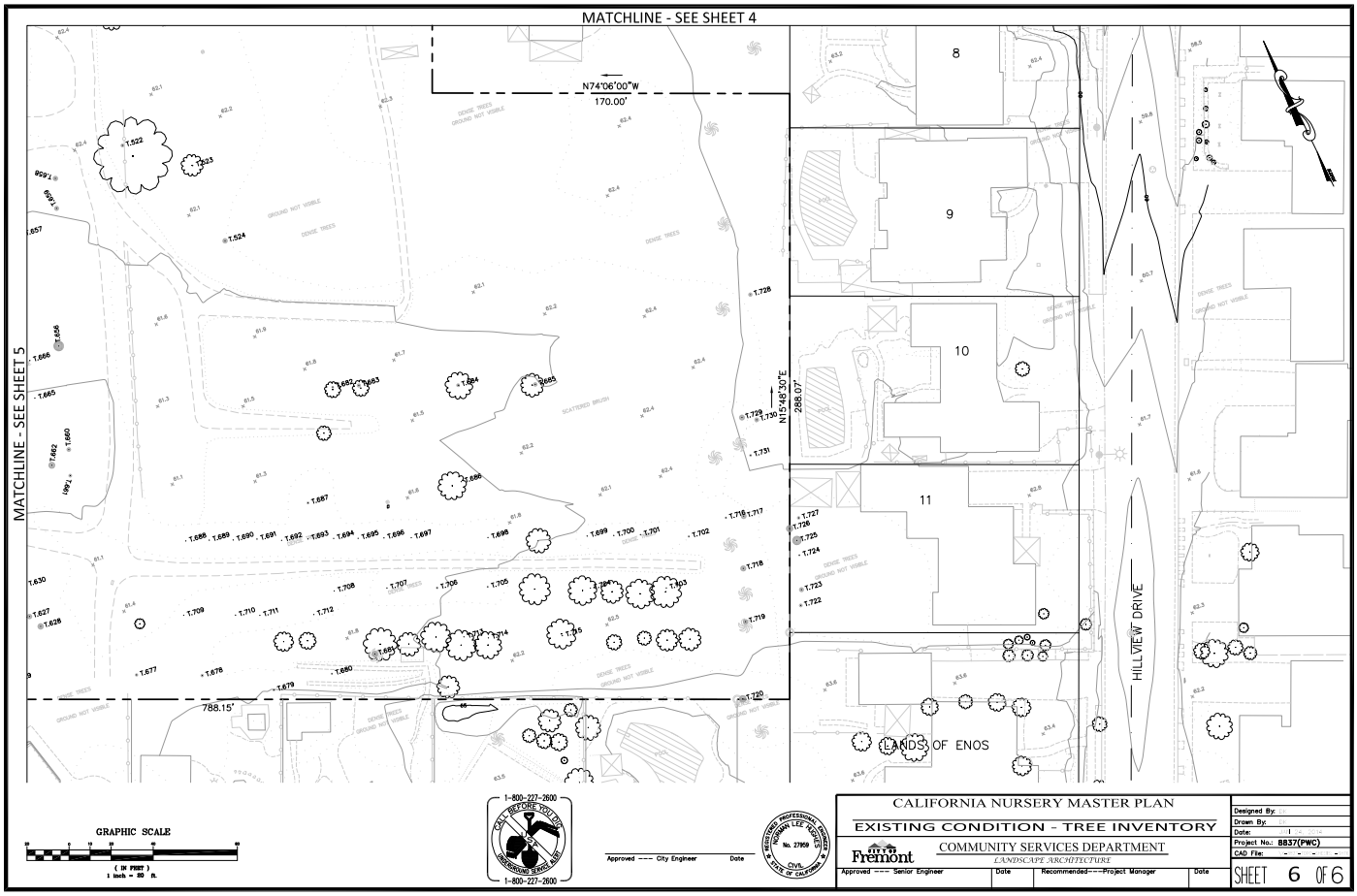
Tree Assessment
California Nursery Historical Park
Fremont, California
April - August 2014

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
306	Coast live oak	7,6	2	Codominant at base; two upright stems.
307	Siberian elm	19,19	2	Multiple attachments at base; basal cavities; topped.
308	Pecan	24,20,18	3	Multiple attachments at base; large branch failure; topped; decay at old wounds.
309	Pecan	36	3	Lowest branch at 15'; one sided to NW.
310	Pecan	16	3	Lowest branch at 17'; upright habit; low vigor.
311	Pecan	29	3	Codominant at 12'; trunk lean to N; one-sided to NE.
312	Loquat	15	2	Codominant at 8'; broken, decayed central leader; decay at branch wounds.
313	Black alder	8	2	36" box; suppressed on NE side; branch decay.
314	Naked coral tree	29	2	Multiple attachments at 2'; low vigor; dead branches; twig dieback; was boxed.
315	Coast live oak	21	3	Multiple attachments at base; crossing stems; full canopy.
316	California bay	18	3	Ivy on trunk; upright stems; full canopy.
317	Evergreen ash	9	3	24" box; codominant at 4'; thin canopy; tortoise beetle.
319	Silver maple	33	2	Topped; decay at old wounds; low vigor.
320	Silver maple	31	2	Trunk lean to N; multiple attachments at 5'; topped.
321	Silver maple	35	1	Codominant at 4'; almost dead; basal decay.
322	Glossy privet	5,4,3,3,2,2,	2	Multiple attachments at base; upright stems; chlorotic.
323	Bald cypress	9	5	Trunk lean corrected; lowest branch at 3'; thin canopy.
324	Loquat	10	2	Trunk lean to N; woodpecker damage; suppressed on S side.
325	Lemonwood	11	2	Multiple attachments at 3'; upright stems ; branch decay; suppressed canopy.
326	Lemonwood	13	2	Codominant at 3'; decay in trunk wound; suppressed.
327	Lemonwood	10,9	2	Codominant at 2'; upright stems; suppressed canopy.
328	Lemonwood	15	2	Trunk lean to W; decay at base; upright stems; suppressed canopy.
329	Pindo palm	21	1	Trunk lean to S; decay at 5'; almost dead.
330	Japanese maple	13	3	Multiple attachments at 3'; upright stems; one- sided to N.


NILES BOULEVARD
NILES BOULEVARD
N75°16'40"W
243.00'
N14°50'00"W
39.53'
178.49'
N10°57'00"E
82.21'
N29°33'00"E
63.81'
N00°00'00"E
55.76'
N90°00'00"E
N83°19'00"E
N73°50'41"W
185.33'
N06°21'00"W
S15°05'37"W
282.92'
MATCHLINE - SEE SHEET 2
MATCHLINE - SEE SHEET 3
GRAPHIC SCALE
(IN FEET)
1 inch = 80 ft.
1-800-227-2600
CALL BEFORE YOU DIG!
UNDERGROUND SERVICE ALERT
1-800-227-2600
Approved --- City Engineer
Date
REGISTERED PROFESSIONAL ENGINEER
BRIAN LEE TEDDER
No. 27959
CIVIL
STATE OF CALIFORNIA
CALIFORNIA NURSERY MASTER PLAN
EXISTING CONDITIONS - TREE INVENTORY
Fremont
COMMUNITY SERVICES DEPARTMENT
LANDSCAPE ARCHITECTURE
Approved --- Senior Engineer
Date
Recommended---Project Manager
Date
Designed By:
Drawn By:
Date:
Project No.: 8837(PWC)
CAD File:
SHEET 1 OF 6


S73°17'51"E
497.81'
N70°00'00"W
52.71'
135.71'
83.00'
L=81.72'
R=1142.00
N74°06'00"W
1.30'
530.00'
N15°05'37"E
255.49'
PARCEL 1
PARCEL 2
242.79'
S75°26'47"E
585.94'
S75°26'47"E
162.63'
MATCHLINE - SEE SHEET 1
MATCHLINE - SEE SHEET 3
MATCHLINE - SEE SHEET 4
GRAPHIC SCALE
(IN FEET)
1 inch = 80 ft.
1-800-227-2600
CALL BEFORE YOU DIG!
UNDERGROUND SERVICE ALERT
1-800-227-2600
Approved --- City Engineer
Date
REGISTERED PROFESSIONAL ENGINEER
BRIAN LEE TEDDER
No. 27959
CIVIL
STATE OF CALIFORNIA
CALIFORNIA NURSERY MASTER PLAN
EXISTING CONDITION - TREE INVENTORY
Fremont
COMMUNITY SERVICES DEPARTMENT
LANDSCAPE ARCHITECTURE
Approved --- Senior Engineer
Date
Recommended---Project Manager
Date
Designed By:
Drawn By:
Date:
Project No.: 8837(PWC)
CAD File:
SHEET 2 OF 6


MATCHLINE - SEE SHEET 3
LOT B
N15°50'00"E
N25°30'00"W
35.52'
191.00'
N15°30'00"E
N74°11'30"W
TRACT 2816
MATCHLINE - SEE SHEET 6
GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.
1-800-227-2600
CALL BEFORE YOU DIG
Approved --- City Engineer
Date
CALIFORNIA NURSERY MASTER PLAN
EXISTING CONDITION - TREE INVENTORY
COMMUNITY SERVICES DEPARTMENT
LANDSCAPE ARCHITECTURE
Approved --- Senior Engineer
Date
Recommended---Project Manager
Date
Designed By:
Drawn By:
Date:
Project No.: 8837(PWC)
CAD File:
SHEET 5 OF 6


MATCHLINE - SEE SHEET 4
N74°06'00"W
170.00'
N15°48'30"E
288.07'
788.15'
MATCHLINE - SEE SHEET 5
8
9
10
11
HILLVIEW DRIVE
LANDS OF ENOS
GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.
1-800-227-2600
CALL BEFORE YOU DIG
Approved --- City Engineer
Date
CALIFORNIA NURSERY MASTER PLAN
EXISTING CONDITION - TREE INVENTORY
COMMUNITY SERVICES DEPARTMENT
LANDSCAPE ARCHITECTURE
Approved --- Senior Engineer
Date
Recommended---Project Manager
Date
Designed By:
Drawn By:
Date:
Project No.: 8837(PWC)
CAD File:
SHEET 6 OF 6

Tree Assessment

California Nursery Historical Park
Fremont, California
April - August 2014

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
53	Mt. Atlas pistache	23	3	Codominant at 3'; suppressed form; twig and branch dieback.
54	Olive	6	3	Good vigor; suppressed.
55	Olive	6	2	Thin crown; suppressed; twig dieback.
56	Olive	6	1	Twig and branch dieback.
57	Olive	8	2	Crown bows to south; suppressed; twig dieback.
58	Portugal laurel	40	4	Codominant trunks arise H77at 1'; stem to east seems to separating from canopy; full beautiful crown.
59	Persimmon	17	3	Multiple trunks arise from ground level; suppressed form to south; male.
60	Persimmon	12	3	3 trunks arise from ground level; suppressed form to south; female.
61	Prickly melaleuca	59	2	Multiple attachments at base; history of branch failure; heavy long lateral limb to south has crack; poor form and structure.
62	Prickly melaleuca	55	2	Stem to east has large area of decay with heavy weight to east; upright stem has on form.
63	Deodar cedar	25	3	Good upright form; replaced leader.
64	Coast live oak	6	4	Good young tree.
65	Mt. Atlas pistache	32	3	Codominant at base; cracked branch; clean crown.
66	Olive	12	2	Suppressed form; very thin crown.
67	Olive	7	2	Poor form; suppressed to west.
68	Olive	6	2	Base outside dripline; poor form and structure.
69	Olive	8	2	Base outside dripline; poor form and structure.
70	Olive	9	3	Good vigor; crown suppressed to south.
71	Montezuma cypress	9	5	Excellent health and structure.
72	Queensland bottle tree	12	3	Girdling roots; leaning.
74	Chinese juniper	7	4	8' tall with foliage to the ground; opening pruned in canopy with bench inside.
75	Canary Island date palm	22	4	3' brown trunk; good health; crowded.

Tree Assessment

California Nursery Historical Park
Fremont, California
April - August 2014

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
76	Canary Island date palm	30	4	3' brown trunk; good health; crowded.
77	Cockspur hawthorn	26	3	Multiple attachments at 2'; twig and branch dieback; 2" thorns on old wood.
78	Canary Island date palm	45	5	20' brown trunk.
80	California pepper	19	4	Codominant at 5'; nice crown.
81	Olive	9	4	Crown corrected to west; otherwise good crown.
82	Guadalupe cypress	9	5	Excellent form and structure; full dense crown.
83	Deodar cedar	21	4	Good form and structure; history of branch failure; hanger and cracked branch.
84	Dawn redwood	25	5	Excellent health and structure.
85	Apple	6	2	Sap sucker damage; twig dieback; decay in stem to east; wilted.
86	Myoporum	19	3	Multiple attachments at 6'; extensive thrips damage.
87	Apple	6	2	Extensive dieback; multiple attachments at 8'.
88	Plum	20	2	Codominant at base is cracked; extensive sprouts.
90	Red horsechestnut	21	3	Codominant at base; twig dieback.
91	Persimmon	23	3	Multiple attachments at base; twig and branch dieback.
92	Saucer magnolia	15	3	Codominant at 1'; dieback on east side of crown.
93	Canary Island date palm	38	2	60' brown trunk; trunk narrows at 18'; nesting holes in trunk.
94	Canary Island date palm	37	5	60' brown trunk.
95	Purple-leaf acacia	9	4	Good health and structure; full crown.
96	Canary Island date palm	33	3	50' brown trunk; trunk narrows at 20'.
97	Naked coral tree	13	3	Multiple stems arise at 1'; shrubby form.
98	Cape chestnut	6	4	Multiple attachments at 6'; good young tree.
99	Lemonwood	16	2	Multiple stems arise at 4'; very thin; poor color.
100	Canary Island date palm	13	4	Good health; crowded.
101	Deodar cedar	29	3	Dead top; basal decay suspected; crack at old trunk wound.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
150	Ginkgo	12	3	Codominant stems at 9'; narrow upright form.
151	Yew	15	4	Multiple attachments at 6-8'; full crown; narrow form.
152	Australian brush cherry	28	3	Multiple trunks arising at ground level; narrow form; decay in trunks.
153	Australian brush cherry	39	3	Multiple trunks arising at ground level; narrow form; distorted crown.
154	Australian brush cherry	24	4	Codominant at 1.5'; full crown; small branch dieback.
155	Australian brush cherry	13	4	Suppressed crown on northwest; minor branch dieback.
157	Blue gum	31	4	Good form; high crown; moderate lean to southeast; multiple branch attachments at 25'.
158	Olive	16	2	Severe trunk decay; decay in 16" stem; asymmetric form.
159	Glossy privet	18	3	Codominant at 2'; narrow form; included bark between attachments.
160	Olive	19	1	Poor form and structure; severe dieback.
161	Black locust	25	2	Multiple attachments; thin crown; decay in trunk; included bark between attachments; branch dieback.
162	American elm	31	3	Codominant at 3'; thin crown, but tree still leafing out; branch failures.
163	Monterey pine	8	3	Bonsai form; full crown; trunk parallels ground, root failure.
164	Crabapple	6	2	Root ball lose; poor form; branch dieback.
165	Canary Island date palm	21	5	50' brown trunk height; full crown.
166	Canary Island date palm	30	3	50' brown trunk height; smaller crown; monitor for Fusarium wilt disease; suspect decay in upper trunk.
167	Canary Island date palm	24	5	3' brown trunk height; full crown; seedling.
168	Blue atlas cedar	31	4	Good form; crown somewhat thin; small branch dieback; several branches removed on southeast.
170	Glossy privet	25	3	Multiple attachments at 1-4'; thin crown; branch dieback.
171	Deodar cedar	35	3	Good form; open form; thin crown.

Tree Assessment
California Nursery Historical Park
Fremont, California
April - August 2014

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
172	Incense cedar	16,10	3	Codominant trunks at 1'; slight lean SW.
173	Floss silk tree	8	3	One sided S.
174	Canary Island juniper	9,8,8	4	Multiple attachments at 4'; minor dieback.
175	Mexican fan palm	22	5	60' of brown trunk.
176	Canary Island juniper	8,6	3	Dieback in upper crown.
177	Hollywood juniper	8	3	Slight lean E.; lateral S.
178	Canary Island pine	23	4	Good form; long laterals S. & W.
179	Canary Island pine	18	3	Crook at 30'; thinning crown.
180	Yew	11	3	Trunk wounds; fair structure.
181	Catalina cherry	7	4	Trunk wound N.; full canopy.
182	Blackwood acacia	16	3	Slight lean SW.; trunk wounds.
183	Floss silk tree	8	4	Good form; thin canopy.
184	Olive	8,6,6	4	Multiple attachments at 2'; good form; 9" stem bowed SE.
185	Incense cedar	23	4	Leans S.; top turns upright; full crown.
186	Canary Island date palm	21	5	45' of brown trunk; good form and structure.
187	Windmill palm	6	3	15' of brown trunk; penciling at 10'.
188	Olive	6,4	3	Codominant trunks at 4'; fair structure.
189	Windmill palm	6	4	15' of brown trunk; good form.
190	Windmill palm	6	4	15' of brown trunk; good form.
191	California pepper	18	3	Thin crown; multiple attachments at 2'.
192	California pepper	22	3	Thin crown; multiple attachments at 2'.
193	Guadalupe cypress	10	4	Good form and structure; slight curve in trunk.
194	Peach	8	2	Extensive dieback; poor structure.
195	Mayten	9	3	Multiple attachments at 5'; twig dieback; broken upright stem.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
239	Glossy privet	34	3	Multiple attachments at 1'; narrow form; included bark in attachment; chain link fabric embedded in trunk.
240	Silver dollar gum	35	4	Multiple attachments at 3'; good form; crown leans west.
241	Glossy privet	12	3	Multiple attachments at ground; narrow form; included bark in attachment.
242	Deodar cedar	7	2	Severe decline; thin crown.
243	Bunya-bunya	16	3	Good form; thin crown; girdling roots; old boxed specimen rooted above ground; staking
244	Mt. Atlas pistache	34	2	Severe decline; branch dieback; decay in trunk below main attachments.
245	Olive	12	3	Crown somewhat suppressed; codominant at 9'; branch dieback.
246	Burr oak	34	4	Multiple attachments at 5; good form; full crown; broad spreading crown.
247	California black walnut	51	4	Massive crown; multiple attachments at 6'; heavy lateral on southeast; branch dieback.
248	Catalina ironwood	31	1	Almost dead.
249	Glossy privet	35	2	Multiple attachments at 3'; narrow open form; included bark in attachment.
250	Coast live oak	47	4	Massive crown; tree has significant lean to southwest; most of crown is southwest of the trunk; prune to reduce weight and prop tree for supplemental support.
251	Canary Island pine	43	4	Massive tree; good form; somewhat open crown; several branch failures. Landmark tree.
252	Queensland kauri	12	3	High crown; thin; sparse branches; narrow form; codominant at 14'. Landmark tree.
253	Canary Island date palm	43	5	45' brown trunk height; full crown.
254	Swamp mahogany	31	4	Good form; codominant at 6'; included bark between main attachments.
255	Canary Island date palm	27	5	35' brown trunk height; full crown; near #261.
256	Canary Island date palm	34	4	35' brown trunk height; full crown; trunk somewhat seeps to east.
257	Bald cypress	27	4	Good form and structure; full crown; nice specimen.
258	White ironbark	38	1	Poor form; branch dieback; branch failures; basal decay.
259	White ironbark	46	3	Poor form; branch dieback; large branch failures; red gum lerp psyllid; attached to #260 at base.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
260	White ironbark	38	3	Poor form; branch dieback; branch failures; red gum lerp psyllid; attached to #259 at base.
261	Canary Island date palm	31	5	40' 'brown trunk height; near #255.
262	Canary Island date palm	33	5	7' brown trunk height.
263	Sawleaf zelkova	42	4	Multiple attachments at 4' with included bark; good form; broad spreading crown.
264	Silk oak	30	2	Misshapen, flat crown on north; branch failures; poor structure.
265	Queen palm	9	2	22' brown trunk height; small crown; multiple trunk wounds with decay.
266	Blue atlas cedar	14	3	Full crown; good form; large kinked roots; boxed specimen rooted above ground.
267	Canary Island date palm	31	5	1' brown trunk height; full crown.
268	Mt. Atlas pistache	6	3	Suppressed form; tree leans west.
269	Fig	12	3	Good form; trunk divides at 1'; full crown.
270	Canary Island date palm	50	4	60' brown trunk height; full crown; cluster of palms.
271	Canary Island date palm	36	4	40' brown trunk height; full crown; cluster of palms.
272	Canary Island date palm	36	4	40' brown trunk height; full crown; cluster of palms.
273	Canary Island date palm	39	4	35' brown trunk height; full crown; cluster of palms.
274	Canary Island date palm	38	4	40' brown trunk height; full crown; bend in trunk at 20".
275	Canary Island date palm	45	5	40' brown trunk height; full crown.
276	Canary Island date palm	44	5	43' brown trunk height; full crown.
277	Canary Island date palm	31	4	33' brown trunk height; full crown; cluster of palms.
278	Canary Island date palm	33	4	35' brown trunk height; full crown; cluster of palms.
279	Canary Island date palm	30	4	28' brown trunk height; full crown; cluster of palms.
280	Glossy privet	11	4	Multiple attachments at 3' with included bark; narrow form.
281	Fremont cottonwood	80	2	Thin crown; decay in trunk; branch dieback in crown; top 50% of one trunk dead.
282	Siberian elm	39	4	Codominant at 2'; spreading crown; branch failures.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
331	Loquat	9	3	Round headed canopy; dead branches; lowest branch at 10'.
332	Windmill palm	7	4	Frost damage; upper trunk lean to N corrected; heavy skirt.
333	Loquat	13	2	Trunk lean to NW; hollow at base; thinning crown; low vigor; girdling roots.
334	Queen palm	10	3	Brown trunk height 25'; frost damage.
335	Silver dollar gum	23	3	Trunk lean to N; branch failures; heavy end weight.
336	Lemonwood	12, 10, 7	2	Multiple attachments at base; branch failures: decay in main stems.
337	Lemonwood	8	2	Trunk lean to S; decay in main stem.
338	Lemonwood	8	2	Trunk lean to W; decay in trunk.
339	Lemonwood	9	2	Trunk lean to NE; decay in trunk.
340	Lemonwood	6	2	Trunk lean to E; decay in base.
341	Mexican fan palm	20	3	Brown trunk height 90'; small canopy.
342	Lemonwood	9,7	2	Codominant at 1' ; decay at base and stems; dead branches; trunk lean to W.
343	Lemonwood	10,9	2	Codominant at 1'; trunk galls; decay at old branch wounds.
344	Lemonwood	7	2	Decay at base; trunk lean to SW.
345	Lemonwood	11	2	Decay at base; trunk lean to E.
346	Lemonwood	10,10	2	Codominant at 1'; decay at base; trunk lean to E.
347	Lemonwood	7	2	Upright stem; decay at 3'.
348	Lemonwood	8	2	Trunk lean to W; lowest branch at 12'; decay in branch.
349	Lemonwood	11,8	3	Codominant at 3'; decay in trunk wounds; suppressed canopy.
350	Lemonwood	6	2	Trunk lean to W; suppressed canopy.
351	Lemonwood	14,9,5	2	Multiple attachments at base; decay in main stems.
352	Lemonwood	5	2	Trunk lean to E; decay at base.
353	Lemonwood	6,5	2	Codominant at base; low vigor; suppressed canopy.
354	Lemonwood	9,6	2	Codominant at base; decay at old wounds.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
355	Lemonwood	14,11	2	Decay in main stems; trunk lean to SE.
356	Lemonwood	9	2	Decay at base; trunk lean to SE.
357	Lemonwood	10	2	Trunk lean to S; lowest branch at 10'; cactus at base.
358	Olive	17	2	Decay at base; single stem; lean to S.
359	Cabbage palm	8	2	One-sided to SW; dead branches in canopy.
360	Bottle tree	6	3	One sided to W; suppressed by olive.
361	Fan palm	12	3	2' brown trunk; seedling.
362	Kentia palm	12	4	Brown trunk height 25'; frost damage; shrubs and brush at base.
363	Cabbage palm	10,10,9	3	Multiple attachments at base; lean to S.
364	Canary Island pine	31	1	Branch dieback; thin; dying; one sided on S; suppressed on W.
365	Canary Island pine	27	2	Leaning to w; suppressed canopy.
367	Windmill palm	8	4	One sided to E; frost damage.
368	Lemonwood	10,8	2	Codominant at 2'; decay at base and stems; topped.
369	Lemonwood	10	2	Trunk lean to NE; decay at base.
370	Lemonwood	11,7	2	Codominant at 3'; trunk lean to N; decay in base; branch failures.
371	Valley oak	15	3	Trunk lean to W; one-sided to W; low vigor.
372	Canary Island pine	19	2	Leaning to W; trunk canker; thin; branch dieback; chlorotic needles.
373	Canary Island pine	20	2	Leaning to SW; thin; branch dieback; chlorotic needles.
374	Chinese photinia	10,10,9	1	Thinning canopy; almost dead.
375	Cabbage palm	7,7,5,4	2	One sided to W; leaf spot; branch dieback.
376	Deodar cedar	21	3	Suppressed on W; dead branches in lower canopy.
377	Deodar cedar	14	3	Codominant at base with #376; one sided to N; suppressed canopy.
378	Blue atlas cedar	21	3	One-sided to W.
379	California pepper	15	2	Trunk lean to W; suppressed canopy.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
380	Coast live oak	30	3	Trunk lean to W; branch failure; girdling root with borers above in trunk.
381	Lemonwood	17	3	Codominant at 5'; topped; branch decay.
382	California bay	9,9,8	3	Multiple attachments at 3'; one sided to W.
383	California bay	10,10,10,9,	3	Multiple attachments at base; decay at base; upright stems.
384	California pepper	14	2	Trunk lean to W; poor structure and form; decay.
385	Lemonwood	9,9	2	Trunk lean to W; dead branches in canopy.
386	Olive	25	3	Topped; branch failures.
387	Italian cypress	11	3	Multiple attachments at 7'; upright stems; low vigor.
388	Lemonwood	13,11	2	Multiple attachments at 3'; decay; dieback.
389	Mulberry	10	1	Multiple attachments at 5'; extensive dieback; thin; crack at scaffold branch attachment.
390	Mexican fan palm	29	3	Brown trunk height 75': crook in upper trunk; frost damage.
391	Bald cypress	26	2	Low vigor; dead branches.
392	Coast live oak	6	4	Strong central leader; ivy on trunk.
393	Black locust	10,9	3	One sided to W; codominant stems at 1' and 6'.
394	Olive	5	2	Suppressed; branch failure.
395	Black locust	18	3	Cavity at base; bowed to W.
397	Coast live oak	10,8	3	Codominant at 3'; trunk lean to NE; suppressed canopy.
398	Coast live oak	17,12	4	Ivy on trunk; one-sided to E; Ehrhorn scale; codominant trunks at 2'.
399	Mt. Atlas pistache	15,9	2	Codominant at 3'; one-sided to S; dead branches.
400	Coast live oak	15	2	Sprouting stump.
401	Deodar cedar	33	3	Dead ivy stems on trunk; bleeding wounds; thinning canopy; dead branches.
402	California bay	11,8,7,6,4	3	Multiple attachments at 2'; upright stems.
403	Coast live oak	17	3	Codominant at 7'; trunk lean to E; somewhat thin.
404	Windmill palm	10	2	Growing into oak canopy.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
405	Windmill palm	9	3	Suppressed canopy.
406	Windmill palm	7	3	Frost damage; trunk lean to N.
407	Windmill palm	6	3	Frost damage; upright form.
408	Windmill palm	7	3	Frost damage; upright form.
409	Windmill palm	10	3	Frost damage; trunk lean to S.
410	Deodar cedar	35	3	One sided to S; somewhat thin.
411	Deodar cedar	29	3	One sided to N; branch failures; somewhat thin.
412	Victorian box	6	4	Codominant at 5'; multiple pruning wounds.
413	Deodar cedar	30	4	Large crown; lowest branch at 8'; symmetrical canopy; weeping form, somewhat
414	Windmill palm	7	3	Frost damage; trunk lean to E.
415	Windmill palm	6	3	Frost damage; trunk lean to NE.
416	Windmill palm	9	3	Frost damage; upright form.
417	Windmill palm	7	3	Frost damage; trunk lean to SE.
418	Windmill palm	6	3	Frost damage; trunk lean to SE.
419	Windmill palm	7	2	Frost damage; trunk lean to SE; top bowed over.
420	California bay	11	3	Thin canopy; suppressed by #421.
421	California bay	50	3	Stump sprout; multiple stems arise a ground level; upright stems; one sided on N.
422	Deodar cedar	33	3	Upright form; full canopy; small branch dieback where shaded by adjacent tree.
423	Incense cedar	18,4	3	Dead branches in canopy; one sided to S.
424	California fan palm	30	4	Brown trunk height 50'.
425	California fan palm	30	4	Brown trunk height 30'.
426	Hollyleaf cherry	3,2,2	2	Multiple attachments at base; growing at base of #424.
427	Coast live oak	19	3	Thinning canopy; multiple attachments at 5'.
428	Deodar cedar	26	3	One-sided to E; thinning canopy.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
429	Coast live oak	6	2	Codominant at 7'; suppressed canopy.
430	California bay	14,12	3	Codominant at 1'; branch wounds; ivy at base.
432	Mt. Atlas pistache	18	2	Thin; twig and branch dieback; ivy on trunk.
433	Chinese elm	18	3	Lower trunk covered with ivy; one-sided to N.
434	Blue atlas cedar	25,19	3	Codominant at 2'; upright stems; dead branches; branch failures; branch wounds; top thin.
436	Incense cedar	19	2	One-sided to S; dead branches; suppressed by cedar.
437	Incense cedar	18,11	2	One-sided to S; dead branches; suppressed by cedar.
438	Coast live oak	7	2	One-sided to N; suppressed on S.
439	California pepper	9	1	Irregular form; extensive twig and branch dieback.
440	Coast live oak	21	4	Multiple attachments at 3'; one sided to S.; low branch over path damaged by trucks.
441	Blackwood acacia	7	4	One-sided to S; lowest branch at 14'; strong central trunk.
442	Blackwood acacia	18	3	Ivy at base; codominant stems at 18'; top bowed towards house.
443	Blackwood acacia	22	3	One-sided to SW; wide-spreading upper crown with heavy lateral branches.
444	Blackwood acacia	7	2	Low vigor; crowded in location; lean to N.
445	Plum	5	3	Seedling; many sprouts along trunk.
445.1	Carob	6,4,4,4,4	3	No tag; probably a stump sprout; sapsucker damage; shrubby form.
446	Coast live oak	12,6	4	One-sided to SW.
447	Fan palm	6	4	Seedling; 1' brown trunk.
448	Plum	6	2	Seedling; many basal sprouts.
449	Coast live oak	5,3	3	Codominant at 1'; upright stems.
450	Coast live oak	7	3	Trunk lean to SW; scrubby.
451	Holly oak	6	3	Small high crown; slight lean W..
453	Blue atlas cedar	33	4	Multiple attachments at 20'; slightly thin crown; in reconstructed nursery box.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
454	Glossy privet	10	1	Multiple attachments at base; base covered in ivy; twig and branch dieback; almost dead.
455	Plum	24	3	Multiple attachments at base; slightly thin crown; on fence line; many sprouts.
456	Mt. Atlas pistache	20	2	Poor form; trunk bends E. with branches touching the ground.
457	Plum	6	3	Multiple attachments at base; slightly thin crown; on fence line.
458	Southern magnolia	36	2	Multiple attachments at base; cavity with decay in between stems; thin canopy; twig
459	Plum	11	2	Multiple attachments at base; leans SE.; crowded by 458.
460	Coast live oak	7	3	Narrow upright form; slightly thin crown; on property line.
461	Coast live oak	10,9	3	Codominant at base; slight lean E.; crowded by adjacent trees.
462	Mt. Atlas pistache	7	3	Trunk bows NE. with branches touching the ground.
463	Coast live oak	12	3	Top bowed to E.; dense crown; base on property line; engulfed in ivy.
464	Coast live oak	24	3	Multiple attachments at base; trunk and scaffolds covered in ivy; base on property line; dense crown.
465	Sweet olive	12	3	Base covered in ivy; on property line; asymmetrical crown E.; leaf tip burn.
466	Loquat	12	3	Codominant at 2'; covered in ivy; crowded form; twig dieback.
467	Coast live oak	25	3	Codominant at 2'; dense crown; leans E.; covered in ivy.
468	Coast live oak	20	3	Dense crown; covered in ivy; asymmetrical crown SE..
469	Chinese pistache	13	3	Codominant at 2'; nice form; twig dieback throughout crown.
470	Blue atlas cedar	38	4	Slightly thin crown; lost central leader; fair structure; stub cuts.
471	Windmill palm	9	4	12' brown trunk height.
472	Windmill palm	6	4	18' brown trunk height; slightly yellow frond tips.
473	Windmill palm	6	4	15' brown trunk.
474	Windmill palm	8	4	18' brown trunk.
475	Windmill palm	7	4	6' brown trunk height; nice tree.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
476	Windmill palm	9	4	5' brown trunk height; nice tree.
477	Windmill palm	7	4	17' brown trunk height; corrected lean.
478	Windmill palm	7	4	18' brown trunk height; slightly yellow fronds tips.
479	Windmill palm	6	4	18' brown trunk height; slightly yellow fronds tips.
480	Blackwood acacia	9	4	Good form and structure.
481	Windmill palm	9	4	20' brown trunk height; growing in cluster with four other palms; slightly yellow fronds tips.
482	Windmill palm	8	4	17' brown trunk height; slightly yellow fronds tips.
483	Windmill palm	10	4	14' brown trunk height; slightly yellow fronds tips.
484	Windmill palm	7	4	18' brown trunk height; slightly yellow fronds tips.
485	Windmill palm	7	4	19' brown trunk height; slightly yellow fronds tips.
486	Windmill palm	6	4	16' brown trunk height; slightly yellow fronds tips.
487	Windmill palm	6	4	16' brown trunk height; slightly yellow fronds tips.
488	Windmill palm	6	4	18' brown trunk height; slightly yellow fronds tips.
489	Monterey cypress	55	3	Good form; fair structure; multiple attachments high in crown; history of branch failure; trunk wound on S. from base to 10' from codominant stem failure.
490	Mexican fan palm	14	3	12' brown trunk height; nice crown; trunk wound at base and 3'.
491	Mexican fan palm	16	4	13' brown trunk height; nice form; crippled fronds.
492	Yew	20	1	Very thin crown; mostly dead.
493	Coast live oak	8	3	Codominant at 6'; slightly thin crown; leans S. away from 494.
494	Spanish fir	19	3	Lost central leader; dogleg in trunk where leader was lost and replaced; slightly thin crown; suppressed form; dead branches.
495	Yew	14	2	Very thin crown; brown needles; drought stressed.
496	Blackwood acacia	20	2	Codominant at 15' and 26'; slightly thin crown; twig dieback; leans E. away from 497; declining.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
497	Deodar cedar	44	4	Nice form; slightly thin crown; history of branch failure; 80' tall.
498	River she-oak	10	3	Thin crown; twig dieback; rangy form; trunk wounded with axe.
499	Yew	23	2	Very thin crown; brown needles; dead limbs.
501	Lemonwood	23	3	Multiple attachments at 2'; dense crown; dead stem; trunk wounds with decay in 2 stems.
502	Mexican fan palm	19	4	60' brown trunk height; nice crown.
503	Cabbage palm	7	4	Codominant at 5'; compact form; new shoots at base.
504	River she-oak	12	4	Nice form; codominant stems high in crown hic; group of 3 trees.
505	River she-oak	7	3	Narrow form; grown through nursery pot.
506	River she-oak	11	3	Codominant high in crown; corrected lean S.; trunk bleed at 4'; group of 3 trees.
507	Fremont cottonwood	36	1	Thin crown; twig and branch dieback; history of branch failure; ivy to 20'.
509	Colorado spruce	10	2	Almost dead.
510	Colorado spruce	11	3	Thin crown; twig dieback; crook in trunk.
511	Colorado spruce	9	2	Twig and branch dieback; very thin crown.
513	Lombardy poplar	25	1	Almost dead.
514	Lombardy poplar	25	1	Almost dead.
515	Deodar cedar	16	3	Codominant at 12'; stems twist together; slightly thin crown; trunk wound on E. at 2'.
516	Cliff date palm	36	4	25' brown trunk height; slightly dry fronds.
517	Raywood ash	7	4	Good form and structure; growing through nursery box.
518	Cliff date palm	35	4	20' brown trunk height; slightly dry fronds; unusual basal shape.
519	Glossy privet	7	3	Multiple attachments at base; topped at 5'; still in nursery box.
520	Cliff date palm	21	4	19' brown trunk height; slightly dry fronds; slight lean NE.
521	Hazelnut	7	4	Nice form; bend in trunk; out of nursery box.
522	Plum	21	1	Almost dead.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
523	Persimmon	10	3	Multiple attachments at 5'; slightly thin crown; twig dieback.
524	Glossy privet	30	2	Multiple attachments at base; mostly dead.
526	River she-oak	18	2	Poor form and structure; significant trunk wound from tip to base.
527	Guadalupe palm	18	4	15' brown trunk height; nice tree; stippling on fronds.
528	Guadalupe palm	21	5	12' brown trunk height; nice tree.
529	Monterey cypress	50	3	Foliage thinning; fair form; history of large branch failure on S; broken branches hanging over building; twig dieback.
530	Monterey cypress	50	4	Codominant at 7'; stub cuts in lower canopy.
531	Monterey cypress	49	2	Leaning S.; dieback in upper crown; trunk wound on S. from base to 8'.
532	River she-oak	25	1	Poor form and structure; trunk wound with decay from base to tip; dead branches.
533	River she-oak	23	3	Codominant at 27'; wound where branch failed with bee activity; history of branch failure;
534	River she-oak	26	3	Codominant at 26'; twig and branch dieback; history of branch failure.
535	Monterey cypress	48	2	Thin crown; history of branch failure; brown needles; trunk wound from codominant failure on E.; leaning S.; trunk decay.
536	River she-oak	19	3	Thin crown; twig dieback; upright form.
537	River she-oak	44	2	Codominant at base; history of branch failure; trunk wound on W. from branch failure; decay from base to 9'.
538	Coast live oak	35	3	Multiple attachments at 8'; spreading form with end weight; suppressed on E.
539	Cork oak	22	3	Significant lean S.; suppressed by adjacent tree.
540	Monterey cypress	27	3	Poor form and structure; trunk wound with decay from base to 8'; foliage browning.
541	Glossy privet	10	3	Multiple attachments at 1'; suppressed on N.; twig dieback; wilted.
542	Victorian box	4	3	Seedling growing in decayed trunk of dead tree; wilted.
543	Monterey cypress	32	3	Codominant at 12' with narrow attachment ; corrected lean S.; Nice form.
544	Senegal date palm	65 Cluster	4	4 trees; beautiful cluster.

Tree Assessment
California Nursery Historical Park
Fremont, California
April - August 2014

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
545	Canary Island date palm	28	3	Partial root failure; trunk sweeps towards W.; dead fronds.
546	Incense cedar	10	2	Poor form and structure; lost central leader; dieback.
547	Coast live oak	11	3	Codominant at 3'; fair structure; nice form.
548	Chinese pistache	7	4	Good form and structure; codominant stems at 12'.
549	Coast live oak	32	4	Multiple attachments at 4'; nice form; growing on mound (formerly nursery box?).
550	Yew	15	4	Multiple attachments at 3'; spreading form; some dieback.
551	California pepper	6	2	Partial failure at base; crown touching ground.
552	California bay	13	3	Multiple attachments at base; dense crown; trunk wound with decay on main stem from base to 12'.
553	Coast live oak	37	1	All but dead.
554	Coast live oak	16	2	Codominant at base; one stem dead; trunk bends toward ground.
555	Coast live oak	21	3	Multiple attachments at 13'; nice form; slightly thin crown; outgrew nursery box.
556	Coast live oak	22	4	Codominant at 20'; asymmetrical form.
557	Glossy privet	24	3	Multiple attachments at base; slightly thin crown; stem dieback.
558	California black walnut	7	3	Lost central leader; poor form; twig dieback.
559	Coast live oak	7	3	Codominant at 7'; crowded by adjacent tree; minor twig dieback.
560	Bigleaf maple	13	2	Dead top; trunk wound with decay from base to 15'.
561	Yew	36	3	Multiple attachments at base; spreading form; drought stressed; twig dieback.
562	Yew	36	3	Multiple attachments at base; spreading form; drought stressed; twig dieback.
563	Yew	24	3	Multiple attachments at base; spreading form; drought stressed; twig dieback.
564	Yew	18	3	Multiple attachments at base; spreading form; drought stressed; twig dieback.
565	Yew	7	3	Base outside dripline; drought stressed; twig dieback.
566	Yew	24	3	Multiple attachments at base; spreading form; drought stressed; twig dieback.
567	Yew	18	3	Multiple attachments at base; spreading form; drought stressed; twig dieback.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
568	Yew	24	3	Codominant at 1'; spreading form; drought stressed; twig dieback.
569	Yew	12	3	Multiple attachments at base; spreading form; drought stressed; twig dieback.
570	Yew	18	3	Multiple attachments at base; spreading form; drought stressed; twig dieback.
571	Yew	36	3	Multiple attachments at base; spreading form; drought stressed; twig dieback.
572	Yew	18	3	Codominant at base; drought stressed; twig dieback.
573	Yew	24	3	Multiple attachments at base; drought stressed; twig dieback.
574	Yew	36	3	Multiple attachments at base; spreading form; drought stressed; twig dieback.
575	Yew	24	3	Multiple attachments at base; spreading form; drought stressed; twig dieback.
576	Yew	36	3	Multiple attachments at base; spreading form; drought stressed; twig dieback.
577	Yew	18	3	Multiple attachments at base; spreading form; drought stressed; twig dieback.
578	Yew	40	3	Multiple attachments at base; spreading form; drought stressed; twig dieback.
579	Mt. Atlas pistache	7	3	Poor form and structure; crowded form.
580	Mt. Atlas pistache	8	3	Poor form and structure; crowded form; twisted trunk.
581	Loquat	7	3	Dense crown; slight lean SW..
582	Italian buckthorn	11	2	Multiple attachments at 2'; dead stems; dieback.
583	Loquat	8	3	Multiple attachments at base; dense crown; crowded form.
584	Mt. Atlas pistache	18	2	Multiple attachments at base; crowded form; twig and branch dieback.
585	Mt. Atlas pistache	12	3	Multiple attachments at base; crowded form; twig dieback.
586	Mt. Atlas pistache	27	3	Multiple attachments at base; crowded form; twig dieback.
587	Purpleleaf plum	24	3	Multiple attachments at base; spreading form; twig dieback.
588	Yew	36	3	Multiple attachments at base; spreading form; drought stressed; twig dieback.
589	Douglas fir	7	3	Narrow upright form; thin crown; twig dieback.
590	Yew	36	3	Multiple attachments at base; spreading form; drought stressed; twig dieback.
591	Yew	44	3	Multiple attachments at base; spreading form; drought stressed; twig dieback.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
592	Yew	42	2	Multiple attachments at base; spreading form; drought stressed; twig and branch dieback.
593	Yew	31	2	Codominant at base; spreading form; drought stressed; twig and branch dieback.
594	Persimmon	7	3	Codominant at 5'; nice form.
595	Persimmon	8	4	Codominant at 12'; nice form.
596	Persimmon	7	3	Multiple attachments at 8'; twig dieback; nice form.
597	Persimmon	6	3	Codominant at 7'; nice form.
598	California black walnut	26	3	Multiple trunks arise at 1'; slightly thin crown; defoliating.
599	Persimmon	7	3	Codominant at 8'; crowded form.
600	Coast live oak	27	4	Codominant at 10'; nice form; sap sucker damage; minor dieback.
601	Yew	25 stems 4-	1	Dead top; epicormics from base.
602	Coast live oak	9	4	Crowded; leans W.; good young tree.
603	Coast live oak	8	3	Crowded; asymmetric crown.
604	Coast live oak	6	3	Crowded; narrow form; small crown.
605	California black walnut	23	4	Corrected lean E.; crook at 10'; dieback to 3".
606	Purpleleaf plum	6,4,4,2,2,1	2	Multiple attachments at 2'; dead top.
607	Yew	6,5,5,4,4	1	Mostly dead; epicormics from base.
608	Yew	7,7,6,5,5,5,	2	Multiple attachments at base; suppressed form; dead top; some epicormics.
609	Plum	4,3,3	3	Multiple attachments at 4'; suppressed form; leans NW.; moderate dieback.
610	Holly oak	6	4	One sided E.; good young trees.
611	Canary Island pine	18	3	Leans SW. over fence line; fair structure.
612	Coast live oak	24	3	Boxed oak; multiple attachments at 10'; bark checking; upright with lateral SW.
613	Coast live oak	35	3	Boxed oak; multiple attachments at 12'; one sided with heavy lateral limbs S..
614	Coast live oak	27	3	Boxed oak; multiple attachments at 15'; upright but narrow form.
615	Coast live oak	29	3	Boxed oak; leans S.; new box notched around 4" root; yellow jackets at base.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
616	Coast live oak	21	3	Boxed oak; suppressed form; leans with crown bowed SE.
617	Yew	7,6	2	Codominant trunks at base; leans E.; mostly dead above.
618	Yew	15 stems 4-	3	Multiple attachments at base; vigorous epicormics at base; dieback in upper crown.
619	Yew	8,7,6	2	Multiple attachments at base; suppressed; leans E.
620	Coast live oak	26	4	Boxed oak; slight lean E.; good form and structure.
621	Coast live oak	21	2	Boxed oak; failed at base; 6-8" upright sprouts.
622	Yew	13 stems 2-	2	Multiple attachments at base; epicormics at base; dead top.
623	Coast live oak	21	3	Boxed oak; narrow form; one sided S.
625	Coast live oak	19	2	Boxed oak; leans W.; very asymmetric crown.
626	Coast live oak	29	4	Boxed oak; good form and structure; seam in attachment at 20'.
627	Yew	7,6,5	3	Multiple attachments at base; moderate dieback.
628	Yew	8,7,5,5,4	3	Multiple attachments at base; leans E to horizontal; moderate dieback.
629	Coast live oak	31	4	Codominant trunks at 5'; included bark; good form.
630	Mt. Atlas pistache	5,4,3	4	Multiple attachments at base; one sided E.; looks like volunteer.
631	Coast live oak	29	3	Boxed oak; multiple attachments at 15'; slight lean S.; thin canopy.
632	Coast live oak	23	2	Boxed oak; leans W.; poor form; thin crown.
633	Coast live oak	24	3	Boxed oak; multiple attachments at 15'; branches fused at attachments.
634	Coast live oak	20	3	Boxed oak; multiple attachments at 12'; upright, narrow form; thin crown.
635	Coast live oak	17	3	Boxed oak; small crown; upright form.
636	Coast live oak	24	3	Boxed oak; multiple attachments at 12'; one sided S.; dead wood to 3".
637	Coast live oak	22	3	Boxed oak; codominant trunks at 15'; trunks fused below attachment; one sided N.
638	Coast live oak	22	3	Boxed oak; multiple attachments at 15'; very one sided S.
639	Coast live oak	30	4	Boxed oak; multiple attachments at 12'; one sided NE.; seam in attachment.
640	Coast live oak	6,4	3	Codominant trunks at base; suppressed form; 4" stem bowed W. to horizontal.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
641	California bay	8,7,5	3	Multiple trunks arising from ground level; upright form; kissing trunks.
642	Loquat	6	3	Suppressed form; small crown.
643	Loquat	9	3	Dieback; trunk wounds.
644	Loquat	9	3	One sided N.; trunk wound.
645	Loquat	7	3	Upright form; small crown.
646	Loquat	7,5,4	3	Multiple attachments at 2'; upright but overshadowed.
647	Loquat	6,5,3	3	Multiple attachments at 1'; crowded but upright.
648	Italian buckthorn	7	2	Dead top; wilted.
649	Yew	7,6,4	1	Multiple attachments at base; dead top; epicormics from base.
650	Yew	8,7	1	All but dead.
651	Glossy privet	8,7,3	1	Almost dead.
652	Monterey cypress	38	3	Good form; dieback to 3".
653	Cork oak	19	3	Corrected lean SW.; twig dieback in upper canopy.
654	Mt. Atlas pistache	15	3	Codominant trunks at 7'; crown bowed SE.
655	Olive	8	3	Codominant trunks at base; stems twisted around each other; crown bowed SE.
656	Yew	28 stems 3-	2	Multiple attachments at base; extensive dieback; no epicormics.
657	Coast live oak	7	4	Codominant trunks at 5'; seam in attachment.
658	Cork oak	30	3	Roots exposed; one sided E.; dieback throughout crown.
659	Cork oak	28	4	Roots exposed; leans W.; spreading crown.
660	Mt. Atlas pistache	26	3	Leans E.; trunk outside crown.
661	Mt. Atlas pistache	21	3	Good vigor; poor form and structure.
662	Blue atlas cedar	39	4	Good form and structure; 8" lateral SW.; twig dieback.
663	Coast live oak	21	3	Boxed oak; slight lean SE.
664	Coast live oak	23	3	Boxed oak; one sided S. with 10" & 12" heavy lateral limbs S.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
665	Mt. Atlas pistache	8	3	Small, high crown.
666	Coast live oak	9	4	Slight sweep from base; high crown; good young tree.
667	Mt. Atlas pistache	7	3	Suppressed; leans S.; crook at 5'.
668	Coast live oak	7	4	Crowded; high crown; good young tree.
669	Holly oak	7	4	Crowded; upright, narrow form.
670	Holly oak	6	4	Crowded; upright; one sided S.
671	Loquat	6,7,5	3	Multiple attachments at base; one stem dead.
672	Mt. Atlas pistache	6	2	Suppressed; crown bowed S. to horizontal.
673	Coast live oak	28	3	Was once boxed; roots exposed; low lateral E.
674	Coast live oak	13	2	Was once boxed; exposed roots; small, thin crown.
675	Mt. Atlas pistache	10	2	Suppressed; crown bowed E. to horizontal.
676	Mt. Atlas pistache	9,6,6,4,3	3	Multiple attachments at base; suppressed; bowed S. to horizontal.
677	Coast live oak	10,8,4	4	Multiple attachments at 3'; seam in attachment.
678	Coast live oak	19	5	Slight lean N.; large pruning wound E.
679	Coast live oak	15	4	Codominant trunks at 6'; large branch removed E.
680	Silver maple	12	4	Multiple attachments at 18'; good form.
681	Canary Island date palm	36	5	12' of brown trunk; good form and structure.
683	Apple	23	1	All but dead.
684	Apricot	21	1	Nothing but basal suckers remain.
685	Apple	15,8,8,7	2	Topped at 6'; crown formed by 3" epicormics.
686	Apricot	4,4,4,3,2	3	Multiple attachments at 2'; vigorous epicormics.
687	California black walnut	9,8	2	Codominant trunks at 3'; dead top.
688	Apricot	2,2,2,2,2	4	Multiple attachments at 2'; spreading form; vigorous epicormics.
689	Apricot	3,2,2,1	3	Multiple attachments at 2'; vigorous epicormics.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
690	Apricot	5,3,2,2,2	4	Multiple attachments at 1'; spreading form; vigorous epicormics.
691	Apricot	5,4,3,3	4	Multiple attachments at 2'; spreading form; vigorous epicormics.
692	Apricot	3,3,2,1,1	4	Multiple attachments at 2'; spreading form; vigorous epicormics.
693	Apricot	3,2,2,1,1	3	Multiple attachments at 2'; branch wounds; vigorous epicormics.
694	Apricot	4,2,2,1	4	Multiple attachments at 3'; spreading form; vigorous epicormics.
695	Apricot	4,3,2,2,1,1	4	Multiple attachments at 3'; spreading form; vigorous epicormics.
696	Apricot	5,5,4,2,1,1	4	Multiple attachments at 3'; spreading form; vigorous epicormics.
697	Apricot	2,2,2,1,1,1,	3	Multiple attachments at 1'; low branching; vigorous epicormics.
698	Apricot	4,2,1,1,1	3	Multiple attachments at 2'; spreading form; vigorous epicormics.
699	Apricot	4,4,3,3	3	Multiple attachments at 2'; W. half of tree pruned; vigorous epicormics.
700	Apricot	4,4,2,1,1	4	Multiple attachments at 2'; spreading form; vigorous epicormics.
701	Apricot	5,4	4	Codominant trunks at 4'; open form.
702	Apricot	12,6	3	Large pruning wounds; trunk decay; mostly epicormics.
703	Apricot	2,2,1,1,1,1	4	Multiple attachments at 2'; one sided W.; vigorous epicormics.
704	Apricot	2,2,1,1,1,1	3	Multiple attachments at 3'; some dieback; vigorous epicormics.
705	Apricot	7	2	Large trunk wound where stem failed; trunk decay.
706	Apricot	10	2	Trunk wounds with decay; dieback in upper canopy.
707	Apricot	5,4,3,3	4	Multiple attachments at 1'; spreading form; vigorous epicormics.
708	Apricot	4,2,2	3	Multiple attachments at 3'; open center; vigorous epicormics.
709	Apricot	2,1,1,1,1,1,	4	Multiple attachments at 2'; spreading form; vigorous epicormics.
710	Apricot	2,2,1,1,1,1,	3	Multiple attachments at 1'; open center; vigorous epicormics.
711	Apricot	1,1,1,1,1,1,	4	Multiple attachments at 2'; spreading form; vigorous epicormics.
712	Apricot	3,3,1	3	Multiple attachments at 2'; open center; vigorous epicormics.
713	Cherry	3,2,2,2	4	Multiple attachments at 3'; upright form.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
714	Cherry	4,3,2,2,1	3	Multiple attachments at 2'; old topping points.
715	Apple	3,2,2,2	2	Multiple attachments at 2'; thin canopy.
716	Coast live oak	13	5	Good form and structure.
717	Canary Island date palm	33	4	25' of brown trunk; good form.
718	Canary Island date palm	34	4	20' of brown trunk; trunk sweeps at 10'.
719	Canary Island date palm	29	4	35' of brown trunk; good form; bird nesting hole in trunk.
720	Coast live oak	22,12	3	Codominant trunks at base; embedded fence; good form.
722	Coast redwood	21	3	One sided S.; dieback to 4".
723	Coast redwood	28	4	Good form; thinning crown.
724	Coast redwood	11	3	Suppressed; dieback.
725	Coast redwood	53	3	Codominant trunks at 8'; thin in upper canopy.
726	Coast redwood	41	3	One sided N.; thin upper canopy.
727	Coast redwood	19	3	Suppressed; crown bowed E.
728	Canary Island date palm	40	4	40' of brown trunk; trunk sweeps W.
729	Canary Island date palm	33	5	55' of brown trunk; good form and structure.
730	Canary Island date palm	26	4	35' of brown trunk; suppressed beneath #729; slight lean E.
731	Guadalupe cypress	15	5	Good form and structure; engulfed in ivy.
733	Glossy privet	6,4,4,4,3,2	3	Multiple attachments at base; narrow attachments; growing around guy wire.
734	Almond	8,7,3	2	Multiple attachments at base; dieback throughout crown.
735	Mexican fan palm	32	3	40' of brown trunk; penciling at 18'; small crown.
736	Deodar cedar	28	4	Strong central trunk; detached, hanging branch; one sided N.; twig dieback.
737	California pepper	16,15,14	3	Multiple attachments at base; decay in 16" stem; topped for overhead utilities.
738	Cork oak	37,31,16	2	Multiple attachments at 4'; extensive dieback; epicormics.
739	Canary Island date palm	17	5	No brown trunk yet; good young tree.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
740	Italian stone pine	24,23	4	Codominant stems at 4'; included bark; pruned for overhead utilities.
741	Coast live oak	7,6	4	Codominant trunks at 3'; narrow attachment with seam & included bark.
742	Coast live oak	7	5	Codominant trunks at 4'; good young tree.
743	Mayten	11	3	Small crown; trunk wound S.; dieback.
745	Giant sequoia	14	3	Dieback of 40% of branches.
746	Olive	15	3	Large sun scald wound N.; dieback in upper crown.
747	Lemonwood	1,1,1,1,1,1,	3	Topped hard at 3'; sprouted new canopy.
748	Canary Island date palm	30	4	35' of brown trunk; good form and structure.
749	Canary Island date palm	35	5	4' of brown trunk; good young tree but under overhead utilities.
750	Canary Island date palm	30	5	40' of brown trunk; good form; fig growing in pineapple.
751	Chinese photinia	13,12	3	Codominant trunks at base; moderate dieback ; beneath overhead utilities.
752	Glossy privet	15,14,12,5	2	Multiple attachments at 1'; narrow attachments; very thin in upper canopy.
753	Deodar cedar	7	4	Good young tree; close to overhead utilities.
754	Windmill palm	12	4	Multiple attachments at base; nice little group.
755	Apricot	2,2,1,1	3	Multiple attachments at 1'; open center; vigorous epicormics.
756	Apricot	3,2,1,1	4	Multiple attachments at 1'; spreading form; vigorous epicormics.
757	Apricot	2,2,1,1	3	Multiple attachments at 4'; spreading form.
758	Cherry	1,1,1,1	4	Multiple attachments at 3'; good form.
759	Cherry	1,1,1,1	3	Multiple attachments at 4'; small crown.
760	Apple	5,4,4,3	1	All but dead.
761	Cherry	2,2,1,1,1,1	4	Multiple attachments at 4'; good form.
762	Cherry	2,2,1,1,1,1	4	Multiple attachments at 4'; good form.
763	Cherry	1,1,1,1	4	Multiple attachments at 4'; good form.
764	Cherry	2,1,1,1,1	3	Multiple attachments at 4'; small crown.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Comments
1	Coast live oak	24	3	One-sided to west.
765	Cherry	2,1,1,1	2	Mostly dead.
766	Cherry	4	3	Small crown.
767	Cherry	2,2,1,1	3	Dieback but epicormics.
768	Nectarine	4,2,2,1	4	Multiple attachments at 2'.
769	Nectarine	3,2,2,1	4	Multiple attachments at 2'; good form.
770	Apricot	2,2,1,1	4	Multiple attachments at 1'; good form.
771	Apricot	4,3,2,3,1,1	4	Multiple attachments at 4'; open center.
772	Apricot	5,3,2	4	Multiple attachments at 4'; spreading form.
773	Apricot	3,2,2,1	3	Multiple attachments at 2'; one sided W.
774	Apricot	3,3,2,1.1	3	Multiple attachments at 4'; one sided E.
775	Apricot	3,3,2,1,1,1	3	Multiple attachments at 3'; small crown.
776	Apricot	6	4	Multiple attachments at 4'; good form.
777	Apricot	3,2,2	3	Multiple attachments at 3'; small crown.
778	Apricot	3,3,3,1	3	Multiple attachments at 3'; small crown.
779	Apricot	2,2,1,1,1	2	Multiple attachments at 1'; small crown.
780	Apricot	14	1	All but dead.
781	Apricot	2,1,1,1,1	4	Multiple attachments at 3'; spreading form.
782	Apricot	2,1,1,1,1	3	Multiple attachments at 3'; thin crown.
797	Plum	2	3	Multiple stems from base; many sprouts.

MEMO

Date: **June 2, 2016**

To: **Chris Patillo, PGA Design**
Roger Ravenstad, City of Fremont

From: **Nelda Matheny**

Subject: **California Nursery**

We have completed our update of the trees at California Nursery. The purpose of this memo is to summarize the major changes since our original inventory in the spring of 2014. A comparison of tree conditions ratings is provided in Table 1. Locations of dead trees and trees in poor condition are plotted on the attached Tree Assessment Map.

Table 1: Comparison of number of trees by condition category in 2014 and 2016.

Date	Dead	Poor	Fair	Good
2014	-	187	332	237
2016	30	210	285	230

1. Tree condition has declined over the past two years, primarily due to water stress.

2. Thirty trees have died, primarily due to water stress.
   - Ten were yews that were primarily located around the boxed oak forest.
   - Landmark oak #250 and Monterey cypress #531 failed and were removed.

3. 210 trees were in poor condition. In most cases, we recommend removing trees in poor condition because they are unlikely to respond to treatments and recover good health within a few years' time. The primary exception at this site are yews that could be coppiced and allowed to re-sprout (assuming they are irrigated). Some of the olives currently in poor condition could be pruned and monitored for recovery.

4. The attached Tree Assessment Map shows the spatial orientation of the trees in poor condition and those that are dead. This could be used to evaluate potential tree removals in key use areas. While you may not want to remove all poor condition trees, I do recommend removing those in public use areas. Prime examples are the Landmark Canary Island pines at the Adobe and the Monterey cypress trees in the future picnic area.

Suggestions for further discussion

1. Many of the Landmark trees are either gone or in poor condition. It would be good to review those, determine if some should be removed from Landmark status. Treatments such as pruning, cabling and irrigation may prolong the life of some. Perhaps other noteworthy trees could be nominated.

2. It would be good to have a discussion about which trees in poor condition you would prefer retaining. For instance,

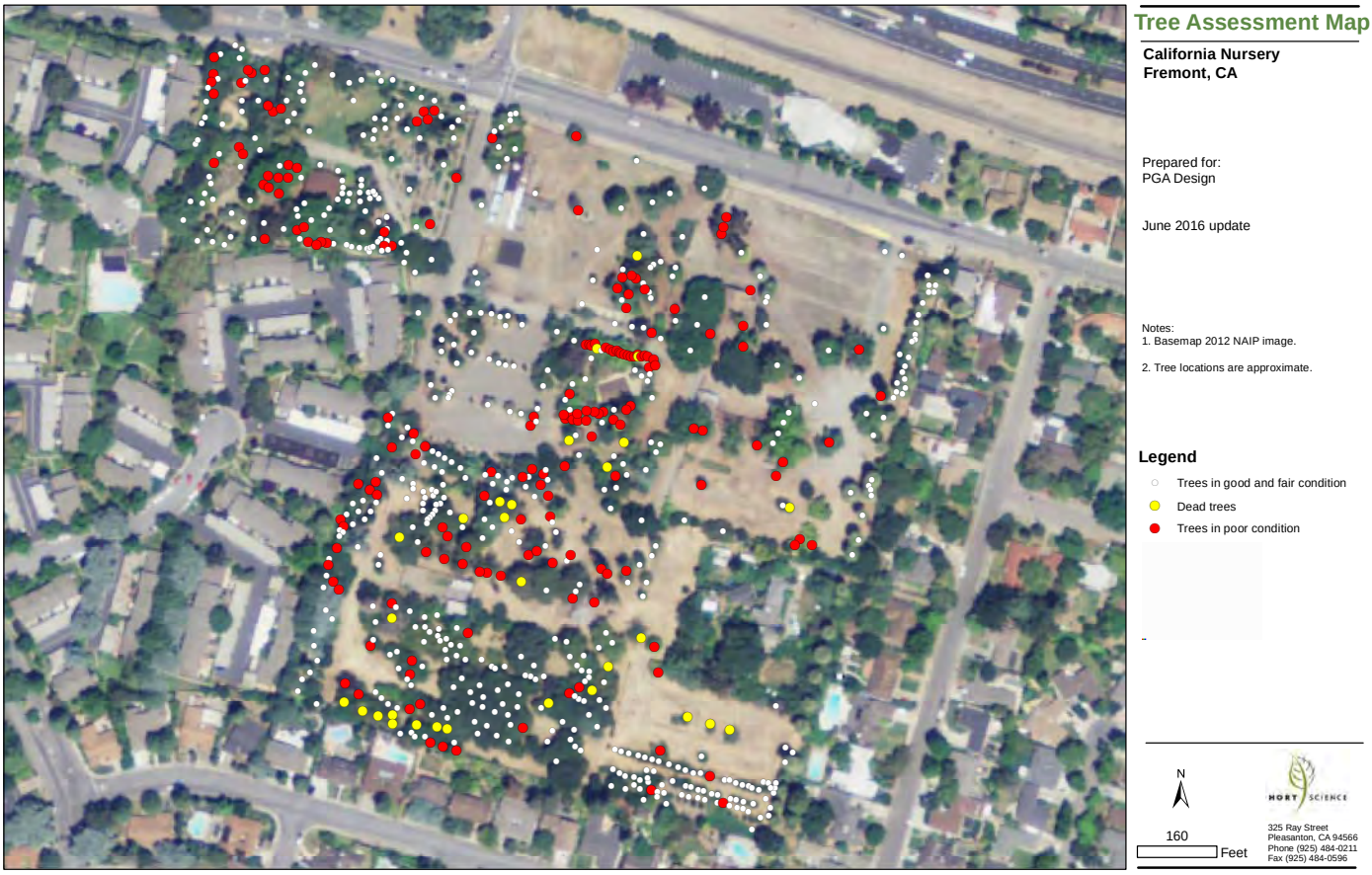
- Suppressed, misshapen trees along the property lines may have value for screening.
- Retention of unique trees may be considered if arboricultural treatments could prolong life and abate potential hazards. We need to identify which trees fall into that category.

3. Roger and I discussed providing input on specific irrigation requirements. I'm wondering how you would like me to provide those guidelines? I could classify trees according to water use, then use color codes on a map to show their spatial orientation. That would give you some idea of how to group water zones.

We now have the trees plotted in GIS. It is a relatively easy process to prepare color-coded maps according to the type of information you want. Just let me know what you need. The tag numbers can be shown as well.

I will also provide a spreadsheet of trees, updated condition, and recommendations for removal and treatment after we have a chance to discuss.

HortScience, Inc. | 325 Ray St. | Pleasanton, CA 94566
phone 925.484.0211 | fax 925.484.5096



THIS PAGE INTENTIONALLY LEFT BLANK

Appendix 6:
Tree Inventory Report

Tree Inventory Report

California Nursery Historical Park
Roeding Property
Fremont, CA

Prepared for:
City of Fremont
39550 Liberty St.
Fremont CA 94538

Prepared by:
HortScience, Inc.
325 Ray Street
Pleasanton, CA 94566

December 2016

Tree Inventory Report
California Nursery Historical Park
Roeding Property, Fremont, CA

Table of Contents

	Page
Introduction and Overview	1
Tree Inventory Methods	1
Description of Trees	1
Protected Trees	4
Summary and Conclusions	4

List of Tables

Table 1. Condition ratings and frequency of occurrence of trees	2

Exhibits

Tree Inventory Map

Tree Inventory Report
California Nursery Historical Park
Roeding Property, Fremont, CA

Introduction and Overview
PGA Design is developing a Master Plan for the California Nursery Historical Park in Fremont, CA. The site is a historical nursery, established in 1884, that originally occupied 463 acres. A Tree Inventory Report for the 20.1 acres owned by the City of Fremont was prepared by HortScience, Inc. in October 2014. Recently HortScience was asked to inventory the trees on the adjacent Roeding property.

This report provides the following information:

1. An inventory of trees on the Roeding property.

2. An assessment of each tree's health and condition.

Tree Inventory Methods
Trees were inventoried on November 3, 2016. The survey procedure consisted of the following steps:

1. Identifying the tree as to species;
2. Tagging trees with a numerically coded metal tag and recording each tree location on a map;
3. Measuring the trunk diameter at a point 54" above grade;
4. Evaluating the health and structural condition using a scale of 1 – 5:

   5 - A healthy, vigorous tree, reasonably free of signs and symptoms of disease, with good structure and form typical of the species.

   4 - Tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.

   3 - Tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that might be mitigated with regular care.

   2 - Tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.

   1 - Tree in severe decline, dieback of scaffold branches and/or trunk; most of foliage from epicormics; extensive structural defects that cannot be abated.
5. Describing the characteristics of each tree.

Description of Trees
Sixty-seven (67) trees were assessed. Descriptions of all trees and a map of their approximate locations are found in the *Exhibits*.

The tree population at the Roeding property was highly diverse; 29 taxa were represented (Table 1). The species most commonly present were coast live oak (18% of population), glossy privet (12%), deodar cedar (7%), and Canary Island date palm (7). Twenty-three species were represented by only one or two trees (79% of taxa present).

Table 1: Condition ratings and frequency of occurrence of trees.
California Nursery, Roeding Property, Fremont, CA

Common Name	Scientific Name	Condition			Total
		Poor (1-2)	Fair (3)	Good (4-5)	
Blackwood acacia	*Acacia melanoxylon*	-	1	-	**1**
Japanese maple	*Acer palmatum*	2	-	-	**2**
Deodar cedar	*Cedrus deodara*	2	3	1	**6**
Orange	*Citrus sinensis*	-	1	-	**1**
Cabbage palm	*Cordyline australis*	1	-	-	**1**
Loquat	*Eriobotrya japonica*	1	-	-	**1**
Silver dollar tree	*Eucalyptus cinerea*	-	1	-	**1**
Swamp mahogany	*Eucalyptus robusta*	1	-	-	**1**
California black walnut	*Juglans hindsii*	-	1	-	**1**
English walnut	*Juglans regia*	-	-	1	**1**
Chinese flame tree	*Koelreuteria bipinnata*	1	-	-	**1**
Glossy privet	*Ligustrum lucidum*	5	3	-	**8**
Mayten	*Maytenus boaria*	2	-	-	**2**
Dawn redwood	*Metasequoia glyptostroboides*	1	-	-	**1**
Myoporum	*Myoporum laetum*	1	-	-	**1**
Winged elm	*Ulmus alata*	1	-	-	**1**
Canary Island date palm	*Phoenix canariensis*	-	-	6	**6**
Japanese black pine	*Pinus thunbergiana*	1	-	-	**1**
Chinese pistache	*Pistacia chinensis*	-	1	-	**1**
Tawhiwhi	*Pittosporum tenuifolium*	1	1	-	**2**
Victorian box	*Pittosporus undulatum*	-	1	-	**1**
Fremont cottonwood	*Populus fremontii*	1	-	-	**1**
Carolina cherry laurel	*Prunus caroliniana*	-	1	-	**1**
Pomegranate	*Punica granatum*	-	1	-	**1**
Coast live oak	*Quercus agrifolia*	-	6	6	**12**
African sumac	*Rhus lancea*	5	-	-	**5**
Eastern arborvitae	*Thuja occidentalis*	1	1	-	**2**
Windmill palm	*Trachycarpus fortunei*	-	3	-	**3**
California bay	*Umbellularia californica*	-	1	-	**1**
Total		**27**	**26**	**14**	**67**

For the 46 single-trunked trees, size ranged from 6” in trunk diameter to 46”; average trunk diameter was 17”. The largest single trunked tree was 46” diameter dawn redwood #810. Fourteen trees had trunk diameters exceeding 24”. There were 21 trees with two or more trunks.

Among all trees, 23% were in good condition (rating 4-5); 37%, fair (rating 3); and 40% in poor condition (rating 1-2). Condition rating distribution varied by species. Trees in best condition included coast live oak #833, deodar cedar #852, and Canary Island date palms #853, 857-861 (photos 1-3).

Photo 1. Coast live oak #833 was a 44" diameter tree in good condition. The chain that was girdling the trunk should be removed as soon as possible (arrow).

Photo 2. 43" diameter deodar cedar #852 was in good condition.

Photo 3. Canary Island date palms #857-859 were three of the six palms in good condition.

Trees in fair and poor condition tended to have poor form and structure, often due to crowding and being overgrown by adjacent vegetation. Trees close to the fence had wire embedded in the trunk. Visually significant deodar cedars #825-827 were in fair condition (photo 4). Because of extensive branch breakage they will require significant pruning and regular care to reduce the risk of future failures. Mature Fremont cottonwood #819 (32" trunk diameter, photo 5) and dawn redwood #810 (46" trunk diameter) were almost dead, most likely due to drought.

Photo 4. Mature deodar cedars #825-827 were in fair condition due to dieback, a history of branch failure and presence of broken and hanging branches. A close-up of broken branches in tree #827 is shown in inset.

Relatively few pests and diseases were present. Decay fungi were present on orange #813, loquat #814, and coast live oak #833. Myoporum thrips had defoliated and killed the apical shoots of myoporum #834.

Protected trees

City of Fremont Municipal Ordinance No. 2481 defines all trees with a trunk diameter of 6" or greater as *Protected*. Based on this definition, all 67 trees qualified as *Protected*.

Photo 5. Fremont cottonwood #819 was almost dead.

Summary and Conclusions

The Roeding property was vegetated with a diverse population of 67 trees representing 29 taxa from around the world. For the 46 single-trunked trees, size ranged from 6" in trunk diameter to 46"; average trunk diameter was 17". Fourteen trees had trunk diameters exceeding 24". There were 21 trees with two or more trunks.

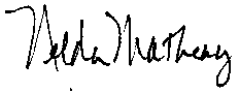
Among all trees, 23% were in good condition (rating 4-5); 37%, fair (rating 3); and 40% in poor condition (rating 1-2). Mature trees in best condition included deodar cedar #852 and Canary Island date palms #853, 857-861 which were located near the east property line. Coast live oak #833 was a large, attractive tree that was being girdled by a chain around the trunk. This chain should be removed as soon as possible to avoid further damage to the tree.

Trees in fair and poor condition tended to have poor form and structure, often due to crowding and being overgrown by adjacent vegetation. Two large trees are unlikely to survive another year: Fremont cottonwood #819 and dawn redwood #810. Both were in severe decline, due in large part to drought.

We noted the presence of structural defects we could see from the ground that tend to be associated with tree failure. Pruning often can abate these problems and preserve trees. In some cases it may be necessary to remove trees where the risk to park workers and the public cannot be managed.

Trees change over time. Our inspections represented the condition of the tree we could observe at the time of inspection. Annual tree inspections of trees in use areas are recommended to identify changes to tree health and structure. In addition, large trees should be inspected after storms of unusual severity to evaluate damage and structural changes. Failure of apparently defect-free trees does occur, especially during storm events. Wind forces can exceed the strength of wood causing branches and trunks to break. Wind forces coupled with rain can saturate soils, decrease stability, and blow over defect-free trees. Although we cannot predict all failures, identifying and managing trees with observable defects is an important component of enhancing public safety.

HortScience, Inc.



Nelda Matheny
Board Certified Master Arborist WE195B
Registered Consulting Arborist 243

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix 6 Exhibits:
Tree Assessment Map and Forms

Exhibits

Tree Inventory Map
Tree Assessment Form

Tree Assessment Map

Roeding Property
California Nursery
Fremont, CA

Prepared for:
City of Fremont

November 2016

Notes:
1. Basemap provided by City of Fremont.

2. Tree locations are approximate.

Legend

- Dead trees
- Trees in poor condition
- Trees in good and fair condition

N

40 Feet

HORT SCIENCE
325 Ray Street
Pleasanton, CA 94566
Phone (925) 484-0211
Fax (925) 484-0596

Tree Assessment

Roeding Property
California Nursery, Fremont
November 3, 2016

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
801	Coast live oak	12	3	Low	Multiple attachments arise from base; base embedded in fence; dense full crown.
802	Chinese pistache	7	3	Moderate	Trunk engulfed in ivy; multiple attachments arise from 8 feet; good dense crown.
803	Chinese flame tree	8,4	2	Low	Base embedded in fence; codominant stems arise from 2'; dead branches to 4" stems.
804	Coast live oak	12,7,6,6	4	Moderate	6" lateral embedded in the fence; wide attachments with included bark at 2 1/2'; good dense crown.
805	Coast live oak	7,5	4	Moderate	Multiple attachments arise from base; base embedded in fence; good dense crown.
806	Coast live oak	6	4	Moderate	Base embedded in fence; good dense crown; shaded by #805.
807	Coast live oak	10	3	Moderate	Base embedded in fence; good dense crown.
808	Coast live oak	10	3	Moderate	Base embedded in fence; good dense crown.
809	Coast live oak	8,7,7,7,6,6,4	3	Moderate	Multiple attachments arise from base; base embedded in fence; good dense crown.
810	Dawn redwood	46	1	Low	Little live foliage; all but dead.
811	Pomegranate	10	3	Low	Base and trunk engulfed in ivy; history of improper pruning.
812	Silver dollar tree	24	3	Low	Multiple attachments arise from 15'; trunk leans south; interior dieback.
813	Orange	7,7,5	3	Moderate	Multiple attachments arise from 3'; twig and branch dieback; decay fungus growing on several branches.
814	Loquat	6,5,5	1	Low	Multiple attachments arise from base; fungus growing throughout lower trunk; little live foliage.
815	Cabbage palm	10,7,7,4	2	Low	Privet growing out of base; multiple attachments arise from base.

Tree Assessment

Roeding Property
California Nursery, Fremont
November 3, 2016

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
816	Glossy privet	7,3,2	2	Low	Growing from base of dracaena; multiple attachments arise from base and 7'.
817	Glossy privet	9	2	Low	No tag; engulfed in blackberries and wisteria and throughout canopy; little live foliage.
818	Glossy privet	12	2	Low	Base embedded in fence; multiple attachments arise from 6' and 8'; sparse interior crown; history of improper pruning.
819	Fremont cottonwood	32	1	Low	All but dead; extensive cavity in trunk.
820	Glossy privet	7	3	Low	Lost central leader; narrow attachment at 6'; crossing branches; good full growth.
821	Glossy privet	6,6	3	Low	Multiple attachments arise from base; narrow attachments; crossing branches; good full growth.
822	Coast live oak	10	3	Moderate	Ivy growing in crown; poor structure with good full growth.
823	Tawhiwhi	7	3	Low	Bowed trunk; dieback; good growth with poor structure.
824	Glossy privet	6	2	Low	Bowed trunk to the south; growth is epicormic sprouts.
825	Deodar cedar	33	3	Moderate	In a group of three; leaning south; all the laterals are on the southern side; almost no interior growth.
826	Deodar cedar	33	3	Moderate	In a group of three; leaning west; all laterals are on the western side; almost no interior growth; history of branch failure; unhealed wound at 35'.
827	Deodar cedar	31	3	Moderate	In a group of three; no central leader; all the laterals are on the exterior side; almost no interior growth; history of branch failure; hangers.
828	Carolina cherry laurel	7	3	Moderate	Multiple attachments arise from 5'; wood embedded in base; bowed trunk.
829	California bay	6,5,5	3	Moderate	Multiple attachments arise from base; suppressed by #825 - 827.

Tree Assessment

Roeding Property
California Nursery, Fremont
November 3, 2016

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
830	Coast live oak	12	4	Moderate	Codominant attachments at 8'; suppressed by the swamp mahogany; good full growth.
831	Swamp mahogany	27	2	Low	Large dead wood in canopy; history of improper pruning; history of branch failures.
832	English walnut	7	4	Moderate	Good form and structure; good full growth.
833	Coast live oak	44	4	Moderate	Gorgeous full canopy; chain girdling trunk, should be cut immediately; fungus in old pruning wound at base of lateral limb to the south; heavy laterals; sprouts from pruned limb to the west.
834	Myoporum	6	1	Low	Growing out of failed container; extensive thrips throughout canopy.
835	Coast live oak	10	4	Moderate	Good form and structure; growing in a broken box container.
836	African sumac	7,5	2	Low	Growing in a group of several trees; multiple attachments arise from base; suppressed poor form.
837	African sumac	6	2	Low	Growing in a group of several trees; multiple attachments arise from base; suppressed; poor form and structure.
838	African sumac	8,6,4,3	2	Low	Growing in a group of several trees; multiple attachments arise from base; suppressed; poor form and structure.
839	African sumac	7,6,5,5,5,3	2	Low	Growing in a group of several trees; multiple attachments arise from base; suppressed; poor form and structure.
840	Glossy privet	6	2	Low	Growing in a group of several trees; multiple attachments arise from base; suppressed; poor form and structure.
841	African sumac	6,5,4	2	Low	Tagged on fence; codominant branch attachments at 12'.
842	Eastern arborvitae	11,8	3	Low	Multiple stem attachments arise from base; leaning south; heavy outer crown.

Tree Assessment

Roeding Property
California Nursery, Fremont
November 3, 2016

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
843	Eastern arborvitae	10,9,8,6,5, 5	2	Low	Multiple stem attachments arise from base and 2'; leaning south; heavy outer crown; history of branch failure, plumbago throughout crown.
844	Blackwood acacia	10,8	3	Low	Multiple stem attachments arise from base; base engulfed in ivy; wide basal attachment with decay.
845	Japanese maple	10	2	Low	Decay on upright leaders; little live foliage.
846	Japanese maple	11,7	1	Low	Decay in codominant stem attachment at 3 1/2'; roots encircling; little live foliage.
847	Japanese black pine	8	2	Low	Enlarged or swollen base; one-sided on north; dieback.
848	Windmill palm	7	3	Low	Growing in a failed container; leaning east; base and container embedded in ivy.
849	Windmill palm	7	3	Low	Growing in a failed container; base and container embedded in ivy.
850	Ulmus alata	18	1	Low	Lost central leader; decay in stump; little live foliage.
851	Windmill palm	8	3	Moderate	Good upright form and structure; chlorotic growth.
852	Deodar cedar	43	4	High	History of failure; pruned on the northern side for power line clearance; spreading form and structure; low lateral limbs.
853	Canary Island date palm	28	4	High	50' tall; in row of several palms; good form and structure.
854	Deodar cedar	14	2	Low	Trunk turns horizontal at 4'; very poor form.
855	Deodar cedar	19	2	Low	Topped at 10' with two sprouts growing from attachment; very poor form.
856	California black walnut	14,6	3	Low	Base engulfed in bamboo; crowded crown.
857	Canary Island date palm	31	4	High	50' tall; in row of several palms; good form and structure.

Tree No.	Species	Trunk Diameter (in.)	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
858	Canary Island date palm	35	4	High	50' tall; in row of several palms; good form and structure.
859	Canary Island date palm	25	4	High	50' tall; in row of several palms; good form and structure.
860	Canary Island date palm	32	4	High	No tag; base and trunk engulfed in ivy; 50' tall; in row of several palms; good form and structure.
861	Canary Island date palm	36	4	High	Base and trunk engulfed in ivy; 50' tall; in row of several palms; good form and structure.
862	Glossy privet	8,4,4,4	3	Low	Multiple attachments arise from base; stump sprout; full crown.
863	Victorian box	10	3	Low	Base and trunk engulfed in ivy; dieback to 4" stems; multiple attachments arise from 4'.
864	Tawhiwhi	7,7,6,6,5,3,3,3	2	Low	Central leader is dead; decay in attachments; multiple attachments arise from base.
865	Coast live oak	9	3	Moderate	No tag; base and trunk not visible; good form and structure.
866	Mayten	7	1	Low	Base engulfed in ivy; all but dead.
867	Mayten	12	2	Low	Base engulfed in ivy; dieback in crown.

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix 2:
Landmark Trees

Excerpts from Landmark Trees of the City of Fremont:

Introduction
The Importance of Landmark Trees
How a Tree qualifies for Landmark Status
California Nursery Company (Section)

LANDMARK TREES

City of Fremont

PGAdesign

LANDSCAPE ARCHITECTS

The Legacy of CALIFORNIA NURSERY Historic Park

the root of an industry

PGAdesign[inc] 444-17th Street Oakland, CA 94612 t 510 465 1284 PGAdesign.com

The Legacy of CALIFORNIA NURSERY Historic Park

the root of an industry

City of Fremont
California Nursery Historical Park

Volume 3: Supporting Documents

Adopted December 12, 2017

CITY OF Fremont California

PGAdesign

LANDSCAPE ARCHITECTS

Volume 3 Table of Contents

3 **Introduction**

5 **A. Summary of Public Input**

5 1. User Group Meetings

8 2. Recreation Commission Meeting

11 3. Workshops No. 1 & 2

18 4. Phase 2 – Environmental Review and Public Hearings

18 5. Phase 3 – Community Meeting

19 **B. Educational Programming**

25 **C. Building Existing Conditions**

45 **D. Financial Report**

61 **E. Construction Cost Estimate**

77 **F. Site Utilities – Existing & Proposed**

83 **G. Annotated Master Plan**

See also Volumes 1 & 2:

California Nursery Historical Park Master Plan - Volume 1

1. Acknowledgements
2. Introduction
3. Park Master Plan
4. Existing Trees Inventory & Assessment
5. Educational Programming
6. Buildings Existing Condition
7. Construction Cost Estimate
8. Next Steps & Park Phasing

Tree Report & Urban Forestry Management Plan - Volume 2

Urban Forestry Management Plan – October 2017

Appendices:

1. Summary of Tree Species and Condition Ratings
2. Landmark Trees
3. Recommended Action for Trees
4. Tree Inventory Maps
5. Tree Inventory Report, California Nursery Historical Park
6. Tree Inventory Report, Roeding Property

THIS PAGE INTENTIONALLY LEFT BLANK

Introduction

This volume contains supporting documents to the “California Nursery Historic Park Master Plan Report September 15, 21017” volume 1. These documents were used to assist the community input process, to inform the evolution of the master plan and feasible uses of the site, understand financial impacts and to document existing features. They provide technical information and quantify specific data in relation to the site. The data in these reports informed and helped shape the California Nursery Master Plan.

California Nursery, 1923

THIS PAGE INTENTIONALLY LEFT BLANK

Section A: Summary of Public Input

Community input was sought throughout the process of developing the California Nursery master plan. At key junctures, City review boards and commissions reviewed and provided input to the evolving plan.

The project kick-off for the California Nursery Master Plan was held in June 2014 and marks the beginning of the community-wide master planning effort. There were three phases of effort, during which time broad input was sought and integrated into the plan. In Phase 1 three stakeholder meetings were held, community workshops 1 and 2 were held, design alternatives were presented to the Recreation Commission, and the project progress was presented to the City Council. Phase 1 was completed late 2014. Phase 2 focused on the process of preparing the EIR. The review period for the EIR concluded in February 2017. The final draft Master Plan was prepared during Phase 3. Community meeting number 3 was held during this phase and the project was reviewed by Historical Architectural Review Board, the Recreation Commission and, on April 11 2017 the Fremont City Council.

1. User Group Meetings

The City coordinated meetings with three existing User Groups: Math Science Nucleus/Roeding Family, Local Ecology & Agriculture Fremont, and the Museum of Local History Guild. During these meetings each group had the opportunity to provide input on its vision for the park.

The **Math Science Nucleus (MSN)/Roeding Family,** was represented by Dr. Joyce Blueford and Nelson Kirk[1]. MSN is currently using the Nursery Office to house some of the Roeding family historic collection. One room has been converted to an archive. MSN has an agreement with the City to archive this material in the park "office".[2] Its vision for the park is that the extant buildings and site features will be restored to reflect what the property was like in the 1930s—within the period of significance.[3] Its sole purpose will be to celebrate the history of the nursery and Fremont. Historic exhibits housed in the existing buildings would tell the story of the nursery and the roles played by John Rock, William Landers, Richard D. Fox, Harry Rosedale, Mr. Ogata, Frank Avilla and others, as well as multiple generations of Roedings. MSN envisions the park hosting daily tours of school-aged children, who will come to learn about California history, food production and science. Tour fees would support the park. MSN would also like to:

Children's Hospital Picnic, 1936-37

1 PGAdesign met separately with Bruce Roeding prior to the workshop and solicited his input on what he would like to see in the park. After the workshop we spoke with Sandy (aka George R.) and Gretchen Roeding to hear their feedback.

2 In September 2014 the Bringhurst family donated $100,000 to support the archiving effort and Professor David Stronck from California State University East Bay offered graduate students to assist with the work.

3 The period of significance for the nursery 1842 - 1952 was established in 2001 by Ward Hill, Woodruff Minor and Michael Corbett, Architectural Historians. Refer to DPR 523 Form by the State of California Department of Parks and Recreation for the California Nursery.

- Expand the experimental orchard
- Bring back the annual tulip festival
- Reconstruct one of the lath structures
- Reconstruct the high water tower, which at 85 feet was a landmark in the area

MSN sees a need for:

- Multi-use community building with a kitchen
- More restrooms
- Classroom in the park to conduct its programs - separate from multi-use building
- Small store that would sell products grown or made in the park along with other items related to the history of the site. Profits from such a venue would help support the park operations
- Structure and interpretive material is needed to house and tell the story of the historic vehicles and machinery used in the nursery operation

Mia Mora and Bruce Cates, the Secretary and President of **Local Ecology & Agriculture Fremont (LEAF)**, represented their group. LEAF currently has a temporary lease of approximately one acre of the property on Nursery Avenue near the main park entry. Over the past two years, with 1500 volunteers[4], LEAF has constructed accessible paths, community garden beds, three small greenhouses and a propagation area. LEAF also conducts classes and provides food to the community. LEAF would like the community garden to provide space for:

- 90 additional planters
- In-ground plots
- 3 small greenhouses
- Source of water
- Space to conduct classes for up to 50 people with shade
- Ability to cook food in either a commercial kitchen or a covered outdoor kitchen / barbeque.
- Community building with space for 50 people
- Exhibit space
- Permaculture demonstration garden
- Retail sales area (store)

Food preparation would be part of its classes and celebrations of harvests. LEAF classes address food production and environmental education. It sees a need for a community building that could host an annual conference on environmental education. Such an event could draw 200 to 300 people to the park. It also needs exhibit space and a place to sell vegetable seedlings and produce from

Nursery Store, 1930's

4 Del Conte Landscape Construction donated labor as well.

the garden. Members of LEAF would like a permaculture[5] demonstration garden somewhere in the park. They envision the President's House as a possible venue for a restaurant that would serve food produced in the garden.

Both LEAF and MSN / Roeding agree that establishing ongoing relationships with the Master Gardener program and UC Extension would be beneficial. They also agree that technology should be used to create self-guided educational tour programs that could be accessed via smart phones.

Representatives from the **Museum of Local History Guild** included President Gil Garza, Patricia Wipfli Schaffarczyk, Lila Bringhurst and Tim Gavin. Their presentation provided an overview of their organization and the resources they have to offer. The mission of the Guild is to preserve the history of Southern

5 Wikipedia defines permaculture as a philosophy of working with, rather than against nature; of protracted and thoughtful observation rather than protracted and thoughtless labor; and of looking at plants and animals in all their functions, rather than treating any area as a single product system. Bill Mollison.

American Association of Nurserymen picnic on the Great Lawn, 1939

Workshop No. 1, July 2014

Alameda County. Their vision for the park includes a local history Interpretive/Education Center that could be housed in one of the existing historic buildings or in a new building within the park. They envision the Interpretive/Education Center as a central point of Fremont history, with permanent and changing exhibits that serve as a starting point for history tours and a venue for fundraising events to support the Interpretive/Education Center operations.

The Guild offered the use of its materials and resources to develop the interpretive program for the museum and park, as well as volunteers to pursue grants and sponsor events. Programmatically, the Guild would like to have a multi-use building with space for:

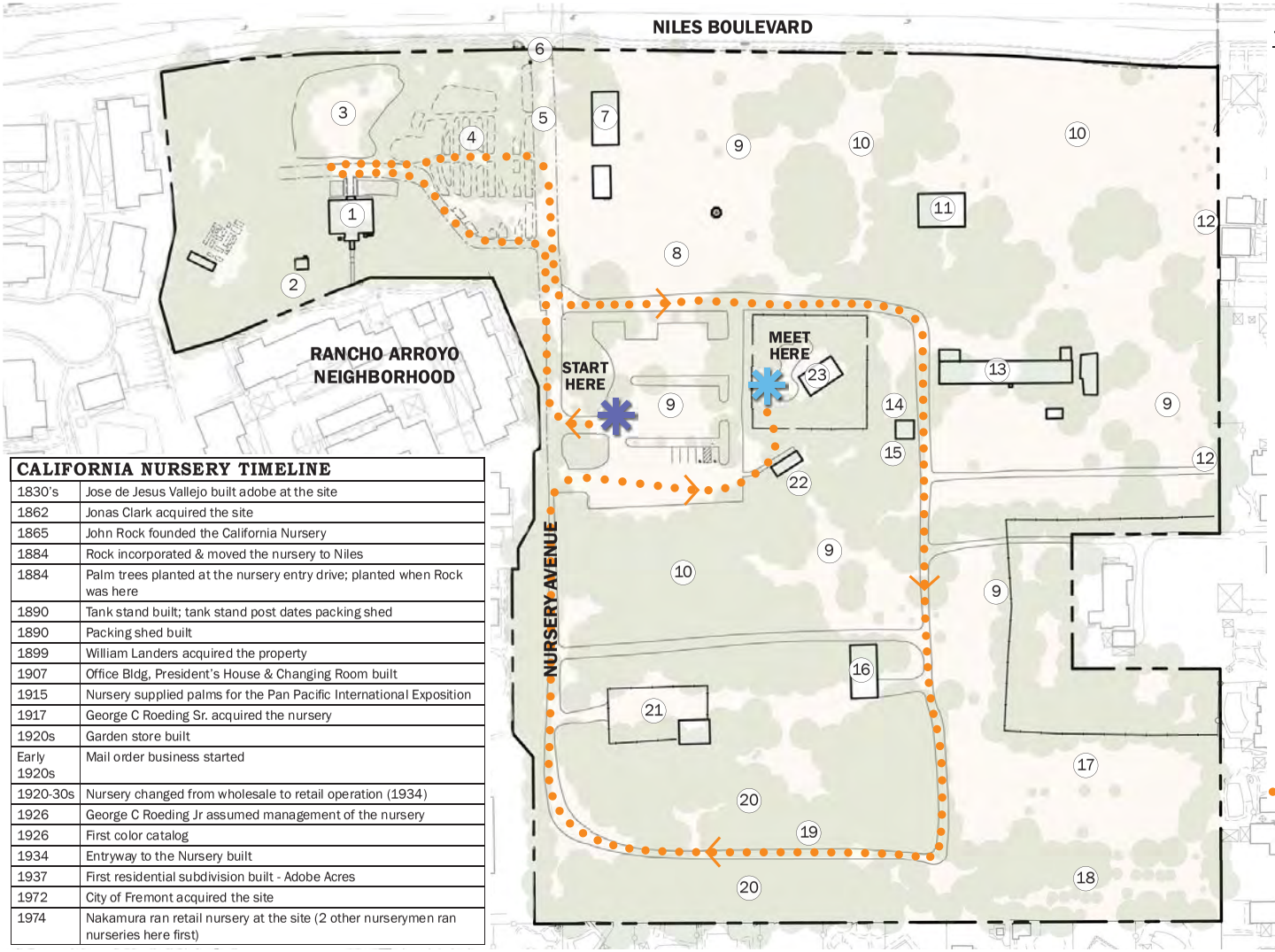
- Museum exhibits - permanent and changing
- Archive space
- Event space for up to 300
- A commercial kitchen
- Office space
- Staff room

Recreation Commission Meeting

In July 2014 PGAdesign attended a Fremont Recreation Commission meeting held in the Vallejo Adobe, preceded by a narrated tour of the site. The hearing was an opportunity for the Commission to hear what would be presented at the first public workshop. The presentation included reports from Nancy Goldenberg, an historic architect, and Cathy Garrett and Chris Pattillo from PGAdesign. Topics included workshop objectives, an overview of the historic site context, a site analysis, and the preliminary building assessment. PGAdesign also provided brief reports from the other consultant members regarding site utilities and financial considerations.

A discussion was held regarding how best to engage the workshop attendees. A draft survey questionnaire was distributed and Commission members offered suggestions on how to frame questions. Additional questions were added in response to comments from Commissioners. We closed the meeting by reviewing next steps.

The following two pages show the front and back sides of a self-guided walking tour of the park site. The tour route and key, as well as a timeline with major events and construction dates for existing buildings is included.



WALKING TOUR ROUTE/KEY

- START HERE
- 1 OFFICE BUILDING
- 2 CHANGING ROOM
- 3 OFFICE LAWN
- 4 ROSE GARDEN
- 5 PALM DRIVE
- 6 ENTRYWAY
- 7 GARDEN STORE
- 8 COMMUNITY GARDEN
- 9 HISTORIC LATH AREAS
- 10 GROWING GROUNDS
- 11 PRESIDENT'S HOUSE
- 12 ROW OF PALMS
- 13 PACKING SHED
- 14 WATER TANK STRUCTURE
- 15 TALL WATER TANK FOOTINGS
- 16 SHED
- 17 HISTORIC ORCHARD
- 18 ACTIVE APRICOT ORCHARD
- 19 BOXED OAK TREE FOREST
- 20 YEW TREES
- 21 ACWD WELL
- 22 RESTROOMS
- 23 VALLEJO ADOBE / MEETING PLACE
- *CONVENE HERE AT 10:00 FOR COFFEE & SNACKS. WORKSHOP WILL BEGIN AT 10:30*
- TOUR ROUTE

CALIFORNIA NURSERY TIMELINE

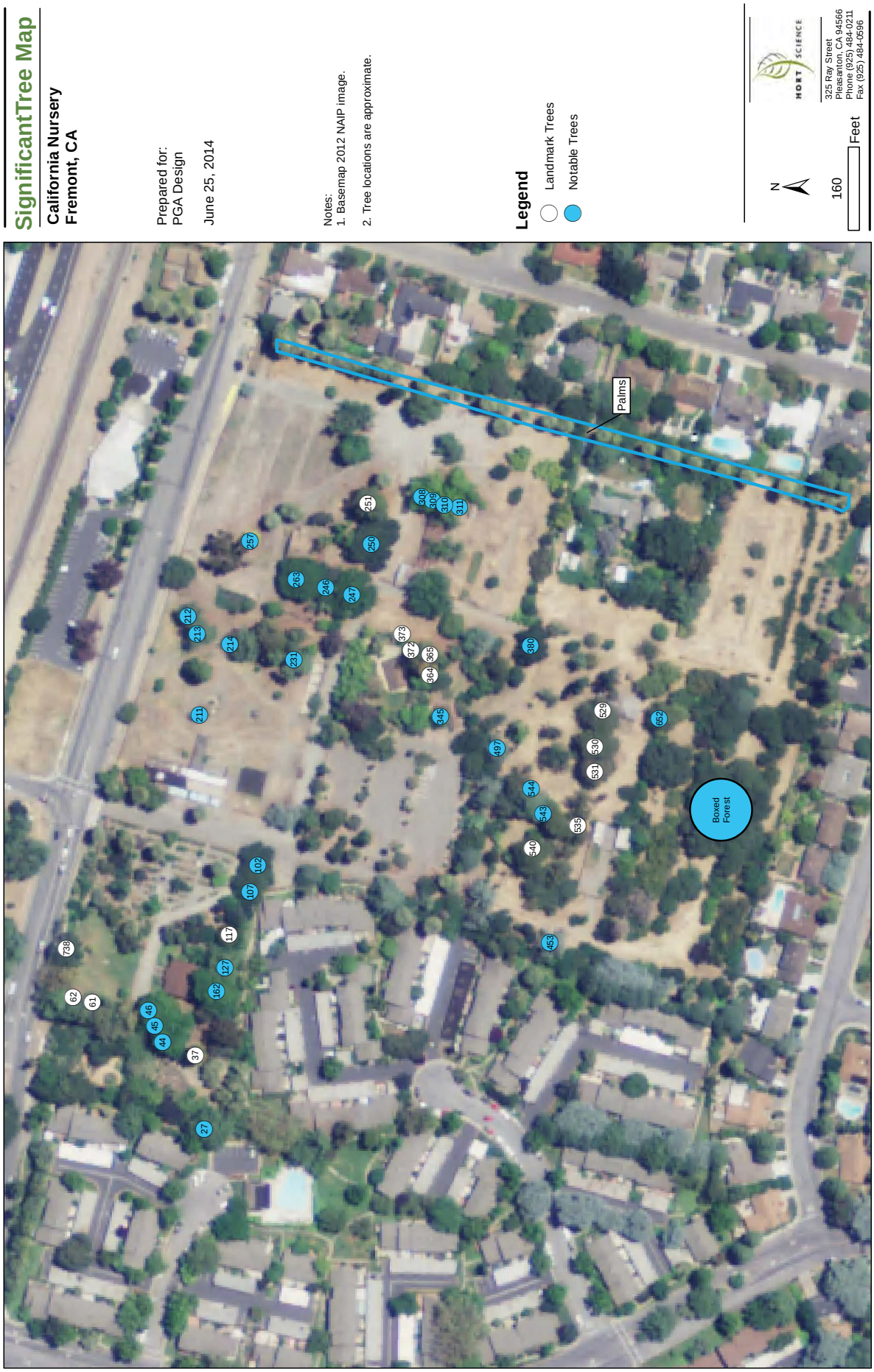
1830's	Jose de Jesus Vallejo built adobe at the site
1862	Jonas Clark acquired the site
1865	John Rock founded the California Nursery
1884	Rock incorporated & moved the nursery to Niles
1884	Palm trees planted at the nursery entry drive; planted when Rock was here
1890	Tank stand built; tank stand post dates packing shed
1890	Packing shed built
1899	William Landers acquired the property
1907	Office Bldg, President's House & Changing Room built
1915	Nursery supplied palms for the Pan Pacific International Exposition
1917	George C Roeding Sr. acquired the nursery
1920s	Garden store built
Early 1920s	Mail order business started
1920-30s	Nursery changed from wholesale to retail operation (1934)
1926	George C Roeding Jr assumed management of the nursery
1926	First color catalog
1934	Entryway to the Nursery built
1937	First residential subdivision built - Adobe Acres
1972	City of Fremont acquired the site
1974	Nakamura ran retail nursery at the site (2 other nurserymen ran nurseries here first)

CALIFORNIA NURSERY HISTORICAL PARK MASTER PLAN

COMMUNITY WORKSHOP

JULY 12, 2014

PGA design INC
LANDSCAPE ARCHITECTS



Map of Significant Trees prepared for Workshop 1 by Hort Science

Workshops No. 1 & 2

Workshop No. 1

The first community workshop was broadly advertised. Information about the workshop was posted on the City website, ads were placed in the local newspapers, and all residents within 400 feet were notified by mail.

The workshop was held on a Saturday morning at the site. Attendees identified where they live on a large map and were provided with self-guided maps of the park that identified buildings and other features. A California Nursery timeline with key dates and events was included, as was an exhibit prepared by HortScience showing the locations of significant trees. In addition, informal guided tours were led by PGAdesign, and MSN hosted a display of historic artifacts from the nursery in the office.

Welcome and Site Context

Roger Ravenstad, Senior Landscape Architect and Fremont Project Manager, opened the workshop by welcoming 145 attendees. Cathy Garrett presented an overview of the historic context, explaining that at the time of the California Gold Rush there was a surge of interest in horticulture and a passion to import new plants. New species from the Orient, South America and even Australia flooded into the Port of San Francisco to feed this voracious appetite for new things.

Our mild Mediterranean climate, growing population, new-found wealth, and location as the premier Pacific U.S. port helped to promote the development of a thriving nursery trade. In 1854 William Connell Walker[6] advertised the "availability of camellias and other flowering shrubs and trees" from his greenhouse and nursery located at Fourth and Folsom Streets in San Francisco. By 1859 he had 20,000 plants in pots available for sell. In 1856 James O'Donnell established the Mountain View Nursery in San Jose. John Rock started the California Nursery originally in San Jose in 1865. Between 1850 and the 1870s the number of nurseries grew significantly throughout the Bay Area, with important growers and merchants in Oakland, Berkeley, San Jose, the Santa Clara Valley, Napa-Sonoma and Niles. Perhaps the best-known of these was the nursery established by Luther Burbank in Santa Rosa in 1878.

Judith Taylor, in her History of California Gardens, notes 64 nurseries in the greater Bay Area between the 1850s and 1880s. Many of these provided not only plants but professional design services as a part of their businesses. The expansion of horticultural literature during this period no doubt had an influence on horticulture of the late 19th century in California. JC Louden and

George Roeding III at Workshop No. 1, July 2014

6 Walker's 1858-1859 nursery catalogue was obtained by Harry Butterfield, for many years at the cooperative extension service of the University of California and an avid collector of information on early California horticulture. Butterfield's notes, including his typescript of Walker's catalogue, are in the Special Collections of the Shields Library at U.C. Davis.

Andrew Jackson Downing were among those writing about horticulture and were highly influential. Golden Gate Park, by far the most important example of landscape design in the, was begun in 1870 under the direction of William Hammond Hall. John McLaren replaced Hall as Park Superintendent and was known to the Roeding family. He can be seen in the historic pictures with the young Roeding boys.

San Francisco and the Bay Area was a place of great wealth derived from mining; railroad development; processing and manufacturing; finance; and international trade. During the 1870s and 1880s the great public parks were being established, and palatial mansions were built in San Francisco and on the peninsula, all of which needed a supply of plants. Many contained "exotic" trees that were especially popular in the 1870s and 1880s, including many varieties of palms, redwood, Australian monkey puzzle, cedar of Lebanon and the bunya-bunya tree. California's newly rich were as interested in the conspicuous display of their wealth as their English and East Coast counterparts. This is the context in which the California Nursery began and thrived.

Site Analysis

A series of presentation boards were used to explain aspects of the site that affect the park design: environmental factors, existing buildings, circulation and parking, noise concerns, important views, screening needs, the location of significant trees, and how the buildings and tree rows define outdoor spaces on the property. Other exhibits showed how the size of the nursery property has changed over time.

Collections of historic photographs on another series of boards told the story of how the California Nursery began. They showed the building and land uses; the nursery operations; annual events that took place at the nursery, like the tulip festival and garden show; and some of the people associated with the nursery over its 103-year history.

Bruce Roeding, 1937

Rebecca Gorton of Lamphier-Gregory, environmental planners, explained the environmental review process and was available to respond to concerns about traffic and noise. These will be studied as part of the environmental impact report (EIR) preparation process. Nancy Goldenberg with Carey & Company, historic architects, described the condition of the existing buildings, talked about potential uses for these buildings, and went on record as supporting the reuse of existing buildings as a sustainable and suitable approach to accommodating the program elements.

Workshop attendees were then invited to ask questions of the design team and make remarks about what sort of activities they would like to see happen in the park. All of the following program elements were suggested.

Attendees also expressed concern about how neighbors would be impacted by a more developed park. Noise and traffic are the two primary concerns. They are also concerned that trees are stressed and need immediate attention. Other advocates spoke up for retention of the rose garden/display garden. A

Program Elements

- A passive park; a quiet place to enjoy the trees and wildlife
- Shady areas for picnicking and dog walking
- An arboretum with labeled trees and plants, or a botanical garden
- Venue for flower shows
- History Interpretive/Education Center
- Community garden
- Demonstration gardens for drought-tolerant plants, native plants, permaculture, vegetable growing
- Sustainable design exhibits
- Venue for speakers
- Venue for classes on topics connected with the nursery as well as growing and eating plants
- Gift shop
- Interpretive displays about the nursery, sustainable design, permaculture, native plants, earthquakes, water conservation
- Place for students to learn about Fremont history and the nursery story
- Playground
- Venue for weddings, business functions, family celebrations
- Place to grow and sell plants
- Venue for the Pacific Bus museum
- Private retail nursery
- Bed and breakfast
- Café or restaurant

number of speakers suggested forming alliances with local community colleges and the Master Gardener program.

The final presenter was Steven Spickard, from Land Economics Consultants, who introduced the need to generate revenue to support park maintenance and operations. He explained that parks throughout the country are dealing with this issue. Steve is working with the planning team to develop a model for the park's maintenance and ongoing operations.

At the conclusion of the workshop attendees were asked to fill out a survey questionnaire that was intended to solicit levels of interest in a range of activities and programs that could take place in the park. The survey was posted on the city's website, and 163 completed surveys were returned. The results demonstrate support for nearly every type of program element suggested. One series of questions asked, "To support the park financially would you buy spring bulbs for your garden here or vegetable seedlings or cut flowers or Halloween pumpkins, etc?" This series of questions garnered the most votes suggesting a commitment to support the park. The questions and vote counts are shown on the following page.

In reviewing the responses, at first glance it may appear that negative votes outweigh the affirmative votes but when you add together those who selected "Yes" and "Maybe" the totals are very similar. For example, 65 chose "not interested" in response to the question "would you attend a Father's Day event?". Only 46 indicated they were "very likely" to attend, but when adding in the 29 who chose "somewhat likely" the affirmative votes outweigh the negative.

The second group of questions asked respondents if they are likely to participate in a variety of activities. Several of these received higher "No" votes than affirmative. This does not necessarily suggest that these activities should not be available in the park for others to take advantage of. In a few cases the "No" votes do exceed the combined "Yes" and "Maybe" votes but in no case is the difference very significant so one can reasonably conclude that most if not all of the suggestions offered should be considered as acceptable activities for the park.

Niles sales yard, 1941

Workshop No. 2

In September 2014 the city hosted a second workshop, this time at the Teen Center, where 85 interested parties heard presentations, made comments and asked questions of the master planning team. PGAdesign presented two design alternatives, Option 1 and Option 2. Nancy Goldenberg updated previous findings on the condition of the buildings in her Existing Buildings Assessment Report. Steven Spickard presented an overview of the Preliminary Financial Report. The content of each presentation is described in the

CA NURSERY QUESTIONNAIRE RESULTS

Describe your level of interest in the park:	VERY INTERESTED	SOMEWHAT INTERESTED	NOT INTERESTED
	32	2	

Totals as of 9/16/14

Of the following activities which of these are you likely to attend?	**VERY LIKELY**	**SOMEWHAT LIKELY**	**NOT LIKELY**
A spring tulip festival	**110**	**43**	**10**
Weekly farmers market	**70**	**35**	**14**
Mother's day picnic	**51**	**40**	**54**
Father's Day BBQ	**46**	**29**	**65**
Fall harvest festival	**137**	**27**	**6**
Christmas lights show	**102**	**32**	**25**

Might you or your family members participate in any of the following?	**YES**	**MAYBE**	**NO**
Home beer brewing contest?	**35**	**34**	**88**
An Easter egg hunt?	**32**	**32**	**89**
Saturday morning story time for tots during summer?	**24**	**27**	**95**
Attend a Halloween Haunted Park event?	**59**	**39**	**57**
Attend day camp with a garden focus for Kids aged 7-10?	**43**	**19**	**86**
Bike repair workshops?	**42**	**36**	**75**
Start & finish of annual family fun bike ride? (5mi, 10mi, 25 mi, and 50 mi rides	**57**	**49**	**46**
Annual free plant exchange?	**124**	**30**	**11**
Family picnics?	**94**	**32**	**24**

Which of these educational opportunities interest you enough that you would attend?	**Very Likely**	**Maybe**	**Not Interested**
Evening or weekend talks/lectures?.....	**80**	**56**	**9**
Taking classes on the following topics?			
How to prune fruit trees.....	**106**	**38**	**21**
How to bake pies.....	**49**	**55**	**41**
How to graft fruit tree.....	**89**	**31**	**36**
Flower arranging.....	**76**	**43**	**32**
How to make wine.....	**47**	**37**	**59**
How to make beer.....	**43**	**37**	**64**
Plein air painting.....	**58**	**38**	**53**
How to can fruit & veggies.....	**72**	**45**	**35**
General cooking classes.....	**74**	**49**	**31**
How to grow vegetables.....	**113**	**31**	**18**
How to compost.....	**92**	**34**	**22**

F:\CA Nursery.FRE\DOCS - CA Nursery\From PGA\California Nursery Historical Park Master Plan Questionnaire_FORMATTED\Questionnaire Results.xlsQuestionnaire Results.xlsSheet1 10/20/20145:24 PM

To support the park financially would you?	Yes	Maybe	No
Buy spring bulbs for your garden here?	115	31	10
Buy vegetable seedlings here?	130	24	9
Buy cut flowers here?	113	34	10
Buy Halloween pumpkins here?	110	32	15
Buy your Christmas tree here?	92	28	42

What does the park need?	Definitely	Maybe	Does not need
More parking.....	21	78	39
Better restrooms.....	71	53	13
A museum.....	78	44	18
A multi-purpose community room.....	73	46	16
More community garden beds.....	59	56	15

Do you think this site is or could be a nice place for any of the following?	Great Idea	Maybe	No Way
Weddings.....	119	28	11
Corporate functions.....	70	52	35
Small conference center.....	78	55	22
Family reunion.....	94	38	15
Teen dances.....	36	54	58
Movies in the park.....	80	45	25
A bed and breakfast boutique hotel.....	42	43	67
Community festivals..... (box left off form)	38	31	25

If we provide the types of activites you are intersted in, how likely are you to visit the park?	Very Likely	Somewhat likely	Not likely
	26	2	1

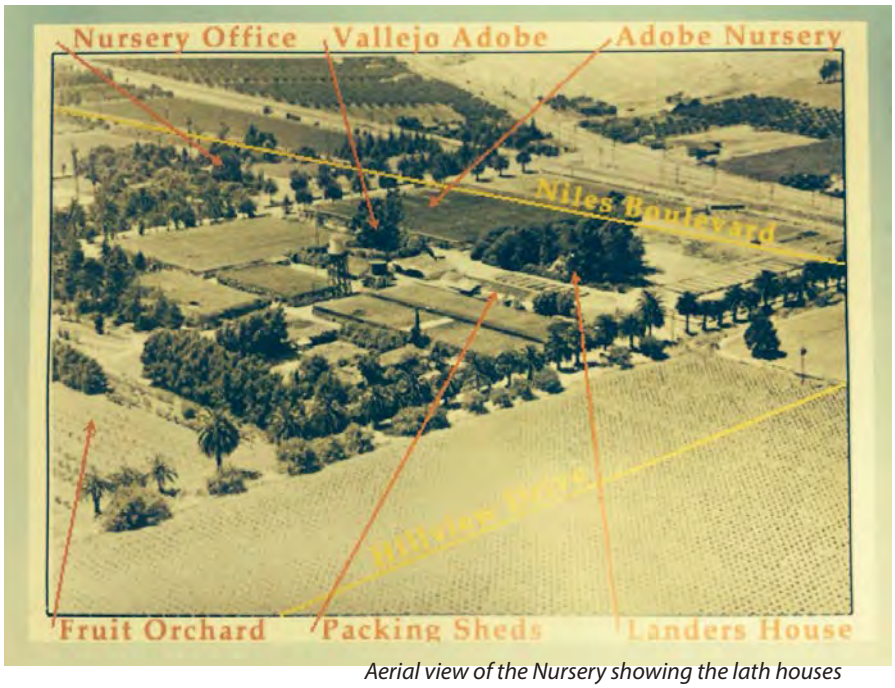
F:\CA Nursery.FRE\DOCS - CA Nursery\From PGA\California Nursery Historical Park Master Plan Questionnaire_FORMATTED\Questionnaire Results.xlsQuestionnaire Results.xlsSheet1 10/20/20145:24 PM

following sections, and the complete Building Existing Conditions (Section D) and Preliminary Financial Report (Section E) are included in this report. The workshop agenda also included brief reports on the Preliminary Construction Cost Estimates and the Environmental Review process.

After the park design alternatives were presented, attendees had the opportunity to make comments. Several people expressed concern about the community garden, particularly where it would be located. Others were concerned about Regan's Nursery. Many spoke about the importance of the education programs and of protecting the authentic features in the park.

At the end of the workshop attendees were asked to submit written comments on what they were most excited or most concerned about. Support for a new multi-purpose / classroom building and the community garden ranked highest, followed by the new Interpretive/Educational Center shown in Option 2, which tied with maintaining and expanding the arboretum. Twice as many preferred the new Interpretive/Educational Center building as those who preferred using the existing historic buildings as museum space. Attendees expressed support for adding a café to the park as well as more venues for weddings or other events that would generate revenue to help support the park financially.

Other comments supported use of the California Nursery Archive Building as a document archive; restoration of historic buildings; added parking; the amphitheater; walking paths; restoration of the water tower and tank; preservation of the Boxed Tree Forest; the retail store; additional restrooms; a catering kitchen; and building a lath structure over the parking.



Aerial view of the Nursery showing the lath houses

Rows of rose seedlings, 1930's to 1940's

Phase 2 EIR, Community Meeting

Phase 2 Environmental Review and Public Hearings

Starting in Fall of 2014 the Lamphier-Gregory team prepared the draft environmental impact report (EIR) that analyzed all of the potential impacts of the proposed park. After the draft was reviewed by City of Fremont staff it was released for public review in mid December 2016. Comments received will be incorporated into the final EIR and park master plan. The master plan and EIR will be presented to the Historical Architectural Review Board, the Recreation Commission and the City Council for adoption of the master plan and certification of the EIR.

Phase 3: Community Meeting

On January 19, 2017 a community meeting was held at the Teen Center. All of the exhibits that had been shown at the two previous workshops were on display so that everyone could see the basis of the planning process and how the design concepts had evolved. Suzanne Wolf, Community Services Director and Roger Ravenstad, Parks Planning and Design Manager, welcomed all who attended, introduced the project and set the stage with a brief history of the site and nursery operation.

PGAdesign reviewed the chronology of the planning process and presented the draft park final master plan in detail. For each area of the park, Cathy Garrett showed historic photos and images depicting what is shown in the master plan. Ms. Garrett explained the history of each element and described what is proposed for each area. Concept sketches and images illustrating the style and character of new elements were shown.

After the presentation, attendees asked questions that were recorded and responded to. At the conclusion of the formal meeting everyone circulated around the exhibits, including the draft final master plan, and the discussion and questions and answers continued informally.

Section B: Educational Programming

Evaluation of Educational Programming and Fund Generation at California Nursery Historical Park 2011-2016

The California Nursery Historical Park (Park) is an authentic piece of California history. The story goes back to the Native American, the Spanish Mission Era, the Mexican Ranchero Era, "Californios," and the California Nursery Company. In educational terms, the Park has many facets that tell a complete picture of the development of agriculture and horticulture in California (from wheat fields to fruit trees). If the Park improves the buildings, maintains the vegetation, and displays the artifacts of the Roeding Collection, it will capture the imagination of all visitors. If designed with programming in mind, this Park should be a popular historic destination site in the East Bay.

Math Science Nucleus (MSN) has worked over the last few years to evaluate the educational interest in science, horticulture, and history at the Park. Focus groups and classes were conducted to evaluate the value to potential visitors. MSN evaluated field trips, professional development for teachers, classes and summer camps, community service/service learning, and events. MSN staff also evaluated models from other successful, similar operations.

Field Trips and Tours for Primary School to College

From 2011 to 2016, The MSN investigated types of educational programming and events that can generate funds for ongoing maintenance of the Park. MSN conducted field trips for administrators and teachers of Fremont Unified School District, as well as professors from California State University East Bay and Ohlone College. MSN discussed with several historical groups possible partnerships and found everyone very open toward working together on authentic preservation.

During the 2013-2014 school year, MSN invited administrators from Fremont Unified School District (FUSD) – the 4th largest school district in the Bay Area – to tour the Park. (figure 1) MSN staff conducted several tours of the area and solicited ideas from the attending administrators. Participating staff felt this Park would provide local students with a much-needed historic location. They pointed out that most of the historical parks in Fremont do not provide hands-on, curriculum-based field trips for students.

Figure 1

During the school year, MSN polled the administrators who responded overwhelming that the buildings would be perfect for elementary grades, especially 3rd and 4th grade social studies. Some school districts include

agricultural history in 5th grade curriculum. Secondary history chairpersons mentioned that there was little, outside of the Mission, for high school students to do research; and the Park would be a welcomed alternative. Most of the participants in the tours were not aware of the history in this area and only the older participants knew it from its past as a nursery (referring to Naka Nursery); many under 35 years of age were unaware of the Park.

The California Nursery Historical Park is also an excellent place to demonstrate how fruit trees can be genetically modified, tested for market, and then sold. This scientific component is relative to not only 3rd and 5th grade students, but college students as well. Ohlone College incorporate the Park into their biotechnology course as a field trip.

MSN led several field trips in 2015 and 2016. A school from Berkeley brought two busloads of 100 fifth graders to the Park. It was a wonderful field trip for the school. Reviews from teachers were outstanding focusing on the content and uniqueness of the Park. All other classes were offered for one class at a time, which worked out better with the limited bathroom facilities. However, if a dedicated classroom was built, MSN could provide better programs with less set-up time.

Several historical and horticultural groups in Alameda County visited the Park and were given lectures and tours. They all felt the materials were historically valuable to the development of early agriculture and horticulture.

Professional Development for Teachers

MSN also conducted a professional development classes for Fremont teachers and teachers from outside the area. (figure 2) Dr. David Stronck from California State University East Bay (CSUEB), who teaches graduate students in education, helped guide teachers to determine the historical significance of the trees and understand the teaching strategies available in the Park. The workshop propelled Dr. Stronck to elicit support from two additional professors who integrated the Park into their curriculum. CSUEB gave three professors a grant of $70,000 to work with MSN to develop a class in Recreation, Environmental Sciences, and Education that uses components of the class to study the California Nursery Historical Park. The native tree nursery managed by MSN was found to be helpful for teachers to learn native trees from the local area. Dr. Mike Massey from Earth and Environmental continues to work with

Figure 2

us on several field trips per year. Dr. Mary Fortune from Leisure and Hospitality also continues visits to the Park for field trips.

MSN offered four teacher workshops throughout 2013/2014; all were very successful. Most of the teachers felt that if there were enough bathrooms and covered areas, the site would be ideal for 3rd grade local history units.

Classes and Summer Camps

During summer of 2014, MSN conducted several weeks of summer camp emphasizing the Rancho's and Vaquero's and included activities that revolved around branding, candle making, and adobe brick making. The camps were targeted for lower and upper primary grades. The lower primary grade students were excited as they made adobe brick and learned about the Vaqueros. The upper primary students liked planting and learning about fruit and picking the fruit was a big hit. Camps were held for three hours per day. MSN also conducted one, all-day summer camp in 2016 which proved a bit difficult because some of the buildings did not provide enough space for classroom activities.

MSN sponsor several Boy Scout merit badges such as environmental science, forestry, space exploration, chemistry, and soil conservation at the Park. These classes are well-attended and attract students from San José, Livermore, and as far away as Sacramento and Oakley – 80 miles away. Most of the scout leaders, parents, and scouts love the natural beauty of the area and feel like they are in the forest.

In 2016, California Nursery Historical Park became an official "Hoot Owl" park for the San Francisco Region Boy Scouts. Sycamore Park in Livermore is the only other location that holds that status. The classes have as many as 60 attendees. During the summer of 2016, MSN limited the attendees to 40 people at a time because there was not enough classroom space to do the owl pellet dissecting activity. The class is held at dusk, so, many times owls (Barn and Great Horned) are flying through the Park. Dr. Karen Anderson from MSN instructed up to 15 classes and more are scheduled in the upcoming months.

Figure 3

Community Service/Service Learning Opportunities

During the 2013/2014 school year, MSN looked at the quality of service opportunities (figure 3) at the California Nursery Historical Park. We found

Figure 4

that young and old were drawn to this Park. Many liked that it was close to home but felt like they were in the woods. High school, college and adult opportunities are available in the Park. MSN had several large groups (up to 80) work throughout the year from California State University East Bay, East Bay Interact Club, and from Union City recreation and Rotarian groups. MSN also held additional drop-in days during the summer. In addition, students from Ohlone volunteer every week to work the trees in the nursery.

CNHP is an ideal spot for corporate service days with opportunities to help maintain trees to pruning of roses. Several local companies including Target, Sysco, and Lam Research have participated in corporate giving. The amount of volunteer hours served range from 20 to 80 per group. Several church groups participated with groups ranging from 50 to 100 adults. International Key Club youth from local schools volunteered as well.

In 2015, MSN began oversight of the Rose Garden area. Every Thursday, a group of dedicated rose volunteers have been pruning, cleaning, and watching over the Rose Garden, Pollinator Garden, and greenhouse area. MSN volunteers have experimented with community tours throughout the area, with great success.

In total, approximately 15,000 hours of community service were completed between 2013 and 2016.

Events

MSN had several open houses between 2012 and 2014 to introduce the Fremont community to this resource. MSN staff gave talks to historical groups at the Park and at the Fremont Public Library to educate, as well as solicit ideas about the Park. The open houses were well-attended with approximately 100 people at each. The open houses concentrated on preserving the Roeding Collection. One fundraiser was held at the Vallejo Adobe – A Chocolate Social – in December 2013. The adobe was decorated in a holiday theme with ornamental miniature holiday homes. (figure 4) Approximately 200 people attended the event raising $6,000. MSN was able to continue the winter holiday tours with a grant from PG&E in 2015, and City support in 2016.

In 2015, MSN sponsored a Gala and invited the community to view the progress in the Park and showcase the archives. (figure 5) MSN utilized the

front lawn and catered the event. The event was held at dusk and it was a truly magical experience as people walked through the area on their own or as part of one of several docent-led tours. A total of 120 people attended. The “Great Lawn” was a great venue.

Responses to the events were positive, especially when they heard the historical context of the nursery grounds. Participants liked the idea of bringing back a bulb festival or some other kind of spring flower event. Winter holiday events that tie into events in downtown Niles were also recommended.

Models

MSN researched different ways in which historical parks provide educational opportunities for students. These included visits to San José History Park (part of Kelley Park); Luther Burbank Home and Garden in Santa Rosa; Gold Ridge: Luther Burbank Experimental Farm, Sebastopol, and the Mission at San Juan Bautista in Hollister.

San José History Park provides a venue for students to visit the different displays. However, the park is not the original site (all buildings were brought onto the site). Each building is maintained by a nonprofit so there is no a consistent messaging as you walk the park. The Peralta Adobe & Fallon House Historical Site, which is also run by History San José is downtown, has difficulties integrating layers of history; something that can be done at California Nursery Historical Park. They generate most of their revenue from field trips and events on weekends, but are subsidized 50% by the City of San José.

The Luther Burbank Home and Garden is only 3 acres, but the design of the park allows visitors to understand the importance of early pioneers. Burbank is tied to the California Nursery Historical Park through John Rock and George Roeding. Both helped Burbank market his hybrids and tested their taste appeal. The experimental orchard that is on the Park site today was used to test some of Burbank’s varieties. Burbank was also on the Board of Directors of California Nursery at the turn of the 20th century. The Homes and Garden is financially in good shape with a joint relationship with a nonprofit and Santa Rosa. The site is not subsidized by the city. Funds are generated from activities, tours, and rentals. A well-crafted delineation of responsibilities makes this an important tourist site for Santa Rosa.

Figure 5

MSN also looked into the Ventura Parks and Recreation Olivas Adobe Historical Park. This park provides field trips with hands-on activities (i.e. making adobe bricks). Olivas Park makes a profit by providing field trips to schools and sponsoring events. This is a very successful venture for the city.

The Mission at San Juan Bautista has revamped their Mission and Ranchero field trips for schools over the last 15 years. They also have a fundraising benefit that brings in enough funds to over very low cost school field trips.

Conclusion

- The California Nursery Historical Park can generate funds through field trips customized to the history and science standards for elementary grades. Currently, the facility can only accommodate one to two classes at a time because of the limitations of covered space and bathrooms. A price of $200 per 2-hours would include hands-on activities and is within the range teachers would pay for a program. Because this site was part of the Rancho de la Alameda, school districts from Fremont Unified, New Haven, and Hayward Unified would be interested in the program to cover the common core history standards (local history). A maximum of 10 classes per day during peak season (fall and spring) with sufficient bathrooms and bus parking could generate $2,000.
- The Park is an ideal location for professional development for teachers throughout the Bay Area. Grants and fees could fund the programs.
- Community Service/Service Learning opportunities would help reduce maintenance costs and generate community involvement. Paid staff would be Summer camps (half-day or full-day) would generate funds and could include history, science, and, also, art and crafts.
- The diversity of the site would allow for many different types of field trips as well.
- Scout programs on weekends are ideal because of the need for outdoor adventures in a more natural setting.
- Events at California Nursery Historical Park could generate funds if the design allows for such venues. Food truck venues are affordable and do not require a large infrastructure of a kitchen.
- Many of the activities, venues, and classes require more bathrooms and more classroom space.
- Historical artifacts are needed throughout the park to highlight Fremont history.

Section C:
Building Existing Conditions

Introduction

The California Nursery contains a variety of existing buildings, of varying provenance and condition. They are variously scattered throughout the site. All are single story.

The following are preliminary comments on the buildings. Included are summary building histories, building descriptions, condition observations, and preliminary recommendations both for repair and for specific adaptive uses. Structural information from Pivot Structural Engineering (formerly Fulcrum) follows comments by Carey & Co. Where relevant, historical data has been taken from the California DPR 523 forms authored by Woodruff Minor, Ward Hill, and Michael Corbett.

Primary Historic Structures

- Garden Store
- Office Building
- President's House
- Packing Shed
- Vallejo Adobe

Secondary or Ancillary Structures

- Changing Room
- Tank House Support Structure
- Windmill

Modern structures

- ROP Building

Public Restroom and Storage Building

Adaptive Reuse Recommendations: Potential new uses have been proposed for most of the primary historic structures, as well as the ROP building and the Changing Room.. It is assumed that the Public Restroom will continue to serve its current function as public restroom and storage building. Two different schemes are being reviewed for the site, and in some cases the building uses differ. **Option 1** is the lower-cost scheme; **Option 2** is the enhanced scheme, providing greater amenities, but also at greater cost. In the discussion below, finish and system upgrades are listed, in addition to general repair recommendations, to accommodate the proposed new functions.
In all cases, sustainability and preservation are general goals. In terms of preservation, we recommend following the Secretary of the Interior's Standards for Rehabilitation for existing building upgrades. The Secretary of the Interior's Standards for Reconstruction should be followed for proposed reconstructions, such as for the various lath structures, and the water tower that are included in the scheme alternatives. The Rehabilitation Standards should also govern compatible new buildings, to protect the context and setting of this important cultural landscape.

Figures 1 and 2 – Garden Store exterior and interior.

Figures 3 and 4 – Garden Store breezeway

In terms of sustainability, site and building development should take into consideration City of Fremont policies for Sustainability. Since 2006, civic buildings over 10,000 square feet have been required to attain LEED Silver. While no buildings at the Nursery are expected to achieve this scale, in aggregate the existing buildings to be rehabilitated and the new buildings would likely exceed that size, so LEED should at least be considered. Even if not required, the LEED system provides a helpful metric for monitoring overall project sustainability. We have taken LEED requirements into consideration when making the recommendations that follow.

Primary Historic Structures

Garden Store (figures 1-6)
Constructed 1931, expanded 1946. Modern Ranch Style, attributed to Frederick H. Reimers (1889-1961)

"The introduction of retail sales at the California Nursery in the 1920s, and the overall shift in business from wholesale to retail in 1927 brought with it the need for new retail facilities...The new Garden Store was designed to provide space for retail sales and to promote the services of the Landscape Department to retail customers by the proximity of the two functions. The building was built by Bill Cull. The specific location was determined by the extension of First Street (now Niles Boulevard) westward from Niles into the property in August 1931. The exact date of completion of the Garden Store is unknown, but appears to have been in mid to late 1933." The building was added to in 1948 and 1973. (Corbett, Garden Store DPR, 2/12/12, p. 7).

Description: The one-story wood-frame building has two shed roofed sections linked by a covered breezeway. Walls are clad in board and batten. The building is long and narrow, running in the north-south direction. The building has a deep, covered area on its west, or front side. This covered area is formed by corrugated plastic roofing, sloping in the direction opposite the building roof, and supported at its west end by barked logs and beams. Concrete pavers form the floor of this area as well as the central breezeway. The building roof also extends out over the east side of the building. The wood ceiling opens here to create areas of corrugated-plastic-clad skylight; and a wall with large openings forms the eastern boundary of the space, supporting the roof.

The square footage of the larger, northern portion of the building is 1,752 square feet, while the smaller, southern portion encloses 716 square feet. This does not include the roof overhang or breezeway.
Condition: The Garden Store is in very poor condition. The barked columns are termite infested, and some have completely lost their connection to the ground for this reason. Wooden elements supporting the roof are also in poor condition, with rotting ends often pulling away from each other. The building is

Figures 5 and 6 – Garden Store breezeway

Figure 7 – Office Building Remodeling, 1987

Figure 8 – Office Building Remodeling, 2014

enclosed in chain-link fencing as a precaution to keep the public away. While imminent collapse is not anticipated, it is not out of the questions, so the fenced enclosure seems prudent until corrective actions can be taken.

Repair Recommendations: This building would require extensive repairs; keeping the structure would likely become a reconstruction.

Adaptive Reuse: Given the extremely poor condition of this building, it will be demolished. Prior to demolition, the building should be professionally photographed (to Historic American Building Survey standards). Historic photographs should also be collected and archived along with the recommended documentation photographs.

Office Building

The Office Building was constructed c. 1907, with alterations c. 1940 by Oakland architect Edward T. Foulkes. The building originally housed the California Nursery office. The Interior was remodeled in 1987 and 2014 (figures 7 and 8).

Originally, the building featured a standing seam metal roof and an open-arched veranda at its front. [1] In 1940, the building was remodeled by Edward Foulkes. At this time, the arches were enclosed to create more interior space. The exterior of the building was also restyled – the roof was reclad with terra cotta tiles, and the walls received a veneer of rough stucco, creating a Spanish Colonial Revival appearance.[2]

Description: The building is a one story nearly-square footprint building with a side-gable roof. It is of reinforced concrete construction with concrete foundations. The square footprint is broken at the rear by a small, non-original, central projection which currently contains toilet rooms. The building features five glazed arches on its primary, north-facing façade, stucco cladding and a clay tile roof.

This building encloses 1,972 square feet.

Condition: The building appears to be in good condition.

Repair Recommendations: Continue to maintain the building, including keeping it painted, inspecting the roof periodically, and inspecting for pests.

Adaptive Reuse: Under Option 1, the building would be used for display. The proposed use in Option 2 is as an event venue. In the two schemes we reviewed, a new structure would be added nearby to provide supplemental restroom and kitchen facilities. The suggested scope for this is as follows:

1 This original building has been ascribed to Bernard Maybeck, although this has not been substantiated by documentary evidence.

2 Woodruff Minor, DPR from, June 2002, page 3

1. Accessibility: The building is accessible at the front, without adding a ramp. However, the double doors at the entry are each individually too narrow, although with both doors open the doorway provides adequate clearance. To rectify this, the doors should either be kept open at all times when the building is open to the public, or be placed on an automatic door operator.

2. Interior configuration: The building consists of one large room, with some smaller adjoining spaces. This seems like a reasonable arrangement for an events facility, allowing a large room for the main event, with smaller spaces for more intimate interactions or for ancillary uses. For this building, we do not recommend reopening the arches to create the open veranda that existing originally. This would create a physical configuration that never occurred historically, since the open veranda of the pre 1940s building existed in conjunction with a standing seam metal roof and a different wall finish.

3. Interior finishes and lighting: While the interior finishes are new, they are overly utilitarian for an events facility. The following should be considered:

   A. Flooring: replace carpet with a wood floor, such as sustainable bamboo. Alternatively, a carpet that is marketed to the hospitality industry, such as those found in hotel meeting rooms, would be a good choice. There may even be original wood flooring beneath the wall-to-wall carpeting, which should be explored.

   B. Walls: the interior is currently painted white, over a brown-painted base. A painted finish is acceptable; select a more festive color scheme.

   C. Lighting: the existing institutional-looking pendant mount rectangular fluorescent fixtures should be replaced by something either more period appropriate, or more functional for a special events facility. One option would be schoolhouse light fixtures; another could be more contemporary pendant-mount strip fluorescent lighting that features uplighting as well as some downlighting.

   D. Window treatments: Replace vertical blinds with woven shades. Consider shades that provide sun protection but preserve views. Determine whether blackout shades are required.

4 HVAC: The building will need heating and air conditioning. This building may have an HVAC system already in place. In lieu of air conditioning, or to minimize its use, add insulation above the ceiling and install ceiling fans.

5 Other: The space should include wireless internet, speakers, and a security system. The existing security system may be adequate.

Under Option 1, the building would be used for historical displays. Interior alterations would be similar to the above, with the following differences:

1 Flooring: Replace carpet with wood floor, or new carpet designed for high-traffic areas, in a more neutral shade. Alternatives also include sustainable resilient flooring such as natural linoleum (Marmoleum). As above, if wood flooring exists beneath the wall-to-wall carpeting, consider exposing and restoring it. If resources are extremely limited, the existing carpet could remain.

2. Lighting: Consider contemporary pendant-mount fluorescent fixtures with some uplighting capacity for general lighting. Supplement with spot or task lighting on displayed materials.

Under either scheme, the question has been raised about whether or not to re-open the arches. We assume that the arches were enclosed as part of the c. 1940 remodeling, but have not yet verified this with photos or other research. If this is true, an open-arched version of the remodeled building never existing. However, whether or not this is the case, the building will be rehabilitated, rather than restored. Under the rehabilitation treatment, compatible modifications are acceptable, and would comply with the Secretary of the Interior's Standards. We therefore agree that recreating an open-arched porch, if this works functionally, would be an acceptable modification and would, in fact, make a nicer building.

Also under either scheme, a new, approximately-600 SF addition with a kitchen and additional restrooms will be designed as an addition to the south side of the office. These facilities will enable the building to be used for weddings, meetings and other functions.

Figure 9 – Office Building Spanish clay tile roofing

Figure 10 – Eves and rake

Roof : Structural

Description:

- Spanish clay tile roofing appears to be in good condition (figure 9).
- Lack of attic access prevented interior observation of roof structure.
- 4x4 rafter tails & board sheathing visible at eaves & rake (figure 10).
- No visible signs of damage or distress noted.
  Recommendations: None.

Wall framing: Structural

Description:

- Wood stud framing w/ stucco over 1x board sheathing at perimeter (verify).
- Original porch at front has been enclosed.
- No visible signs of damage or distress noted.

Recommendations: None.

Figure 11 – Office Building Stucco

Floor and foundation

Description:

- 2x6 floor joists supported by post and girder system (crawlspace accessible through interior floor hatch).
- Concrete spread footings at perimeter w/ concrete pad footings at interior, ample crawlspace, underfloor area appears dry and free of water intrusion.
- No visible signs of damage or distress noted.

Lateral force resisting system:

- Building has little lateral load-resisting capacity at north exterior wall line.
- Other perimeter walls appear to offer adequate lateral-load resisting capacity.
- Stucco over 1x board sheathing assumed typical at exterior walls (figure 11).
- Lath & plaster at original portions of interior.

Recommendations:

- Seismic analysis to determine viability of current configuration.

President's House (1907)

This Craftsman-style bungalow was built as a summer residence for the president of the board of directors, William Landers. George "Sandy" Roeding lived in this house with his family in the early 1960s.[3]

Description: The President's house is rectangular with a front gable, low pitched roof (figures 12 and 13). The asphalt shingle-clad roof, with typical craftsman-style knee braces beneath its wide eaves, also has a central, low-pitched shed-roofed dormer.

The wood-framed house is clad with horizontal wood cladding. The eastern, front elevation features a wide front porch, currently enclosed with corrugated plastic. North of this porch, brick stairs lead to the entry door. Windows are currently boarded over. The rear features two shed-roofed additions. Plumbing, potentially indicating bathroom locations, was observed in three locations. The interior has been vandalized, but retains early 20th century kitchen casework, and a brick fireplace.

Condition: The building is in fair condition. The exterior wood cladding typically is in contact with the ground, which can encourage termite infestation and wood rot. Termite damage was, in fact, identified in several locations at the building. We also noted some missing knee braces, and a missing roof rafter over the porch. Most windows are covered over on both the exterior and the interior, so were not available for evaluation. A few were visible on the interior; the wood elements appeared sound, but most of the glass was broken.

3 Like the Office Building, this modest Craftsman bungalow has been ascribed to Bernard Maybeck. This is not supported by documentary evidence, and seems stylistically unlikely.

Figures 12 and 13 – President's House

Repair Recommendations: The following repairs are currently in design:

1. Structural repairs including the following:
   a. Structural roof repairs
   b. Partial seismic upgrade
   c. New foundation at front porch and rear addition
2. Architectural repairs:
   a. New roof cladding
   b. New gutters
   c. Repair and replacement of damaged or missing wood siding
   d. Replacement of missing wood elements
   e. Exterior painting
3. Electrical repairs:
   a. Partial electrical upgrades
   b. New exterior lighting
   c. New alarm system
4. Site/landscape:
   a. Regrading of site for better drainage
   b. Removal of palm tree and abandoned stump

Adaptive Reuse: Under Option 1, the building would be used for historical displays. Under Option 2, it would be used for events, and could even be a bed and breakfast. The building is currently broken up into many small rooms. The two small rooms at the rear are likely additions, and clearly the rooms infilling the front porch are added. The provenance of other interior partitions is not known at this time. Some reconfiguration, particularly at the rear of the building, may be possible for greater utility and flow, particularly for the "Maximum Build-Out" scheme. This, however, requires further study.

For Both Schemes:

1. Restore the front porch to its original open condition.
2. Resolve accessibility. Currently, the finish floor level inside the building is approximately 18" higher than grade at the front of the building. This will require either a ramp (18') or regarding such that stairs are no longer required for access.
3. Install new wiring.
4. Add HVAC system. Minimize use of heating and air conditioning by insulating attic and installing ceiling fans.
5. Install window shades. Depending upon use, these could be modern woven shades (display scheme) or period appropriate treatments such as draperies.

Events:

1. Restore wood floors
2. Install compatible new lighting. Simple, Craftsman-inspired fixtures are recommended, combined with task lighting if required. Kitchen and bathroom areas could have schoolhouse type fixtures.

3. Under this scheme, presumably an additional structure housing a catering kitchen and toilet rooms would be added nearby. If not, the existing kitchen could be converted into a staging space for caterers, and an accessible single-user toiler room placed inside the building in one of the locations that currently has plumbing.

Display:

1. Floors: Restore wood floors.
2. Install compatible new lighting. Period appropriate fixtures, as described above, are an option, but functional task lighting is a requirement.
3. Restore kitchen to period of significance (still to be determined) if possible.

Roof: Structural

Description:

- 2”x6” rafters @ 24” o.c. at the main roof with mid-span supports and kickers in the attic.
- Rafters are butt-jointed at the ridge – no ridge board2”x4” rafters at the east dormer above the entry.
- Very low-slope roof at the bays at the rear of the building.
- Missing eave bracket, damaged sheathing and barge board at north rake, with significant impact damage at north east corner. Damage extends to top of wall and siding).
- Missing eave bracket and damaged barge board at south rake (figure 14).
- Plywood sheathing is visible between the skip sheathing from inside the attic. The grade and thickness of the plywood has not been determined.
- Unbraced brick chimney extends approximately 4 ft. above the roof plane on the east side of the ridge.

Recommendations: When the existing worn composition shingles are removed and replaced, diaphragm shear transfer nailing and hardware can be verified or added.

1. Replace missing brackets
2. Replace damaged barge boards
3. Replace damaged sheathing at north east corner
4. Brick chimney should be removed or fitted with engineered steel brackets to prevent collapse in an earthquake. Installation of brackets may require additional roof and attic framing.

Figure 14 – President’s House

Wall framing

Description:

- Perimeter wall studs appear to be 2”x4” @ 24” o.c.
- Interior wall studs appear to be 2”x3” @ 24” o.c.

Figure 15 – President's House siding damage

Figure 16 – President's House crawlspace

Recommendations:

- Check for dry-rot and pest damage.
- Repair damaged top-of-wall and siding at north east corner of building
- Siding, sill and bottom of studs bearing on existing concrete footing have been exposed to moist soil and many are visibly damaged (figure 15).

Floor framing & foundation

Description:

- Floor joists appear to be 2"x8" @ 24" o.c. oriented north / south.
- Joists are supported by cripple framing at the perimeter and by two interior 6"x girders south (figure 16 – taken from south east crawlspace vent).
- Girder cripple posts are supported by concrete pads. Connections between girders, posts, and pads appear to be very light (probably toe-nailed). Some posts appear to be rotated out of alignment with the girders, probably because the pads have subsided.

Recommendations:

- New concrete spread footings at the building perimeter with new sill (PTDF), anchor bolts, and washers. Provide adequate clearance between soil and wood framing per C.B.C. requirements.
- New interior pad footings.
- New metal connectors between foundation and framing members.
- Examine chimney pad and underpin as necessary.
- Provide new concrete stoop at entry stairs.

Lateral force-resisting system

Description:

- Plywood over skip sheathing at roof.
- 1x horizontal board siding at exterior walls.
- Sill bolting was not observed.

Recommendations:

- New plywood shear walls and hold-downs installed at selected walls.
- Shear transfer connections at top and bottom of walls.
- New reinforced concrete spread footings at perimeter.
- New reinforced concrete pad footings at interior.
- New sills, anchor bolts, hold-down anchors and shear transfer connections at foundation.

Figure 17: The Packing Shed, south side

Figure 18: The Packing Shed, north side

Packing Shed (figures 17-22)

Description: "This gabled wood-frame structure is composed of two sections: a higher section at the buildings west end, and a long low section to the east. The higher section, with partial upper floor, is open at the front where the roof extends forward in cantilevered fashion. Wall cladding consists of vertical wood siding and corrugated metal. The low section is sheathed on the front with wood siding (vertical and horizontal) and at the side and rear with corrugated metal; doors and windows have been cut into the walls. Both sections have corrugated metal roofs. There are shed additions at both ends of the building." (Minor, page 3) The building has an earthen floor, and a truss-supported roof.

Condition: The building displays termite damage and wood rot. The roof sags in several areas, and the walls deviate from vertical in some locations, perhaps because the building lacks a proper foundation. The corrugated metal roofing is rusted. At the west end, portions of the roof are missing.

An open wood shed stands a few feet to the east of the main packing shed. This ancillary building is in extremely poor condition, and may be a hazard.

Repair Recommendations: Required structural interventions are extensive (see below) and may require dismantling and rebuilding portions of the building.

1. Exterminate termites.
2. Correct structural deficiencies.
3. Separate wood elements from the ground to discourage future termite infestations.
4. Replace corrugated roofing in kind.
5. Repair deteriorated wood cladding. Replace any boards that are more than 50% deteriorated.
6. Paint or repaint exterior wood.
7. Cordon off the shed to the east of the main structure, until more information is available regarding its construction date. If it is less than 50 years old it may be demolished. If more than 50 years old, it should be HABS documented, and possibly demolished.

Adaptive Reuse: Under both schemes, the building will be used for display. Under Option 1, it will be used to display unspecified artifacts, while under Option 2, it would be devoted to displaying historic vehicles. Since both schemes are for display, both have similar requirements, although the vehicle display of the second scheme could generate some specific requirements. Currently, the building is a shed, with no insulation and certainly no mechanical systems. We assume that, for the type of display proposed for this building, an unheated, unconditioned interior is adequate. At the very least, wall areas could be opened up to promote cross-ventilation in warm weather. There appear to be existing enclosed openings on both the north and south walls.

Floors

A new concrete slab is recommended structurally; under either scheme this could become the floor. The concrete could be stained a warm color to resemble an earthen floor.

Walls

We assume that the walls would be reconstructed or partially reconstructed, using a combination of sound existing material and in-kind new material. The north side of the building is wood, and the south side is corrugated metal.

Lighting and electrical

Under either scenario, the building will require good lighting. Opening up sections of the walls will allow daylighting, but good general illumination as well as task lighting for display areas should be installed. Since the building does not have wall cavities, surface-mounted conduit will be required.

Roof: Structural

Description:

- 2”x 4” rafter @ 36” o.c. w/ 1x6 collar tie & 1x ridge board.
- Intermediate flat 1x boards laid over rafters @ approximately 18” o.c.
- Sheet tin roofing laid over 1x boards.

Recommendations:

- It appears that the existing roof framing can be re-used, but it should be reinforced with sistered rafters.
- Add new rafters between existing framing for spacing of 18” o.c.
- Add new plywood sheathing with proper diaphragm edge nailing.

Wall framing

Description:

- Framing members at the north wall are of mixed and non-uniform dimensions
- Exterior sheathing is mostly 1x vertical boards, and interior walls are unfinished (no gyp board, etc.).
- The south wall is post-and-beam framed, with knee braces at the posts supporting lumber top plates.
- Exterior siding is corrugated sheet steel.
- There are 3 (verify) barn doors on the south wall which appear to be well-constructed and in good condition.

Recommendations:

- New wood stud walls with new plywood sheathing throughout.
- Re-use existing barn doors if desired.

Figure 19 – Loading Dock Roof

<u>Foundation</u>

Description:

- A discontinuous concrete curb was observed at portions of the perimeter of the building. This curb has broken and settled, resulting in wall top plates of varying and uneven heights.
- The interior of the building has a dirt & gravel floor (no slab).

Recommendations: New reinforced concrete slab with a perimeter curb.

<u>Lateral force resisting system</u>

Description: None observed.

Recommendations:

- New plywood shear walls and hold-downs installed at longitudinal walls.
- New proprietary shear panels in transverse direction to achieve maximum 4:1 roof diaphragm aspect ratio as required by C.B.C.
- Shear transfer connections at top and bottom of walls.
- New sills, anchor bolts, hold-down anchors and shear transfer connections at foundation.

<u>Loading Dock Roof (figure 19)</u>

Description at open loading structure:

- 2”x 4” rafters @ 36” o.c. w/ 1x6 collar ties & 1x ridge board.
- 1x board sheathing.
- Sheet metal roofing.
- 2”x 12” (verify) outriggers supporting open east and west sides of loading area (figures 20-22).
- Outrigger posts rotted at bases (figure 23).
- Framing added at east eave has failed.
- Framing at deep overhang at west has failed and is partially collapsed (figures 24 and 25).

Recommendations:

- Remove and replace all roof framing and supporting members at west eave.
- Remove failed framing added at east eave.
- It appears that some of the existing roof framing at the main area of the loading dock may be re-used, but it should be carefully evaluated and reinforced with sistered rafters.
- Add new rafters between existing framing for reduced spacing.
- Add new plywood sheathing with proper diaphragm nailing and connections.
- New steel framing will be required at gable end if present open configuration is to be maintained.

Description at main structure: (figure 26)

Figures 20-22 – Support outriggers

Figure 23 – Rotted outrigger post at base

Figure 26 – Main structure

Figure 27 – Concrete slab-on-grade

Figure 28 – Timber decking

Figure 24 – Loading Dock overhang

Figure 25 – Loading Dock overhang

- 2”x4” rafters @ 36” o.c. w/ 2”x4” collar ties near ridge & 1x ridge board. 1x skip board sheathing over rafters @ approximately 24” o.c..
- Sheet metal roofing.
- Gap between top of wall and roof prevents load transfer between roof and wall.

Recommendations:

- Sister new 2x rafter to existing as required by calculations.
- Add rafter between existing framing as required by calculations
- Add new plywood sheathing with proper diaphragm nailing and connections.

<u>Wall framing</u>

Description at open loading dock:

- Light and haphazard wall construction at east and west sides of the dock
- Corrugated metal and fiberglass siding

Recommendations:

- New wood stud walls with new plywood sheathing throughout.
- Walls must extend to roof for proper load transfer
- Re-use existing barn doors if desired

Description at main structure:

- Framing appears to be 2”x flat boards
- Sheet metal siding, unfinished interior

Recommendations:

- New wood stud walls with new plywood sheathing throughout.
- Walls must extend to roof for proper load transfer
- Re-use existing barn doors if desired

Figure 29 – Timber posts in crawl space

Floor and foundation

Description at open loading dock: Concrete slab-on-grade in poor condition (figure 27).

Description at main structure:

- Timber decking appears to be in good condition except at door at the west end where it has been exposed to weather and has deteriorated (figure 28).
- Timber posts in the crawlspace appear to be bearing on soil and not well connected to girders above. Timber bracing appears to be nailed rather than bolted to posts (figure 29).
- No concrete footings were observed.
- Debris in crawlspace prevented complete observation.

Recommendations:

- Remove debris from crawlspace to allow complete survey of underfloor conditions.
- New reinforced concrete spread footing at perimeter with new reinforced concrete pad footing at interior post loads or new reinforced concrete slab-on-grade with perimeter stem.

Lateral force resisting system

Description: No viable system observed.

Recommendations:

- New plywood shear walls and hold-downs installed at new perimeter stud walls.
- Shear transfer connections at top and bottom of walls.
- New cripple stud walls below floor at perimeter.
- New sills, anchor bolts, plate washers, hold-down anchors and shear transfer

Vallejo Adobe

"The building was built c. 1842. "The Vallejo Adobe was extensively altered in a major reconstruction in 1931, and further rehabilitated in 1999-2000. With the exception of the four adobe walls (which have been patched in places) and two roof beams, the structure has been totally rebuilt. It originally had one door, no windows, and a dirt floor. New construction includes the buttresses on the south wall; most of the roof framing and all of the roof tiling; the chimney; the south doorway, both wood doors, and all four windows; adobe infill and exterior plaster; and all interior work. The setting has been altered by the addition of a parking lot with planting strips (probably dating from the 1930s) and a modern restroom building with white-painted stucco walls and red-tile gable roof resembling the adobe." (Ward Hill, Woodruff Minor and Michael Corbett, December 2001). The 1999-2000 rehabilitation was by architect and adobe specialist Gil Sanchez.

Figure 30 – Vallejo Adobe

Description: The adobe is a one-story rectangular-plan building with a gabled, clay tile roof (figure 30). The building is approximately 25 feet wide by 44 feet

Figures 31 & 32 – Spanish clay tile roofing

long, with walls that are nearly three feet thick. These uneven adobe walls are plastered and painted white. Multi light wood sash windows are located on the north, south and west walls. Plank doors with iron hinges are located on the south and west walls.

Condition: The adobe is in excellent condition. Some minor spalls and cracks were noticed on the exterior.

Repair Recommendations: Patch any visible cracks and spalls. This is part of routine maintenance for an adobe; the building should be surveyed annually and any such problems repaired quickly to keep water out of the adobe wall cores. Continue to monitor and maintain the building.

Adaptive Reuse: The Adobe will continue to serve as a special events facility. It will not require any additional work, other than continued maintenance.

Roof : Structural

Description:

- Spanish clay tile roofing over board sheathing (figures 31 and 32)
- 6x6 rafters @ 32" o.c.
- Timber ridge beam (figure 33)
- Timber trusses (3 total) supported by log columns (note heavy metal connectors) (figure 34).
- Some signs of termite damage visible on northeast truss chord (figure 35)

Recommendations: None.

Walls

Description:

- Plastered adobe.
- Cracking noted at two of three exterior buttresses at south side (figure 36).

Recommendations: None.

Figure 33 – Timber ridge beam

Figure 34 – Timber trusses

Figure 35 – Visible termite damage

Figure 36 – Cracking of exterior buttresses

Figures 37 & 38 – Changing Room exterior & Interior

Foundation

Description:

- Concrete slab-on-grade appears to be in good condition.
- Recommendations: None.

Lateral force resisting system

Description: Adobe brick. (Presumably reinforced given date of reconstruction)

Recommendations: Review construction documents from recent reconstruction. Perform Seismic analysis (if needed) to determine lateral load resistance capacity.

Secondary Historic Structures

Changing Room (C. 1907)

Description: This small rectangular building, set behind the Office, has stucco cladding and a standing seam metal roof. It has an earthen floor, and no apparent foundation. It has wood double hung windows and a wood door. The interior is clad with bead board (figures 37 and 38).

Condition: The lack of foundation has caused the mud sill to deteriorate. The wood to earth contact has also resulted in termite damage.

Repair Recommendations: Raise building, install new poured foundation, and put building back on foundation. Exterminate termites. Replace or repair deteriorated wood. Paint building.

Adaptive Reuse: Under both reuse options, this building will be used for storage.

Roof: Structural

Description: Wood beam framing supporting board sheathing and Spanish clay tile roof appears to be fair condition.

Recommendations: None.

Wall framing

Description:

- Wood post & beam construction with stucco exterior finish.
- Board sheathing directly over studs and posts, no sheathing or interior wall finish.
- Framing and siding exposed to moisture at sill.

Recommendations:

- Remove and/ or replace water-damaged framing members.
- Install new plywood sheathing throughout on interior face of framing.

Figure 39 – Windmill

Figure 40 – Tankhouse remnant

Figure 41 – Tankhouse framing & foundation

Floor

Description:

- Concrete curb at perimeter.
- Dirt floor below adjacent grade.
- Inadequate separation between framing and adjacent grade.

Recommendations:

- New reinforced concrete slab-on-grade.

Lateral force resisting system:

Description: None.

Recommendations: New wood sill, plywood shear walls, anchor bolts & plate washers.

Windmill

Description: This small wood-framed structure is hexagonal in plan, with battered wood board and batten walls and a wood shingle roof. Windmill blades attach to one side, and a wood door accesses the interior, which is used for storage (figure 39).

Condition: Minor rot was observed at the rear of the structure

Repair Recommendation: Treat rot with epoxies, or replace rotted element. Prepare and paint structure.

Adaptive Reuse: No uses have been proposed for this tiny structure. It is assumed that it will continue to be used for the storage of small gardening equipment.

Tankhouse Remnant (C. 1890)

Description: 13 wood posts, 12" X 12", are arranged in a rectangular grid. Diagonal braces and horizontal beams tie the posts together and support a wooden platform which once held a water tank. The entire structure is overgrown by a climbing rose bush. (figure 40)

Condition: One of the posts has become loose at the top and is leaning precariously.

Repair Recommendation: Prune the Banksia Rose to partially expose the wood structure. This will likely be necessary in any event to perform the structural repairs described below.

Framing & foundation (figures 41-44): Structural

Description:

- 12"x12" columns supporting 8"x8" girders.
- Timber column missing at northeast corner.
- Some columns appear to be rotated on vertical axis.
- Columns bear on timber set on grade.

Figure 42 – Tankhouse framing & foundation

- Rusted tie rods visible at top of timbers.
- Timber diagonal bracing at selected bays.

Recommendations:

- Investigate condition of timbers throughout.
- Replace missing members.
- Design positive connections between all members.
- New reinforced concrete foundation to provide bearing and separate timbers from soil.

Lateral force resisting system

Description: Diagonal timber bracing.

Recommendations: Seismic analysis to determine lateral load resistance capacity of timber bracing and connection to ground.

Entryway (Gateway c. 1938)

This tall portal was constructed of logs. A sign was once suspended from its horizontal member. This historic feature should be retained and reused for mounting signage.

MODERN STRUCTURES

Both of these structures appear to be in good condition. While not historic, the structures either currently do, or could in the future serve important functions for the site. The restroom was constructed in a style meant to blend with the adobe, which it is near.

ROP Building (California Nursery Archive Building), c.1970

Description: This is a rectangular-footprint, one story gable roofed structure (figure 45). The walls are clad with T-111 plywood, and the roof with vinyl shingles. There is only one window – a small aluminum slider window on the north elevation. Instead, overhead garage doors open at the center of each of

Figure 43 – Tankhouse framing & foundation

Figure 44 – Tankhouse framing & foundation

Figure 45 – ROP Building

Figure 46 – ROP Building roof

Figure 47 – ROP Building siding

Figure 48 – ROP Building foundation

the long elevations. In addition, both long elevations feature sliding, barn-type doors. Natural light enters the building through skylights.. While not historic, this building is not offensive, is in reasonable condition, and is potentially useful for a number of activities.

Adaptive Reuse: Under both scenarios, this building will be used for archival storage. In addition to the general repairs described above, this building will therefore need the following:

1. Floors – The existing floor is concrete. Under the "light-touch" scheme, clean and seal the concrete floor as finish floor. Under the "maximum build-out" scheme, overlay the floor with natural linoleum (Marmoleum) or carpet.
2. Walls – Under the "light touch" scheme, the walls would be painted. Under the "maximum build-out" scheme, existing gypsum board would be removed so that the walls could be insulated, and then new gypsum board would be installed.
3. Ceiling: Insulation will be required to render the building usable as an archive. This will likely mean adding a ceiling to the bottoms of the trusses.

HVAC: As an archive, the building will require HVAC. The insulation recommended for the walls and ceiling, above, will help reduce energy costs.

<u>Roof: Structural</u>

Description:

- Composition shingle roofing over plywood sheathing supported by manufactured 2x4 wood trusses @ 16" o.c. (figure 46)
- No ceiling finish
- Impact holes approximately 24"x24" were observed in roof diaphragm

Recommendations:

- Repair damaged roof diaphragm
- Roofing is worn and should be replaced soon

<u>Wall framing: Structural</u>

Description:

- 2x4 studs @ 16" o.c.
- T-111 siding (figure 47).
- Gyp board wall finish.

Recommendations: None.

<u>Floor</u>

Description:

- Concrete foundation (at perimeter only) appears to be relatively new and in good condition (figure 48).
- Gravel floor.

Figure 49 – Public Restroom & Storage building

Recommendations:

- None.

Lateral force resisting system

Description: T-111 siding.

Recommendations:

- Verify condition of existing sill.
- Verify spacing of anchor bolts.
- Install new plate washers.

Public Restroom and Storage Building, c. 1970

The existing public restroom building is located near the adobe, and constructed in a style to blend with that structure. Its rectangular walls are stuccoed and painted white, and it has a clay tile gabled roof (figure 49). Wood plank doors, and multi-lite wood windows further the comparison. The building contains a men's and women's restroom, as well as a storage/maintenance room at the western end.

Inside the space is not well-utilized: the women's restroom has only one stall, although it appears to have had two at one time. We did not venture into the men's room.

Condition: The building appears to be in good condition.

Recommendations: Continue to keep the building well-maintained. Consider reconfiguring to provide more fixtures.

Roof: Structural

Description: Wood beam framing supporting Spanish clay tile roof appears to be in good condition

Recommendations: None

Wall framing: Structural

Description: Assumed wood stud framing – no visible signs of distress

Recommendations: None

Floor

Description: Concrete slab-on-grade in good condition

Recommendations: None

Lateral force resisting system

Description: None

Recommendations:

- Verify condition of existing sill
- Verify spacing of anchor bolts
- Install new plate washers

Section D:
Financial Report

Land Economics Consultants, LLC

Appendix - Financial Report:
California Nursery
Historical Park

Prepared for the
PGA Design Team
and the
City of Fremont, California

Submitted by

Land Economics Consultants, LLC (LEC)

December 27, 2016

LEC Project No. 1404

Table of Contents

Introduction

I. Context of Fremont City Finances

II. Fremont Market Overview

A. Fiscal Resources

B. Baseline Operating and Maintenance Needs: Existing Structures

C. Baseline Operating and Maintenance Needs: Existing Landscape Elements

III. Planning for Revenue-Generating Land Uses in the Park

A. Business Models for Implementing Land Uses

B. Individual Land Uses in the Master Plan and rEvenue Potential

IV. Accommodating Revenue-Producing Uses in the Master Plan

V. Recommendations for Phasing and Financial Implementation

Phase 1: Focus on Landscape Improvements

Phase 2: Development of Institutions and First Building

Phase 3: Partner Institutions Developing Major Buildings

Phase 4: Additional Historical Features

Index of Tables

Table 1- Estimated Costs of O&M for Historic Park Space

Table 2: Benchmarks for Wedding Rentals in Historic Parks and Gardens

Table 3: Analysis of Park Spaces in the Master Plan

Table 4: Phase 1: Ongoing Costs and Revenues incurred on an Annual Basis

I. Introduction

From the outset of master planning, the PGA design team committed itself to making the California Nursery historical site into a self-sustaining park. Noting that historically the property had been a profit generating enterprise since 1884, the master planning team considered it appropriate to include income generating uses within the Park. While seeking to maintain the integrity of the historic fabric of the site, the PGA team sought to employ techniques and strategies for the California Nursery Historical Park that are currently being pioneered in other nearby locations. For example, when the San Francisco Presidio was designated a National Park, the goal to make it self-sustaining was agreed to in addition to the mandate to preserve the historic assets.

Following precedents set in other cities, collaborations with other entities, such as private nonprofit groups, to operate and maintain parks were contemplated at the outset. In the case of the San Francisco Presidio a new group, the Presidio Trust, was created to assist the National Park Service in operating and maintaining the park. In another example, for the Ardenwood Historic Farm site a partnership with another public entity, the East Bay Regional Park District, was formed.

Revenue generated from hosting events in the park was also envisioned from the outset. Partnering with additional entities to produce a calendar of events similar to that of Ardenwood where events take place throughout the year was seen as a possibility.

In order to infuse a long-term perspective of economic and fiscal sustainability into the master plan, the PGA design team included the firm Land Economics Consultants (LEC), and charged its Principal with working with the consultant team and the city client group throughout the process. This economics member of the team was also charged with interacting with the public during the workshops in order to bring a perspective of economic reality to the discussions.

As part of Phase 1 of the master planning, a Preliminary Financial Report was produced to help guide selection of uses and facilities for the park. As part of the Master Plan document, this updated and abbreviated version of the Financial Report has been prepared for inclusion in Volume 3.

II. Context of Fremont City Finances

The purpose of this section of the Financial Report is to provide a context for self-sustaining economic planning. An overview discussion of the size and demographics of the City of Fremont is presented first, followed by a discussion of fiscal resources for City operations. An attempt has also been made to estimate a baseline carrying cost of the elements that already exist within the Park, in terms of buildings and other infrastructure, as well as the green infrastructure created by established trees and other plant materials.

Fremont Market Overview

Fremont was formed by the collection of several small towns, including Niles, when it was incorporated in 1956. Upon it incorporation, the Fremont population was about 22,000. Through organic population growth, in-migration, and annexations of additional areas, the Fremont population had doubled to approximately 44,000 only four years later when the 1960 US Census was taken. Fremont's population has continued to grow rapidly in subsequent decades, to over 223,000 today.

Not only has the population of Fremont grown rapidly, but the demographic character of that population has shifted dramatically over time. A snapshot is provided by the 2010 US Census. Over half of today's Fremont population

is Asian. The single largest Asian group comes from the subcontinent of India, followed closely by China. Hispanic or Latino individuals make up approximately 15% of the Fremont population. One-third of the Fremont population identify as Caucasian.

Yet another perspective on the origin of people in Fremont is provided by the most recent American Community Survey, which is also conducted by the US Census Bureau. The majority of Fremont residents were born in the United States, although a significant minority (of 43%) was born outside the United States. Focusing on the Fremont residents who are foreign-born, the majority have been in the US long enough to become naturalized citizens, but again a significant minority (of 44%) are not yet US citizens. Among foreign-born Fremont residents, the vast majority, 82%, are from Asia. Immigrants from Latin American countries are the second most common at 12% of the foreign-born population.

Taken together, these demographic statistics reveal Fremont to be an incredibly diverse and rapidly growing community. Furthermore, the most rapid growth is occurring in recent immigrant communities from widely dispersed origins around the globe, but including significant concentrations of new residents from Asia, including India, and from Latin America.

This demographic mix suggests both challenges and opportunities for master planning at California Nursery Historical Park. A challenge may be that the story of California agriculture and over 100 years of history at the California Nursery Historical Park site may not resonate with many of the most rapidly growing segments of the Fremont community. At the same time, other opportunities may be created by providing facilities, experiences, and educational opportunities on the 20-acre park site that are in immediate demand by these widely diverse communities of new Fremont residents. Thus assimilating new generations with an abundant history rich in cultural diversity.

Fiscal Resources

Note: the remainder of Section II was originally prepared to guide Phase 1 planning in 2014 and reflects the fiscal conditions at that time. An abbreviated version is as follows:

The following overview of the fiscal situation in Fremont has been assembled through conversations with City staff as well as a review of the most recent financial documents including the current Adopted Operating Budget for fiscal year 2014/15, and the Comprehensive Annual Financial Report for the most recent fiscal year ending June 30, 2013. Total General Fund resources for the City are now in the range of $150 million to $160 million per year. This covers a total staff of over 860 full-time equivalent (FTE) positions, providing services to a population of over 220,000 residents.

Fremont has a reputation of being a well-run city. It has a long history as a “good place to live” in a relatively low tax environment within the Bay Area. In the post-Prop 13 fiscal environment of California, however, these admirable features have also created an ongoing situation of constrained fiscal resources for the municipal government of Fremont.

The City currently has over 1,200 acres of parks and recreational facilities, including 52 playgrounds, 24 baseball/softball diamonds, 17 soccer/football fields, five community centers, and one waterpark. The budgets for providing parks and recreation in Fremont are included within the Community Services Department.

This year’s Recreation budget is approximately $9 million, with only one quarter of that coming from the General Fund. By City policy, recreation programs are provided on a cost recovery basis, where recreation fees are set to not only to cover the full costs of materials and personnel required to provide a recreation program, but also to contribute to the administrative overhead of the department. Three-quarters of the $9 million annual recreation division budget is covered by recreation fees. At the California Nursery site nonprofit partners are also providing educational and recreational programs.

The City's parks, as well as medians and other urban landscapes, are maintained by the Community Services Department, with a current parks maintenance budget of approximately $7.9 million (fiscal years 2016/2017) per year. The only park in the city that has dedicated maintenance staff is Central Park. The California Nursery site is among the "North End Parks" of Fremont that are maintained by a crew of six full-time-equivalent positions.

Baseline Operating and Maintenance Needs: Existing Structures

The City is currently providing maintenance and support for the historic structures at California Nursery. Only three of the existing buildings – the historic Vallejo Adobe, the restroom building serving it, and the historic nursery office – are open to the general public. Any City maintenance of other structures is only in reaction to immediate problems at this point.

Maintenance of Public Buildings is part of the Public Works Department. The City is currently operating and maintaining approximately 170 buildings, containing 964,110 square feet of space, with a staff composed of 20 FTEs. The current Public Buildings maintenance budget is approximately $6 million per year, of which $1.5 million is consumed by utility bills, and another $1.1 million is for janitorial services. A more detailed analysis of these budget factors, including allocations for vehicle replacement and fuel, produces a baseline average maintenance cost of approximately $3.66 per square foot per year for buildings maintained by the City. Utilities have averaged $1.59 per square foot in the most recent budget document, and janitorial another $1.12 per square foot.

A more detailed estimate of the baseline carrying costs of the existing structures on the California Nursery site using these factors was developed during Phase 1 planning. The cost factors described above were applied to the size of each building from the initial buildings assessment performed by Carey & Company. Once all buildings are brought up to a level where they are again available for public use, the annual costs of operations and maintenance are likely to be in the range of $86,000 per year. Note that if tenant partners were to take responsibility for utilities and janitorial, the City's costs might be closer to $50,000 per year. On the other hand, for any buildings the City will continue to own within their inventory, a capital replacement reserve should also be added to accrue the funding for periodic replacement of roofs and other systems.

Baseline Operating and Maintenance Needs: Existing Landscape Elements

In addition to the costs of operating and maintaining buildings, there will also be costs associated with maintaining the grounds for the 20-acre California Nursery Historical Park. Table 1 presents an analysis of the Fremont budget that is analogous to the methodology employed above for buildings in order to estimate O&M costs for park maintenance. According to a Fremont Comprehensive Park Report completed in March of 2006, the Community Services Department was spending $5,831 per acre to maintain Historic Parks in FY 2004/05, which was a bit more than the average for other

Table 1 – Estimated Costs of O&M for Historic Park Space

Average Cost/Acre to Maintain Historic Parks in FY 2004/05	$5,831
Increase in Budgeted Expenses Including Overhead to Today (2014)	40.9%
Historic Park Average Cost/Acre Today	$8,216
Acres in California Nursery	20
Total O&M Cost / Year	$164,318

Source: City of Fremont 2014/15 Adopted Operating Budget, Comprehensive Park Report of March, 2006, Land Economics Consultants analysis.

types of parks. Since that time Parks budgeted expenses including overhead allocations have increased 40.9 percent. Thus, the per-acre cost today for historic park lands is $8,216. In the bottom line of Table 1, it can be seen that the cost of maintaining the 20 acres in the California Nursery site would be approximately $164,000 per year according to this estimating method. Similar to the case of buildings above, however, it is prudent to also include a reserve for capital replacement over time.

Parks are unique, perhaps more so than buildings, and operations and maintenance costs will vary by the type of landscaping, the hard scape surfaces, and other facilities built into the parks. The need to maintain over 750 trees, many with historical significance, could render the California Nursery site relatively more expensive to maintain. Further refinement of these "green infrastructure" maintenance costs may be possible as the master plan is implemented over time.

The indication from the budget analysis methodologies employed above is that the ongoing carrying cost for maintaining the California Nursery site as a public park with the existing buildings being used for public purposes within the park, may be approximately a quarter of a million dollars ($250,000) per year. Note that this reflects the burden of maintaining the existing features of the park after they have been improved to a level that makes them accessible to the public, and does not include any costs for new or expanded buildings and features. Furthermore, there would be substantial additional one-time costs of making the improvements to the existing buildings and features of the park.

The City's costs associated with day-to-day operations and programming will be built into the fees charged for those programs, similar to other recreation programs, throughout the city. Rangers or other on site staff are generally not covered by program fees.

III. Planning for Revenue Generating Land Uses in the Park

Wherever possible, the Master Plan has sought to incorporate spaces and facilities that can support activities and uses that can generate some revenue, in addition to furthering recreational and educational objectives. Before discussing individual land uses, however, it is helpful to first describe the varying business models that could be used to manage activities and operate and maintain the park.

Business Models for Implementing Land Uses

In the classic public business model for a municipal park, the city not only owns the site, but also invests in the development and construction of all facilities on the site, and then maintains and operates all facilities with public resources, potentially offsetting some of those public O&M costs through user fees, admissions, site rentals, or other means of generating revenue. While this may be the operating model for most of Fremont's city parks and recreation facilities, that is not the only model envisioned for California Nursery as it approaches build-out of the Master Plan.

Other business models involve partnering with other entities. Partnership models in turn take on different characters if the partner is another government agency, a private profit-making company, or a private not-for-profit group.

- Partnerships with other government entities are opportunistic, and arise when multiple governments have a confluence of interests. A local example would include the partnership with the East Bay Regional Park District for the Ardenwood Historic Farm. At the moment, no other governmental entity has come forward with an interest in assuming any O&M responsibilities at the California Nursery Historical Park site.

- Partnerships with for-profit companies could take place at a number of different scales. At the large end of the

spectrum; a boutique retail nursery operator could lease an acre or two of the site, and commercial nursery operations would be in keeping with the historic use of the site. At the small end of the spectrum; for-profit companies that provide services to park visitors such as food and beverage or entertainment activities could be potential concessionaires that would not only enliven the park, but also generate some revenue to help offset ongoing park costs.

- There are a few instances where a new non-profit entity has been created specifically to take on O&M functions on behalf of a public park, serving essentially as a master tenant. The creation of the Presidio Trust to manage the majority of the historic San Francisco Presidio on behalf of the National Park Service is one such example. In that case, however, the nderlying asset was large, diverse, and some of the most valuable real estate in the country, which made it easier to create a new self-sustaining organization from scratch.

- A much more common business model is to identify existing non-profit organizations with congruent goals and objectives that can be attracted to a public site, and in exchange for the rights to utilize some portion of the land and facilities, they are able to provide beneficial public services and O&M support, either in-kind or through cash lease payments. An example of this business model would be the attraction of NatureBridge (formerly the Yosemite Institute) to the Golden Gate National Recreation Area to take over and maintain a campus of historic barracks buildings and provide environmental education programs for school groups. The Math Science Nucleus is currently serving as that type of partner at California Nursery, and could be a possible partner into the future. The Master Plan has attempted to plan for spaces and facilities that could accommodate their growing needs.

Individual Land Uses in the Master Plan and Revenue Potential

The end-state for the California Nursery Historical Park that is depicted in the Master Plan will take a number of years to develop. Some areas of the park may be available for one type of revenue-producing use in early years, with the idea that a more permanent use (perhaps involving the construction of a new building) may occupy the same space later. Uses that may be accommodated within the park at one time or another are described below, with some estimates of revenue generating potential being made where appropriate.

- **Event rentals.** Special events are so diverse in terms of size, content, and profitability as to defy classification. Depending upon the types of spaces, facilities, and amenities that are readily available at a park site, the special events that can take place within a park setting are limited only by the creativity of the event planners and community preference. Special events can be planned and produced by governments, nonprofit organizations, for-profit companies, and private families and individuals. Perhaps the most common and classic event that can be appropriate in a park setting is a wedding. This single class of reoccurring event can become an ongoing revenue generator for a park, even if only outdoor spaces are available. It makes sense to plan for hosting some scale of special events within the California Nursery site. As will be discussed further below, special events can also be an interim use during early phases of

Table 2: Benchmarks for Wedding Rentals in Historic Parks and Gardens

Venue Name	Location	Capacity	Rental Rate Range Low	Rental Rate Range High	Owner	Operator	Comments
Shinn Historical Park and Arboretum	Fremont	200	$270	$840	City of Fremont	City	Outdoor only
Ardenwood Historic Farm	Fremont	225	$2,200	$3,500	EBRPD	Private partner	Outdoor only
Quarry Lakes Regional Recreation Area	Fremont	200	$420	$588	EBRPD	EBRPD	Ensenada picnic area rental
Dunsmuir Hellman Historic Estate	Oakland	275	$3,350	$6,200	City of Oakland	Non-profit partner	Mansion Lawn & Pavilion
UC Berkeley Botanical Garden	Berkeley	100	$4,600	$6,100	UC Berkeley	UC Berkeley	Outdoor ceremony/indoor reception
Brazilian Room, Tilden Regional Park	Berkeley	150	$2,200	$3,900	EBRPD	EBRPD	Indoor
Palmdale Estates at Nella Terra	Sunol	300	$5,500	$9,500	Private	Private partner	Traditional outdoor Indian weddings
The Ranch at Little Hills	San Ramon	100	$10,000	$20,000	EBRPD	Private partner	Full service wedding package pricing

Note: Rental rates often vary by length of time, day of week, time of day, and residents vs. non-residents.
Source: Land Economics Consultants

park buildout. Note also, that it has become standard practice for interpretive/education centers and other cultural institutions to plan event spaces into their campuses in order to generate revenues, although in those instances the revenues are designed to flow to the cultural institution, and not to the underlying landlord. Benchmark pricing for a number of comparable wedding venues is presented in Table 2 to illustrate the financial potential of this land use in the park.

- **Educational component.** Given the authentic history of the California Nursery site and the connection to the science of agriculture within the state, utilizing the resources of the Historical Park for educational programs that satisfy the curriculum of California schools seems to be a natural fit. It is customary for the providers of these types of programs to charge nominal amounts of money per student or per class for these experiences. Although often paid for by school districts or parent associations, rather than by individual families, there is revenue associated with educational programming. On the other hand, the business model of the provider will determine if revenue from educational programs supports only the production of the educational content itself, or if some portion of the revenue is available to maintain the underlying historical asset. As was discussed under business models above, the most likely scenario would be that educational programming would be provided through a nonprofit organization that may be essentially a tenant on the California Nursery site, and that entity would need to cover its own costs first before it could contribute to ongoing operating and maintenance support for the City's park. Also note, however, that while significant cash revenues may not be forthcoming from educational programs on the site, a part of the program may involve participants doing

plant irrigation, propagation and other maintenance activities that may help support the park through in-kind services.

- Many educational programs can be accomplished entirely in an outdoor setting, but some development of structures could support expansion of the educational component. At this time, the number of children that can be brought to the site at any one time is limited by the number of restrooms, and development of more restrooms in the park would be beneficial. Indoor classroom space could also support a more reliable year-round educational program.

- **A boutique retail nursery tenant.** A revenue-producing land use that is consistent with the historic use of the park would be a boutique retail nursery tenant. A possible identified site is at the northeast quadrant of the park near the secondary entrance to the park. As a commercial enterprise, any form of nursery should be expected to pay a rent or lease payment to the City. As a for-profit business, the tenant nursery should also be required to pay the costs of making all the physical improvements necessary to support their operation, including access from the street, parking, restrooms, ADA accessibility, etc.

- **Food and beverage concessions.** Food and beverage operations can provide a welcome service to park visitors, and may be an appropriate land-use to consider within the California Nursery site. Although there are examples of permanent restaurants that have managed to survive in park settings, they are notoriously difficult to operate profitably due to the typically intense seasonality or weekend-weekday patterns of use in recreational park settings. For this reason, the most likely food and beverage uses that would be included at California Nursery would be temporary installations, which might only be operating in the park on high volume weekend days, or during special events. These could range in scale from ice cream pushcarts to food trucks. Ample precedents exist for charging food and beverage operators for the privilege of setting up even temporarily within a public park, and in fact some fair market charges should be levied as a regulatory tool and in order to avoid any gift of public resources. Due to the short term and temporary nature of these business opportunities, however, the charges tend to be relatively low, amounting to perhaps a few hundred dollars per month for each concessionaire allowed to operate.

- **Food and beverage within a cultural institution.** One of the few places where a food and beverage operation may be more permanent is for a "museum café" or similar visitor service establishment that could be embedded within a larger cultural institution that could become housed in the park. These have become a standard means of generating revenue, although not for the underlying landlord, but rather for the cultural institution itself.

- **Community gardens.** In recent years, various areas of the California Nursery site have been used by different community groups to grow plants, often in raised beds, and volunteer members of the community have been maintaining the flower beds near the great lawn at the entrance to the site. Community gardens in one form or another could be a logical use for a portion of the site, and are consistent with the historical nursery theme. There will be costs associated with community garden uses for materials, supplies, water and other utilities, and an organizing entity may charge community members for garden plots and hold plant sales and other fundraisers in order to cover the organization's costs. It may also be possible to expect community gardens to help defray costs of O&M for the larger park, but it is unlikely that community garden uses would generate so much revenue that they would be able to pay significant land rents to the City. On the other hand, they may be able to maintain at least their own areas and some of the surroundings through volunteerism.

IV. Accommodating Revenue-Producing Uses in the Master Plan

The Master Plan has been designed, in part, to accommodate all of the revenue producing uses discussed in Section III.

Table 3 presents an analysis of spaces within the Master Plan starting in the northwest corner of the plan and proceeding clockwise around the park. For each significant cluster of spaces, the component use areas are separately described in terms of indoor vs. outdoor spaces, and with an estimate of the size of each space in square feet. Note these are essentially gross square footage areas, however, and in many cases the space usable by public participants will be somewhat smaller than the gross. For example, the new 3,200 square-foot multi-purpose classroom building proposed to be added to the complex near the President's House and the Packing Shed would likely include a small lobby, some restrooms, a storage room, and perhaps some hallway space, resulting in usable indoor multi-purpose room(s) that may be 2,400 square feet total. On the other hand, the 2,400 square feet of outdoor terraces associated with the classroom building might be almost entirely usable space.

In order to discuss financial flows derived from the spaces further (presented below in Section V), some assumptions must be made about the business models employed and the nature of the entities who are organizing the use of these spaces within the park. The basic assumption made here is that one or more non-profit organizations will take responsibility for the majority of the educational and interpretive/cultural activities taking place on the California Nursery site. Under this scenario, one nonprofit group could be focusing on the education component, while another one focuses on the historical artifacts associated with the site, or perhaps these could be combined. Community gardens are shown in the Master Plan, and occupy one of a couple of optional areas, and would likely involve LEAF or another nonprofit group responsible for that specific use in the selected area.

The fourth column of Table 3 presents a possible menu of uses by these nonprofit entities for the different subareas in the Master Plan. Much of the site is highly conducive to outdoor environmental education, which could include agricultural and botanical/plant nursery themes, as well as other science education, and of course California history of all eras. Furthermore, the presumption is that the Presidents House and the Packing Shed would be used primarily for the exhibition and curating of historical artifacts under Master Plan, at least initially. The Office near the Great Lawn might also be used for historical exhibits, but could also be used for indoor classroom space, meetings and other flexible uses supporting the nonprofit mission. The restrooms in the Office building would need to support a variety of activities in the area, including occasional use of the Great Lawn and outdoor spaces adjacent to the office.

Historically, the Great Lawn was much larger and hosted huge outdoor events. Outdoor banquets were held there, and it was used heavily during an annual Tulip Festival that brought as many as 100,000 people to the 400+ acre California Nursery. As portions of the larger nursery were sold off over the years, Niles Boulevard was built, bisecting the historical Great Lawn and creating the much smaller lawn that exists today. Under the Master Plan, the current Great Lawn would be screened more heavily and buffered somewhat for sound by new plantings along Niles Boulevard and framed by the restored rose garden/display garden, making the lawn area more private and more conducive to weddings and other outdoor-only events.

The café at the park entry could be operated by a private, for-profit or non-profit concessionaire, perhaps paying lease revenue directly to the City as the landlord. A more likely alternative is that the retail space would be managed and programmed by one or more of the nonprofit organizations on site as a means of generating revenue for their own programs, analogous to a "museum café" supporting an interpretive/educational institution.

The last column in Table 3 presents an analysis of how these same subareas within the park could be used for more unique special events. Once specific areas within the park have been developed to serve other purposes, such as historical preservation and educational programming, the marginal costs of using the same spaces for occasional special events

Table 3 - Analysis of Park Spaces in the Master Plan

NAMED SPACES IN THE PLAN Spaces with Revenue Potential	Indoor / Outdoor	Usable Size in sq.ft.	Non-Profit Tenant Uses	Potential as Venues; & Example Events
OFFICE - GREAT LAWN				
Great Lawn	Outdoor	16,800	Environ. Ed.	Outdoor Capacity
Office	Indoor	1,972	Interpretive /	**50 - 500**
Women's Changing Room	Indoor	185	Exhibits	Weddings,
New Restroom & Kitchen Building	Indoor	800	Classroom	Receptions,
Paved Area West of Office	Roofed	2,625		Other Priv. Events
CAFÉ AT THE PARK ENTRY				
Café	Indoor	1,800	Concession	Indoor/Outdoor
Patio (Seasonal Outdoor Seating)	Outdoor	1,800	Revenue	**50 - 150**
PRESIDENT'S HOUSE – PACKING SHED – MULTI-PURPOSE/CLASSROOM BUILDING COMPLEX				
President's House	Indoor	1,831	Environ. Ed.	Indoor/Outdoor
Packing Shed	Indoor	3,855	Exhibits	**100 - 200**
New Multi-Purpose/Classroom	Indoor	2,400	Classrooms	Weddings,
Terrace with Classroom	Outdoor	2,400	Historical	Classes,
Open Space in Complex Center	Outdoor	27,900	Demonstrations	Other Priv. Events
OPEN SPACE MEADOW & WATER TOWERS				Outdoor Capacity
Long Meadow (possibly interim only)	Outdoor	31,500	Outdoor	**500 - 1,500**
Enclose Base of Tower for Office	Indoor	400	Environ. Ed.	Community /
				Large Weddings
COMMUNITY GARDENS			Community	
Community Gardens & Raised Beds	Outdoor	24,000	Gardens	
HISTORIC ORCHARD & ARCHIVE BUILDING				
Expanded Orchard	Outdoor	18,000	Outdoor	Outdoor Capacity
Archive Building	Indoor	1,756	Environmental	**400 - 600**
Optional Outdoor Program Space	Outdoor	13,600	Education	Outdoor Classes
BOXED TREE FOREST			Outdoor	Outdoor Capacity
Space within Boxed Forest	Outdoor	11,200	Environmental	**100 - 400**
			Education	Weddings,
				Other Priv. Events
INTERPRETIVE SPINE			Outdoor	Outdoor Capacity
Patio at Terminus	Outdoor	5,000	Environmental	**50 - 150**
			Education	Outdoor Classes
PICNIC AREA				Group Picnics
Large Family / Group Picnic Area	Outdoor	63,350		**50 - 250**
VALLEJO ADOBE			Outdoor	Indoor/Outdoor
Adobe	Indoor	1,062	Environmental	**50 - 90**
Outdoor Garden within Oval Path	Outdoor	2,625	Education	Weddings,
Open Space Around Adobe	Outdoor	7,675		Other Priv. Events
INTREPRETIVE / EDUCATION CENTER			Outdoor	Event Capacity
Building Footprint (could be 2 stories)	Indoor	9,000	Environmental	**100 - 300**
Grand Entrance Stone Walkways	Outdoor	16,450	Education	In Museum

Source: Land Economics Consultants.

during off hours will be low, and the relatively intense activity during a special event can create perhaps the most significant net revenue flow within the park. Due to the great diversity and different characters of spaces within the park, a variety of unique venues can be created with a range of people-handling capacities. Approximately 8 to 10 different venues may be readily identified with the Master Plan (see the last column of Table 3). For a private family reunion, cultural event or a small wedding under 100 people, the venues that might be appropriate within California Nursery could include the Office-Great Lawn area, the Vallejo Adobe, or a group site within the Picnic Area. Larger outdoor weddings and events or other food and beverage events could be staged in such areas as the Presidents House, Packing Shed, Multipurpose Building Complex, the Boxed Tree Forest, or by setting up in a large open space such as the Long Meadow.

Here again, a variety of different business models could be employed to attract and produce special events. Special events could be handled by a nonprofit master tenant on the site, much as cultural institutions today will often rent out parts of their facilities for special events during off hours to enhance their revenues. In another business model, the City could handle the marketing and event production services in-house with City staff. In a third business model, a private events production company could market and produce special events on the site under a contract with the City, and in coordination with the nonprofit entities active on the site.

V. Recommendations for Phasing and Financial Implementation

One of the City's main objective is to avoid a situation where the California Nursery Historical Park becomes an ongoing fiscal drain on the City's General Fund. As a bench mark, it was pointed out in Section II that once the buildings and landscape elements that exist today are brought up to a standard supporting public use, the ongoing costs of operating and maintaining those buildings and landscape have been estimated to be approximately a quarter million dollars per year. Furthermore, new buildings and features proposed in the Master Plan, such as the classroom building and new hardscape elements will add more costs to the annual O&M burden. There will also be significant one-time capital costs of developing the park, which are estimated in the Volume 3 report prepared by team member Ian Leverton.

For one-time capital costs of making improvements, funding will probably have to be raised on a project by project basis, and may include capital funding from the City and/or from private partners, depending on the nature of each specific project. As the collection of new improvements grows, the financial burden the City is responsible for is likely to grow, and revenues accruing to the City will need to grow roughly in proportion in order to meet the City's fiscal objective. Whether the park ultimately becomes "self-sustaining" from a general fund fiscal perspective will depend heavily on negotiations at every step in the development with the partners who will implement or operate components of the park plan. It is important to determine who will be responsible for specific O&M tasks, and who will share in the revenue streams created. It is unlikely the site will generate enough revenue to be self-sustaining, and will require a subsidy from the General Fund or other sources if built with all amenities.

The remainder of this section presents an outline of the recommendations for phasing that were presented in the "Next Steps" section of the main report, along with discussions of economic and fiscal considerations for developing the park, focusing on Phase 1 starting with what it is today. The subsequent phasing should remain somewhat flexible with lots of discrete steps to choose from in order to take advantage of the momentum already developed by park partners, and to be ready to assist other community based initiatives as they emerge.

Phase 1: Focus on Landscape Improvements

As described in "Next Steps," Phase 1 will be an evolution from the situation that exists today. One strategy would be to improve landscaped environments first, before incurring the relatively larger costs of upgrading or constructing buildings. In essence, a series of "outdoor rooms" could be created which would support activities ranging from family picnics to large special weekend events with designated overflow parking areas, portable restrooms, tents and booths as necessary, and specific areas for gatherings of people. Community festivals, food and beverage oriented events, fairs, and even large private weddings would be candidate events to take place in one or more of the outdoor rooms created in the park. Specific steps in the first phase would include the following (see full descriptions of actions in the main report under "Next Steps."

1. Site and Nursery Avenue Infrastructure
2. Boxed Tree Forest and adjacent restroom
3. Vallejo Adobe
4. Great Lawn Area
5. Picnic Area
6. Community Gardens/Boutique Retail Nursery

Table 4 - Phase 1 Ongoing Costs and Revenues Incurred on an Annual Basis

	Low Estimate		High Estimate
City of Fremont Responsibilities			
Costs to be Covered			
Existing Open Buildings O&M	$22,000	--	$33,000
Monitoring of Buildings not in use	$6,000	--	$12,000
Trees and Landscaping O&M	$50,000	--	$110,000
Capital Replacement Reserve (20% of O&M)	$0	--	$28,600
Marketing and Coordination of Event Spaces	$5,000	--	$50,000
Range in Annual City Costs	**$83,000**	--	**$233,600**
Potential Sources of Revenue			
Private Party Rentals (e.g., Weddings)	$20,000	--	$50,000
Community Events (e.g., Parking Revenue)	$10,000	--	$40,000
Picnic Reservations	$5,000	--	$10,000
Temporary Food & Beverage (e.g., Food Trucks)	$2,000	--	$5,000
Range in Annual City Revenues	**$37,000**	--	**$105,000**
Net City Responsibilities if built	**($46,000)**	--	**($128,400)**
	*Capital replacement not included.		
Partner Responsibilities			
Community Gardens	Cost-Revenue Neutral to the City		
Environmental/Science Education	Cost-Revenue Neutral to the City		
Histoy Interpretation &/or Museum	Cost-Revenue Neutral to the City		

Source: Land Economics Consultants.

The City would be well advised to set aside a one-time budget for start-up marketing of the park for weddings and events, including staff time, website, and a system for coordinating reservations and event management. Because the City is the most likely source for the initial capital and one-time investment in activating the park, it is recommended that in at least Phase 1 the City remain responsible for marketing and managing event use in-house. That will have an ongoing cost in staff time, but it will also allow the City to retain the bulk of the revenue generated by renting park space and facilities for events.

Although the cash flow of revenues over costs will likely fluctuate from year to year during the Phase 1 period, ranges in those financial flows are estimated in Table 4. Ranges are used for two reasons: (1) there is much uncertainty in making these types of future projections, and (2) costs and revenues may start out low initially, yet grow in coming Phase 1 years as the quality of service in the park increases and as more revenue-producing activities are attracted to the site.

The annual costs of operating and maintaining buildings in the Table 4 are based on the factors presented in Section II and assume the only buildings currently open for public use are the Office, Adobe, Restroom next to the Adobe, and the Women's Changing Room. On the next line, a cost is also estimated for monitoring the remaining existing structures, although they would remain closed to the general public in Phase 1.

A large range is shown next for the cost of maintaining the landscape within the park. The low end of the range corresponds to basic irrigation of the trees, and maintaining the turf and more managed landscapes around the current event venues (i.e., Great Lawn and Adobe gardens). The high end of the range is approaching the maintenance costs for a fully developed historical park in Fremont (i.e., approximately two-thirds of the costs estimated in Table 1). The next line item reflects prudent budgeting practices, and funds a replacement reserve account for eventual capital replacement of buildings and park features, estimated at 20% of the annual Operating & Maintenance cost line items above. A cost item has also been added to account for additional staff time in handling reservations, and coordinating event use of the park's "outdoor rooms."

The largest source of revenue envisioned in Phase 1 is from reservations and rentals of space within the park for events planned and produced by others. These could be company picnics and teambuilding events, non-profit group fundraisers, and a wide variety of private parties. The most easily understood type of private event like this is a wedding. Large weddings of 200 or even 400 people are obviously expensive events. While most of the costs of such an event go to the suppliers of food and beverage, live music, tables and chairs and their set up, etc., it is still possible for the hosting venue to realize basic rental fees of $2,000-$4,000 per wedding. In venues that are known to have highly desirable outdoor features, multiple weddings per day can be attracted during summer weekends. It is possible that carefully designed outdoor wedding spaces on the site (allowing two or three to occur on the same day) could generate $100,000-$200,000 per year for the City. Given the diversity of Fremont's population, outdoor venues on the site that accommodate different cultural practices could be advantageous in the marketplace. In Table 4, revenue from private party rentals is shown as a wide range, again reflecting lower income in the initial year(s) and growing as facilities and reputation improve over time.

The 20-acre park is also large enough to accommodate some community events that are larger than a private party, but smaller than the huge community events that now take place in Central Park. Table 4 shows net revenue being generated for the City from such events in the form of area rentals, perhaps augmented by parking revenue or other charges. The projections in Table 4 assume that the event promoter/producer will be responsible for the majority of event related costs, such as set up, clean up, and security. Other revenues could include family-scale rentals of picnic areas, and some weekend permits for food trucks or other vendors to set up temporarily in the park.

In the Phase 1 stage of development, the park would be expected to essentially pay for the City's upkeep responsibilities on an ongoing basis, although Table 4 suggests there could be initial years with small deficits and successful years with small

surpluses. A small boutique retail nursery could also add activity, and generate lease revenue for the City. If included in the park, that land use would add to the bottom line in Table 4.

Much of the day-to-day activity in the park would be generated by partner organizations, however, likely including a non-profit group using the park as a home base for environmental education, perhaps one or more organizations focused on the unique history of California Nursery, and use of a portion of the site for community gardens. The assumptions made in Table 4 are that each of these organizations will be fundraising or otherwise generating the revenue necessary to cover their own programs, but not so much that they are able to pay meaningful rent to the City for use of the park. In other words, on an ongoing basis during Phase 1 these activities are assumed to be cost-revenue neutral to the City. In later phases, however, these partner organizations would be expected to attract the necessary funding to achieve their missions, take on significant improvement projects in the park, and potentially provide ongoing support to the City in terms of lease or rent payments or at least services provided in-kind.

In the main body of the report, subsequent phases and the specific projects within them are described in more detail. An outline of Phases 2 through 4 follows.

Phase 2: Development of Institutions and First Buildings

1. Multipurpose/Classroom Building
2. Second Entrance Infrastructure and Parking
3. Office Building Upgrades
4. Packing Shed and Archive Building

Phase 3: Partner Institutions Developing Major Buildings

1. Interpretive/Education Center
2. President's House
3. Café

Phase 4: Additional Historical Features

1. Orchard
2. Water Towers
3. Roeding Property

THIS PAGE INTENTIONALLY LEFT BLANK

Section E: Construction Cost Estimate

PGA design

California Nursery Historical Park Master Plan

Opinion of Probable Construction Cost: Conceptual Submittal

01/06/17

ITEM NO.	PROJECT NAME	TOTAL COST
1	Niles Boulevard Improvements (excluded)	0
2	Nursery Avenue - Main Entry	710,691
3	Office - Great Lawn	1,873,117
4	Café at the Park Entry & Parking	1,108,377
5	Community Gardens	340,681
	Alternate: Boutique Nursery: $340,681	
6	Parking off Nursery Avenue	2,186,655
7	North-East Corner - Secondary Entry	405,855
8	Interpretive Center	8,819,643
9	President's House - Packing Shed - Multi-Purpose/Classroom Building Complex	3,569,931
10	Interpretive Spine	937,614
11	Long Meadow & Water Towers	999,085
12	Historic Orchard & California Nursery Archive Building	435,776
13	Orchard Pergola	1,118,619
14	Boxed Tree Forest & Restroom	297,800
15	Picnic Area	317,352
16	Vallejo Adobe	149,770
17	Roeding Family Home (excluded)	0
18	Irrigation to Existing Trees	531,907
19	Site Utilities	1,493,072
	TOTAL ESTIMATED CONSTRUCTION COST (2017)	**25,295,942**
	ADD - Architectural & Engineering fees, Permits & Fees & City Administration Costs (50%)	12,647,971
	TOTAL ESTIMATED PROJECT COST (2017)	**37,943,913**

PGA design

California Nursery Historical Park Master Plan

Opinion of Probable Construction Cost: Conceptual Submittal

01/06/17

ITEM NO.	PROJECT NAME	TOTAL COST
1	Niles Boulevard Improvements (excluded)	0
2	Nursery Avenue - Main Entry	710,691
3	Office - Great Lawn	1,873,117
4	Café at the Park Entry & Parking	1,108,377
5	Community Gardens	340,681
	Alternate: Boutique Nursery: $340,681	
6	Parking off Nursery Avenue	2,186,655
7	North-East Corner - Secondary Entry	405,855
8	Interpretive Center	8,819,643
9	President's House - Packing Shed - Multi-Purpose/Classroom Building Complex	3,569,931
10	Interpretive Spine	937,614
11	Long Meadow & Water Towers	999,085
12	Historic Orchard & California Nursery Archive Building	435,776
13	Orchard Pergola	1,118,619
14	Boxed Tree Forest & Restroom	297,800
15	Picnic Area	317,352
16	Vallejo Adobe	149,770
17	Roeding Family Home (excluded)	0
18	Irrigation to Existing Trees	531,907
19	Site Utilities	1,493,072
	TOTAL ESTIMATED CONSTRUCTION COST (2017)	**25,295,942**
	ADD - Architectural & Engineering fees, Permits & Fees & City Administration Costs (50%)	12,647,971
	TOTAL ESTIMATED PROJECT COST (2017)	**37,943,913**

PGA design

California Nursery Historical Park Master Plan

Opinion of Probable Construction Cost: Conceptual Submittal

01/06/17

ITEM NO.	PROJECT NAME	TOTAL COST
	Notes:	
	Includes GC General Conditions, GC Overhead & Profit, Bonds & Insurances & Project Contingency (Design & Construction)	
	Excludes escalation (Based on current costs)	
	Notes - Opinion of Cost:	
	This opinion of cost shall be construed as an indefinite evaluation of cost based upon historical cost data	
	derived from similar projects, produced from written or drawn information provided during design stages	
	of a project. Since we have no control over: the cost of labor, material or equipment; or over the contractor's	
	method of determining his prices; or over competitive bidding or market conditions, we do not guarantee	
	the accuracy of such opinions as compared to contractor bids. This Opinion of Cost is intended to be	
	reflective of fair market value for the construction of a project. It is based on competitive bidding with a	
	minimum of five (5) bids from general contractors and a minimum of three (3) sub-contractor bids per trade.	
	A bidding market that is not stable and a fewer number of bidders may result in higher bids. Labor	
	rates are based on a Prevailing Wage contract.	

PGA design

California Nursery Historical Park Master Plan

Opinion of Probable Construction Cost: Conceptual Submittal

01/06/17

ITEM NO.	DESCRIPTION	EST. QTY	UNIT	UNIT COST	ITEM COST	MARK UP	TOTAL COST
	CONSTRUCTION COST ITEM MARK-UP (COMPOUNDED)						
	GC General Conditions	12.00%					
	GC Overhead & Profit	7.00%					
	Bonds & Insurances	3.00%					
	Project Contingency (Design & Construction)	20.00%					
	Escalation (2017 / Current Cost)	0.00%					
	TOTAL MARK-UP (COMPOUNDED)	**48.12%**					
1	**Niles Boulevard Improvements**						
	Niles Blvd & Nursery Ave intersection improvements (excluded)	1	LS	-	-	0	-
	Niles Blvd parking spaces improvements (excluded)	1	LS	-	-	0	-
	Total - Niles Boulevard Improvements						**0**
2	**Nursery Avenue - Main Entry**						
	Restore wooden gateway sign	1	LS	2,000.00	2,000	962	2,962
	Repair / replace security gate	1	LS	6,000.00	6,000	2,887	8,887
	Canary Island Date palms, 10' trunk ht	8	EA	11,500.00	92,000	44,272	136,272
	Canary Island Date palms, 6' trunk ht	24	EA	7,000.00	168,000	80,845	248,845
	Nursery Avenue - patch & overlay existing asphalt road	12,500	SF	6.00	75,000	36,092	111,092
	Extension of Nursery Ave south - colored concrete path/road	9,400	SF	12.00	112,800	54,282	167,082
	New path/walkway adjacent Nursery Ave - colored concrete	2,000	SF	12.00	24,000	11,549	35,549
	Prominent element - donated item	1	LS	-	-	0	-
	Total - Nursery Avenue - Main Entry						**710,691**

PGA design

California Nursery Historical Park Master Plan

Opinion of Probable Construction Cost: Conceptual Submittal

01/06/17

ITEM NO.	DESCRIPTION	EST. QTY	UNIT	UNIT COST	ITEM COST	MARK UP	TOTAL COST
3	**Office - Great Lawn**						
	Office Building - Adaptive Reuse - Event Venue:						
	Architectural Restoration	1,972	SF	125.00	246,500	118,621	365,121
	Maintain building - new painting						
	Accessibility - automatic door operator at double entry doors						
	Replace carpet with wood flooring						
	Window treatments						
	New pendant / period lighting & speakers						
	HVAC system upgrades						
	Restore existing restrooms						
	Restrooms & Kitchen Building						
	New restrooms & kitchen building	800	SF	360.00	288,000	138,592	426,592
	Changing Room						
	Architectural & Structural Restoration	185	SF	125.00	23,125	11,128	34,253
	Provide concrete foundation & slab on grade						
	Exterminate termites						
	Paint building, exterior & interior						
	Repair / replace damaged wood framing members						
	New plywood sheathing on interior face of wall framing						
	New wood sill plate & anchor bolts						
	Windmill						
	Treat wood rot with epoxies or replace rotted element	1	LS	2,000.00	2,000	962	2,962
	Prepare & paint structure	1	LS	1,500.00	1,500	722	2,222
	Great Lawn						
	New accessible road/paths - colored concrete	8,000	SF	12.00	96,000	46,197	142,197
	Patio area west of the office - stone pavers	2,500	SF	35.00	87,500	42,107	129,607
	New paths, stabilized DG	7,500	SF	7.00	52,500	25,264	77,764
	Rehabilitate the display gardens	50,000	SF	4.00	200,000	96,244	296,244

PGA design

California Nursery Historical Park Master Plan

Opinion of Probable Construction Cost: Conceptual Submittal

01/06/17

ITEM NO.	DESCRIPTION	EST. QTY	UNIT	UNIT COST	ITEM COST	MARK UP	TOTAL COST
	Great lawn - renovate lawn & replace irrigation	16,800	SF	4.00	67,200	32,338	99,538
	New shrubs along Niles Blvd & where park abuts residences	1	LS	17,500.00	17,500	8,421	25,921
	Mixed planting & open grassland, irrigated	30,000	SF	4.00	120,000	57,747	177,747
	New trees, 15 gal, w/ irrigation	5	EA	750.00	3,750	1,805	5,555
	New trees, 36" box, w/ irrigation	4	EA	3,500.00	14,000	6,737	20,737
	Transparent fence / wall along Niles Boulevard	450	LF	100.00	45,000	21,655	66,655
	Total - Office - Great Lawn						**1,873,117**
4	**Café at the Park Entry & Parking**						
	Demolish Garden Store Building 1 & Building 2	2,468	SF	6.50	16,042	7,720	23,762
	Demolish covered area & covered central breezeway	2,554	SF	4.50	11,493	5,531	17,024
	New café / small restaurant	1,800	SF	330.00	594,000	285,846	879,846
	Terrace/patio between - colored & scored concrete	1,800	SF	20.00	36,000	17,324	53,324
	Parking area paving, asphalt	5,400	SF	8.00	43,200	20,789	63,989
	Gravel surface at parking stalls	4,200	SF	4.00	16,800	8,085	24,885
	Mixed planting & open grassland, irrigated	6,000	SF	4.00	24,000	11,549	35,549
	New trees, 15 gal, w/ irrigation	9	EA	750.00	6,750	3,248	9,998
	Total - Café at the Park Entry & Parking						**1,108,377**
5	**Community Gardens**						
	Community gardens & irrigation, raised beds	40,000	SF	3.50	140,000	67,371	207,371
	Predominantly open grassland, misc seed/mulch, non-irrigated	40,000	SF	0.50	20,000	9,624	29,624
	Fencing around gardens - wood / wire mesh	1,000	LF	70.00	70,000	33,686	103,686
	Total - Community Gardens						**340,681**

PGA design

California Nursery Historical Park Master Plan

Opinion of Probable Construction Cost: Conceptual Submittal

01/06/17

ITEM NO.	DESCRIPTION	EST. QTY	UNIT	UNIT COST	ITEM COST	MARK UP	TOTAL COST
	Alternate: Boutique Nursery						
	Trailor for sales office (allowance)	1	LS	25,000.00	25,000	12,031	37,031
	Utilities allowance - power & water	1	LS	25,000.00	25,000	12,031	37,031
	Predominantly open grassland, misc seed/mulch, non-irrigated	80,000	SF	0.50	40,000	19,249	59,249
	Fencing around gardens - wood / wire mesh	2,000	LF	70.00	140,000	67,371	207,371
	Total - Alternate: Boutique Nursery						**340,681**
6	**Parking Off Nursery Avenue**						
	Parking area paving, asphalt	30,000	SF	8.00	240,000	115,493	355,493
	Gravel surface at parking stalls	20,000	SF	4.00	80,000	38,498	118,498
	High metal lath structure over the cars	52,000	SF	20.00	1,040,000	500,471	1,540,471
	Paths leading to other areas of the park - colored concrete	9,000	SF	12.00	108,000	51,972	159,972
	New trees, 15 gal, w/ irrigation	11	EA	750.00	8,250	3,970	12,220
	Total - Parking Off Nursery Avenue						**2,186,655**
7	**North-East Corner - Secondary Entry**						
	Secondary entry road & parking, asphalt paving	16,000	SF	8.00	128,000	61,596	189,596
	Gravel surface at parking stalls	8,000	SF	4.00	32,000	15,399	47,399
	Paths / walkway - colored concrete	2,500	SF	12.00	30,000	14,437	44,437
	Predominantly open grassland, misc seed/mulch, non-irrigated	23,000	SF	0.50	11,500	5,534	17,034
	Additional palms - mix, 6' trunk ht	8	EA	7,000.00	56,000	26,948	82,948
	New trees, 15 gal, w/ irrigation	22	EA	750.00	16,500	7,940	24,440
	Total - North-East Corner - Secondary Entry						**405,855**

PGA design

California Nursery Historical Park Master Plan

Opinion of Probable Construction Cost: Conceptual Submittal

01/06/17

ITEM NO.	DESCRIPTION	EST. QTY	UNIT	UNIT COST	ITEM COST	MARK UP	TOTAL COST
8	**Interpretive Center**						
	New two-story interpretive center	18,000	SF	300.00	5,400,000	2,598,601	7,998,601
	Grand entrance - stone paving	2,600	SF	35.00	91,000	43,791	134,791
	Grand entrance - colored concrete walkway	8,900	SF	12.00	106,800	51,395	158,195
	New paths adjacent the interpretive center, colored concrete	5,000	SF	12.00	60,000	28,873	88,873
	New paths adjacent the interpretive center, stabilized DG	2,000	SF	7.00	14,000	6,737	20,737
	Grand entrance - ornamental plantings & hedges	5,000	SF	10.00	50,000	24,061	74,061
	Mixed planting & open grassland, irrigated	45,000	SF	4.00	180,000	86,620	266,620
	New trees, 15 gal, w/ irrigation, north	14	EA	750.00	10,500	5,053	15,553
	New trees, 36" box, w/ irrigation, entry	12	EA	3,500.00	42,000	20,211	62,211
	Total - Interpretive Center						**8,819,643**
9	**President's House, Packing Shed & Multi-Purpose/Classroom Building**						
	President's House - Adaptive Reuse - Events Space:						
	Architectural Restoration	1,831	SF	200.00	366,200	176,224	542,424
	Replace asphalt shingle roofing						
	Exterminate termites						
	Regrade around perimeter to avoid wood to soil contact						
	Replace missing roof rafter above east elevation						
	Replace missing knee braces						
	Repair interior vandalism damage						
	Clean & repair fireplace & hearth						
	Repair / replace damaged windows & glazing						
	Paint building, exterior & interior						
	Restore front porch to its original condition						
	Accessibility - provide ramp to front entry, 18' long						
	Install new wiring & new period lighting						
	Add HVAC system, attic insulation & ceiling fans						

PGA design

California Nursery Historical Park Master Plan

Opinion of Probable Construction Cost: Conceptual Submittal

01/06/17

ITEM NO.	DESCRIPTION	EST. QTY	UNIT	UNIT COST	ITEM COST	MARK UP	TOTAL COST
	Install window shades						
	Restore wood floors						
	Restore / upgrade kitchen						
	Structural Upgrades	1,831	SF	50.00	91,550	44,056	135,606
	Provide plywood roof sheathing						
	Replace damaged wood siding, framing & sheathing						
	Brace brick chimney						
	Provide new perimeter concrete spread footings & sill plate						
	New interior pad footings						
	New metal connectors between foundation & framing members						
	Underpin chimney pad as necessary						
	Provide new concrete stoop at entry stairs						
	Provide new plywood shear walls & hold downs						
	Surrounding Site:						
	Gardens & irrigation for demonstrations surrounding residence	15,000	SF	4.00	60,000	28,873	88,873
	New paths adjacent the home, colored concrete	4,000	SF	12.00	48,000	23,099	71,099
	New paths adjacent the home, stabilized DG	3,000	SF	7.00	21,000	10,106	31,106
	Packing Shed - Adaptive Reuse - Display Historic Pick-ups & Machinery						
	Architectural Restoration	3,855	SF	175.00	674,625	324,645	999,270
	Exterminate termites						
	Regrade around perimeter to avoid wood to soil contact						
	Replace corrugated metal roofing						
	Replace deteriorated wood & corrugated metal siding						
	Paint building, exterior & interior						
	Demolish shed to the east of the main structure						
	Open enclosed openings on the north & south walls						
	Provide new concrete floor slab & perimeter curb - stained						
	New lighting & user convenience power						
	Structural Upgrades	3,855	SF	50.00	192,750	92,756	285,506
	Reinforce / replace existing failing roof framing						

PGA design

California Nursery Historical Park Master Plan

Opinion of Probable Construction Cost: Conceptual Submittal

01/06/17

ITEM NO.	DESCRIPTION	EST. QTY	UNIT	UNIT COST	ITEM COST	MARK UP	TOTAL COST
	Add new wood rafters between existing framing as required						
	Provide plywood roof sheathing						
	Provide all new wood stud wall framing & plywood sheathing						
	Provide new metal hold-downs, anchor bolts & shear connections						
	Provide new steel roof framing at gable end						
	Open loading area - new concrete pad footings at posts						
	Open loading area - new cripple stud walls, hold downs & connections						
	Surrounding Site:						
	New paths adjacent the Packing Shed, colored concrete	4,000	SF	12.00	48,000	23,099	71,099
	New paths adjacent the Packing Shed, stabilized DG	1,500	SF	7.00	10,500	5,053	15,553
	Multi-Purpose/Classroom Building						
	New M-P/Classroom building	2,400	SF	300.00	720,000	346,480	1,066,480
	New terrace, stone paving	2,000	SF	35.00	70,000	33,686	103,686
	Site Area - Open Space						
	New Bosque of trees, 36" box, w/irrigation	20	EA	3,500.00	70,000	33,686	103,686
	Predominantly open grassland, misc seed/mulch, non-irrigated	75,000	SF	0.50	37,500	18,046	55,546
	Total - President's House, Packing Shed & M-P/Classroom Bldg						**3,569,931**
10	**Interpretive Spine**						
	Interpretive spine path south from the President's House to the						
	south plaza area, colored concrete	7,500	SF	12.00	90,000	43,310	133,310
	Plaza at south end, stone paving	3,000	SF	35.00	105,000	50,528	155,528
	New metal lath structure at plaza	1,000	SF	50.00	50,000	24,061	74,061
	Secondary reverse S-curve path, colored concrete	24,000	SF	12.00	288,000	138,592	426,592
	Interpretive material (allowance)	1	LS	100,000.00	100,000	48,122	148,122
	Total - Interpretive Spine						**937,614**

PGA design

California Nursery Historical Park Master Plan

Opinion of Probable Construction Cost: Conceptual Submittal

01/06/17

ITEM NO.	DESCRIPTION	EST. QTY	UNIT	UNIT COST	ITEM COST	MARK UP	TOTAL COST
11	**Long Meadow & Water Towers**						
	Long Meadow						
	Open space meadow - misc seed/mulch, non-irrigated	75,000	SF	0.50	37,500	18,046	55,546
	New trees, 15 gal, w/ irrigation	3	EA	750.00	2,250	1,083	3,333
	Boulders	1	LS	2,500.00	2,500	1,203	3,703
	New Tall Water Tower						
	New tall water tower	1	LS	225,000.00	225,000	108,275	333,275
	Enclose base of structure for office for park manager	400	SF	150.00	60,000	28,873	88,873
	New surface adjacent the water tower, stone paving	3,600	SF	35.00	126,000	60,634	186,634
	New trees, 36" box, w/ irrigation	3	EA	3,500.00	10,500	5,053	15,553
	Existing Water Tower Base						
	Stabilize base:						
	Replace missing wood members - column at N-E corner	1	LS	7,500.00	7,500	3,609	11,109
	Provide new connections between all members	1	LS	7,500.00	7,500	3,609	11,109
	New concrete foundations to separated wood from soil	1	LS	20,000.00	20,000	9,624	29,624
	Reconstruct new high water tower from historic photos	1	LS	175,000.00	175,000	84,214	259,214
	New trees, 15 gal, w/ irrigation	1	EA	750.00	750	361	1,111
	Total - Long Meadow & Water Towers						**999,085**
12	**Historic Orchard & California Nursery Archive Building**						
	Historic Orchard						
	New fruit trees, 15 gal, w/ irrigation	47	EA	850.00	39,950	19,225	59,175
	New screen trees, 15 gal, w/ irrigation	11	EA	750.00	8,250	3,970	12,220
	Predominantly open grassland, misc seed/mulch, non-irrigated	35,000	SF	0.50	17,500	8,421	25,921
	California Nursery Archive Building						
	Architectural Restoration	1,756	SF	100.00	175,600	84,503	260,103
	New resilient flooring						

PGA design

California Nursery Historical Park Master Plan

Opinion of Probable Construction Cost: Conceptual Submittal

01/06/17

ITEM NO.	DESCRIPTION	EST. QTY	UNIT	UNIT COST	ITEM COST	MARK UP	TOTAL COST
	Paint interior walls						
	Provide insulation & new ceiling drywall to the bottom of the trusses						
	Provide new HVAC						
	Structural:	1,756	SF	25.00	43,900	21,126	65,026
	Replace asphalt shingle roofing & repair damaged roof diaphragm						
	Install new sill plate washers						
	Surrounding Site:						
	Footpaths, colored concrete	750	SF	12.00	9,000	4,331	13,331
	Total - Historic Orchard & California Nursery Archive Building						**435,776**
13	**Orchard Pergola**						
	Curved monumental pergola, steel /stone structure, 210' long	4,200	SF	100.00	420,000	202,113	622,113
	Seatwalls, stone	200	LF	250.00	50,000	24,061	74,061
	Curved walkway, stone paving	6,000	SF	35.00	210,000	101,057	311,057
	Paved circle, stone, 35' diameter	1,000	SF	35.00	35,000	16,843	51,843
	Stepping stones	170	LF	50.00	8,500	4,090	12,590
	New paths, stabilized DG	3,100	SF	7.00	21,700	10,443	32,143
	Vines at the pergola, with irrigation	1	LS	5,000.00	5,000	2,406	7,406
	Predominantly open grassland, misc seed/mulch, non-irrigated	10,000	SF	0.50	5,000	2,406	7,406
	Total - Orchard Pergola						**1,118,619**
14	**Boxed Tree Forest & Restroom**						
	Boxed Tree Forest						
	Replace existing trees that have failed, 24" box	6	EA	1,500.00	9,000	4,331	13,331
	New path E/W to interpretive spine, stabilized DG	5,400	SF	7.00	37,800	18,190	55,990
	New trees, 24" box, w/ irrigation, north of forest	12	EA	1,500.00	18,000	8,662	26,662

PGA design

California Nursery Historical Park Master Plan

Opinion of Probable Construction Cost: Conceptual Submittal

01/06/17

ITEM NO.	DESCRIPTION	EST. QTY	UNIT	UNIT COST	ITEM COST	MARK UP	TOTAL COST
	New trees, 15 gal, w/ irrigation, south of forest	15	EA	750.00	11,250	5,414	16,664
	Predominantly open grassland, misc seed/mulch, non-irrigated	50,000	SF	0.50	25,000	12,031	37,031
	New Restroom Building						
	New restroom building (two single user unisex restrooms)	1	LS	100,000.00	100,000	48,122	148,122
	Total - Boxed Tree Forest & Restroom						**297,800**
15	**Picnic Area**						
	Large family / group picnic area - misc seed/mulch, non-irrigated	150,000	SF	0.50	75,000	36,092	111,092
	New sinuous paths, stabilized DG	13,000	SF	7.00	91,000	43,791	134,791
	New trees, 15 gal, w/ irrigation	17	EA	750.00	12,750	6,136	18,886
	Picnic tables	10	EA	2,000.00	20,000	9,624	29,624
	BBQ's	10	EA	650.00	6,500	3,128	9,628
	Trash receptacles	5	EA	800.00	4,000	1,925	5,925
	Benches	5	EA	1,000.00	5,000	2,406	7,406
	Total - Picnic Area						**317,352**
16	**Vallejo Adobe**						
	Adobe - Adaptive Reuse - Special Events facility						
	Patch minor spalls & cracks in adobe walls	1	LS	5,000.00	5,000	2,406	7,406
	Surrounding Site						
	Remove exstg fence	1	LS	750.00	750	361	1,111
	Restore gardens	2,625	SF	6.50	17,063	8,211	25,273
	Footpaths, stabilized DG	2,400	SF	7.00	16,800	8,085	24,885
	Walkway, stone paving	1,000	SF	35.00	35,000	16,843	51,843
	Stepping stones	20	LF	50.00	1,000	481	1,481
	Open space - around adobe, open grassland, misc seed/mulch	23,000	SF	0.50	11,500	5,534	17,034

PGA design

California Nursery Historical Park Master Plan

Opinion of Probable Construction Cost: Conceptual Submittal

01/06/17

ITEM NO.	DESCRIPTION	EST. QTY	UNIT	UNIT COST	ITEM COST	MARK UP	TOTAL COST
	New trees, 15 gal, w/ irrigation	10	EA	750.00	7,500	3,609	11,109
	Provide screening shrubs around non-historic restroom building	1	LS	6,500.00	6,500	3,128	9,628
	Total - Vallejo Adobe						**149,770**
17	**Roeding Family Home**						
	Future Roeding Family Home renovation (excluded)	1	LS	-	-	0	-
	Total - Roeding Family Home						**0**
18	**Irrigation to Existing Trees**						
	Irrigation backflow, controller, valves & main lines	1	LS	120,000.00	120,000	57,747	177,747
	Laterals & bubblers (4 each) to existing trees	797	EA	300.00	239,100	115,060	354,160
	Total - Irrigation to Existing Trees						**531,907**
19	**Site Utilities**						
	Domestic water line	2,000	LF	75.00	150,000	72,183	222,183
	Backflow preventer device, domestic	1	EA	5,500.00	5,500	2,647	8,147
	Connect to existing domestic water service	1	EA	3,000.00	3,000	1,444	4,444
	Fire water line	1,800	LF	95.00	171,000	82,289	253,289
	Backflow preventer device, fire	2	EA	15,000.00	30,000	14,437	44,437
	Connect to existing fire water service	2	EA	4,000.00	8,000	3,850	11,850
	Sanitary sewer	2,500	LF	65.00	162,500	78,199	240,699
	Sewer manhole/cleanout	10	EA	3,000.00	30,000	14,437	44,437
	Connect to existing sewer	6	EA	2,000.00	12,000	5,775	17,775
	Storm drain	1,000	LF	75.00	75,000	36,092	111,092

PGA design

California Nursery Historical Park Master Plan

Opinion of Probable Construction Cost: Conceptual Submittal

01/06/17

ITEM NO.	DESCRIPTION	EST. QTY	UNIT	UNIT COST	ITEM COST	MARK UP	TOTAL COST
	Storm drain manhole	5	EA	3,000.00	15,000	7,218	22,218
	Connect to existing storm drain	3	EA	2,000.00	6,000	2,887	8,887
	Stormwater treatment area	4	EA	10,000.00	40,000	19,249	59,249
	Site gas allowance	1	LS	50,000.00	50,000	24,061	74,061
	Site electrical allowance	1	LS	250,000.00	250,000	120,306	370,306
	Total - Site Utilities						**1,493,072**

THIS PAGE INTENTIONALLY LEFT BLANK

Section F:
Site Utilities – Existing & Proposed

This report summarizes BKF Engineers' review of the proposed conditions information for the California Historical Nursery site located at 36501 Niles Blvd., Fremont, California. The following summary is based on the preferred plan provided by PGA Design, 12/12/16.

The following table lists the proposed and existing buildings proposed to receive new utility services. (Existing utility connections assumed to remain in service are indicated as (E).

Building	Domestic Water	Fire Water	Sanitary Sewer	Storm Drain (CS3)
Office	(E)	(E)	X	X
Café	X	X	X	X
Interpretive Center	X	X	X	X
President's House	(E)		(E)	
Community Garden/ Retail Nursery	X			X
Full Commercial Kitchen (Office)			X	X
Adobe				
Packing Shed				
Classroom	X	X	X	X
Restroom	(E)		(E)	
Water Tower "1"				
Water Tower "2"	X		X	X
Archive Building	X	X	X	X
Roeding House	(E)		X	
Restroom	X	X	XX	

Sanitary Sewer

New sanitary sewer service will be needed for 11 buildings (8 new buildings and 3 existing converting from septic tanks). Most of the new services can be provided by connecting to the existing 12" public main running through the site in Nursery Avenue. Depending on Union Sanitary District (USD) connection requirements and fees, it may be more cost-effective to limit the number of new connections to this main by collecting the new building services to one new private manhole and then construction one new connection to the USD main in Nursery Avenue. The remaining proposed sewer services can be provided by a new lateral in the east parking lot connected to the existing 8" sewer main in Niles Boulevard.

Storm Drain

Storm drainage improvements for the proposed plan will require a new connection to the existing 60” storm drain line in Nursery Avenue and a new connection to the SD system in Niles Boulevard owned and maintained by the City of Fremont. Ideally, these new connections can be made at existing SD structures already connected to the 60” SD system to minimize construction costs.

Current NPDES C3 regulations will require all runoff from new or replaced impervious areas to either be infiltrated onsite or treated in landscaped areas before connecting to the public SD system. Given that the site is largely landscaped, most storm drain requirements can be met by discharging to the ground away from building or roadway structures. In areas of more concentrated impervious areas (ie. new parking areas, new pedestrian courtyards, and new building roofs), storm flows will need to be directed to landscaped treatment areas that will likely require subdrainage to drain sufficiently.

These treatment areas will also need to have overflow drains to allow larger rain events to be directly conveyed to the SD system.

Water

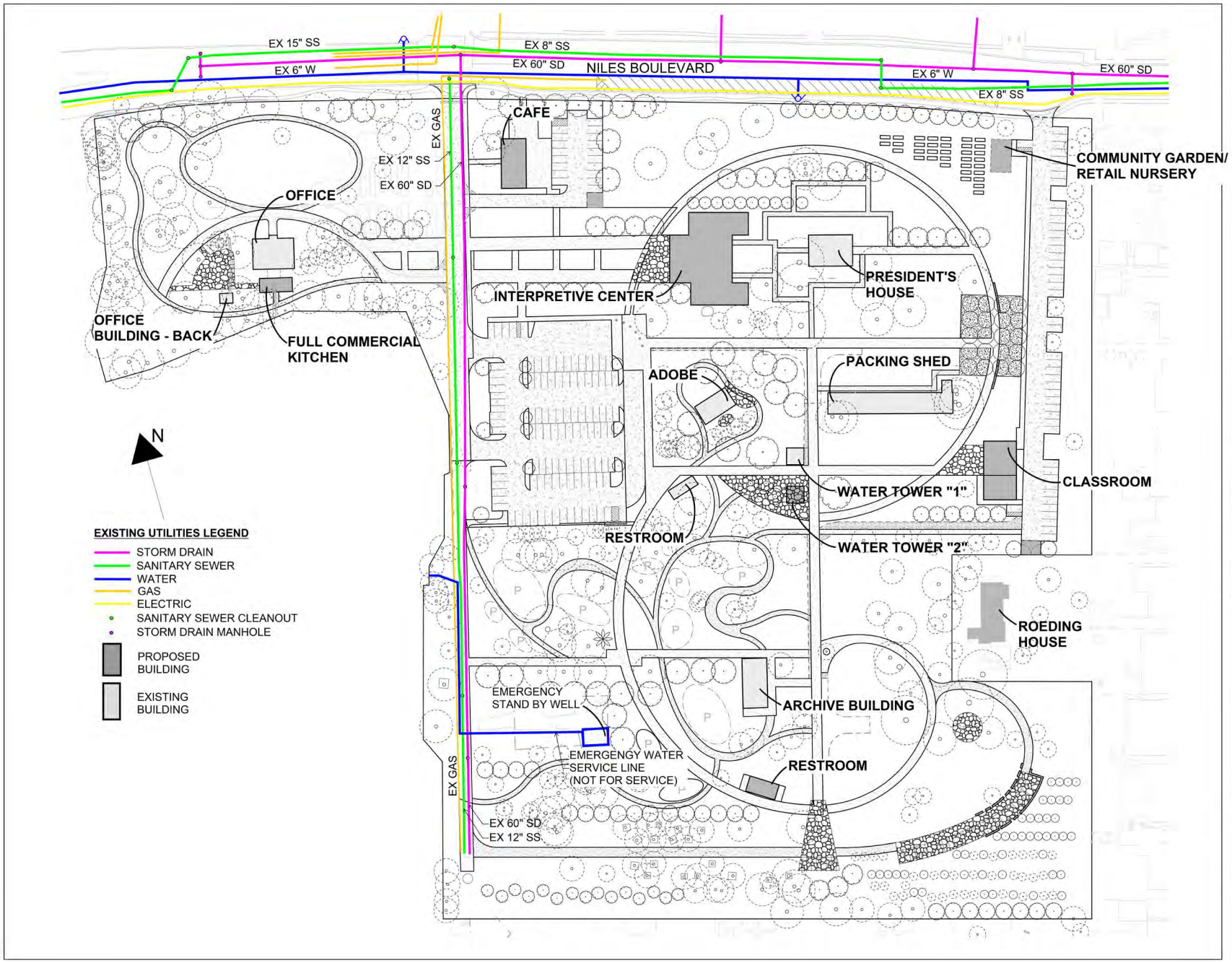
Metered water service provided by Alameda County Water District (ACWD) will be required forproposed domestic water connections for 8 buildings. A new water meter, sized to meet the proposed demands, will need to be located near the property line. Unmetered fire service will be required to provide sprinkler protection for all new buildings, as well as six new fire hydrants on site. The onsite fire service will consist of a looped system connected to the public ACWD main in Niles Boulevard, with backflow protection at both connection points.

ACWD owns and maintains an emergency water supply well located on site. The existing 10” water main connected to this well is located onsite in Nursery Avenue and is not available for service connections.

Irrigation demands for the site are proposed to be met by a new irrigation well located in the center of the site. Coordination will be required with ACWD for permitting and installation.

Gas, Electric, and Telecommunications

Gas and electric service is provided to the site by Pacific Gas & Electric (PG&E). All new buildings will require electrical connections.



PGAdesign
LANDSCAPE ARCHITECTS
tel 510.465.1284 url PGAdesign.com
444 17th Street OAKLAND CA, 94612

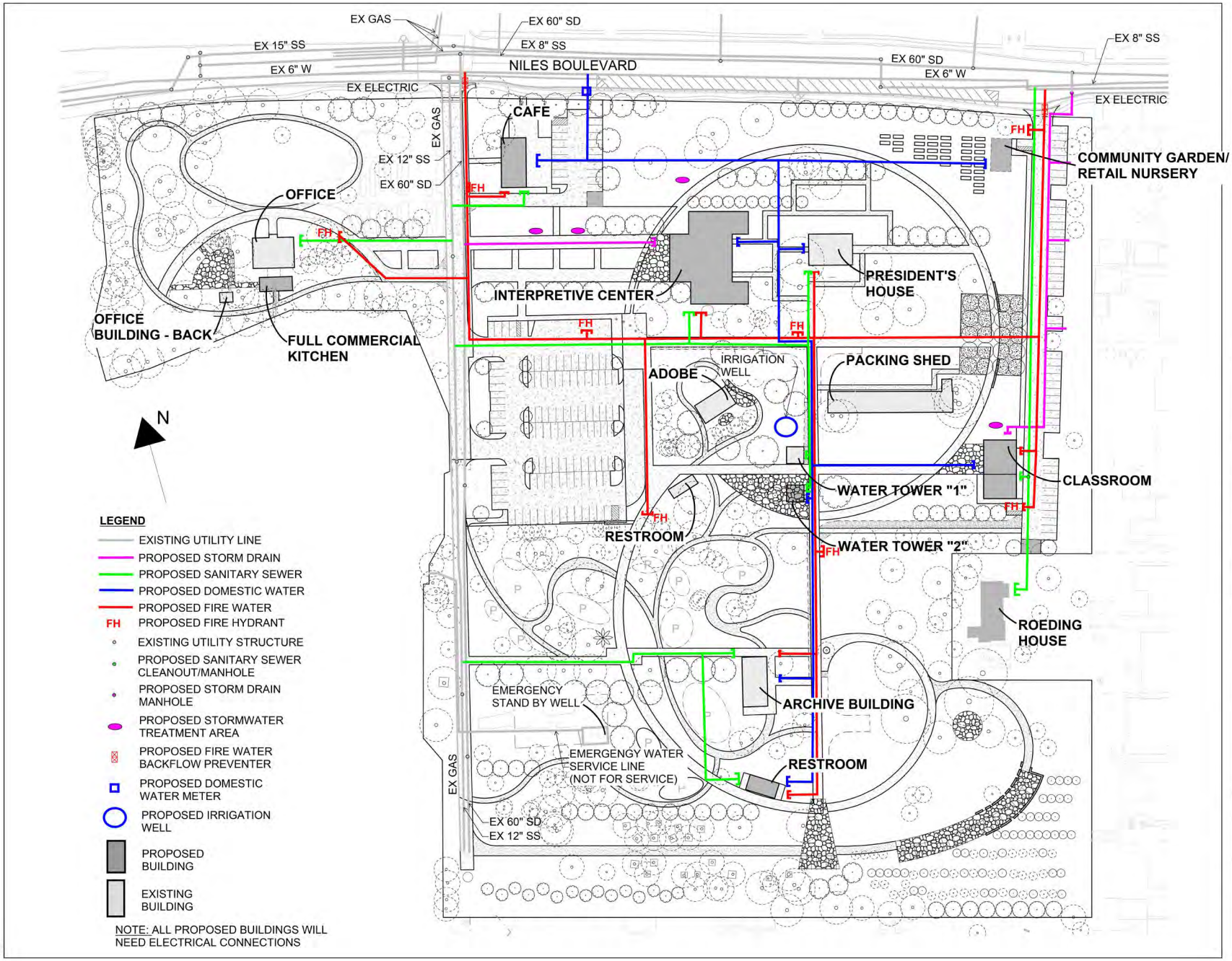
BKF
Engineers | Surveyors | Planners
4670 WILLOW RD., SUITE 250
PLEASANTON, CA 94588
925/396-7700 (TEL)
925/396-7799 (FAX)

CALIFORNIA NURSERY MASTER PLAN
3650 NILES BOULEVARD, FREMONT, CA 94536

EXISTING UTILITY PLAN

DATE 12/23/2016
SCALE 1" = 40'
DRAWN ZS
CHECKED BY BR

C1.01
OF SHEETS



PGAdesign
LANDSCAPE ARCHITECTS
tel 510.465.1284 url PGAdesign.com
444 17th Street Oakland CA 94612

BKF
ENGINEERS / SURVEYORS / PLANNERS
4670 WILLOW RD., SUITE 250
PLEASANTON, CA 94588
925/396-7700 (TEL)
925/396-7799 (FAX)

CALIFORNIA NURSERY MASTER PLAN
3650 NILES BOULEVARD, FREMONT, CA 94536

DRAWING TITLE
PROPOSED
UTILITY PLAN

DATE 12/23/2016
SCALE 1" = 40'
DRAWN ZS
CHECKED BR

C1.02
OF SHEETS

FIRE – Team Based Review

Project Name:	**California Nursery Draft EIR**
Project Number:	**TBD**
Reviewer:	**Jay Swardenski**
Plan Check Cycle	**Preliminary**
Date Completed:	**1/11/2017**
Team Lead:	**Roger Ravenstad**

In general, as additional or revised information is provided, the City reserves the right to make additional comments through the plan check process.

Please submit the following items with the next review submittal package. If any of the following items are not included, the submittal may be considered incomplete.

- Final EIR
- Fully dimensioned site plan.

GENERAL COMMENTS
The following are general comments and guidelines that apply to this review:

The applicant shall meet all requirements of the currently adopted edition of the California Building, Fire and City of Fremont Municipal Codes in effect at the time of building permit/ business license application.

All new structures, or those adaptively reused such that the occupancy group is changed, will need to be retrofit with an approved automatic fire extinguishing system (AFES). This would include the proposed change in use to the Presidents House (pg. 14) and the reconstructed Ogata Lath Structure (pg. 12).

Public Safety Requirements:

Access:
Fire Department access roadways shall be a minimum of 20’ clear width and meet Fire Department standards for surface type, distance, weight loads (75,000 lbs.), turn radii, grades (<15%), and vertical clearance (13’6”). Turnarounds or through circulation shall be required for distances over 150 feet from public streets.

Manual vehicle gates shown (Pg.10) at the Nursery and Community Garden entrances and across interior fire department access roads (end of parking lot, Roeding parcel) shall use Knox padlock or Knox box at the gate to gain entry to or through the site. Automatic gates shall be equipped with a Knox keyed over-ride switch and an approved infrared receiver.

The draft EIR mentions bollard (pg. 11) placement, however the reviewer was not able to locate them on the site plans included. Clarify their location with next submittal.

Water Supply:

Fire hydrant(s) may be spaced at 500 feet intervals, or as needed to attain the needed fire-flow, or connectivity to fire department connections (FDCs).

Provide detailed fire flow information for the site. Note: The Fremont Fire Department allows a reduction in fire flow up to 50% for buildings with an Automatic Fire Extinguishing system installed throughout them.

Pre-Construction:
Prior to construction the applicant shall provide fire hydrant(s) with the required fire flow on site prior to construction or storage of combustible materials. Fire hydrant jumper lines must be at least 6 inches in diameter. This must be completed and inspected before any construction or material storage will be allowed.

The applicant shall provide a 20 ft wide all weather-paving surface (paving) for emergency vehicle access within 150 feet of all construction or combustible storage. This access shall be provided before any construction or combustible storage will be allowed.

Separate permits are required for the underground fire service, fire sprinkler, and fire alarm systems. Plans and specifications for the underground fire service line must be submitted to the Plans and Permit Center for approval by the Fire Department and Building Department prior to installation. The underground fire service requires either cathodic protection or a corrosion engineer's protection plan.

Construction:
Specific comments will be provided for each subsequent application for site improvement, building or MEP permit.

END OF COMMENTS

NURSERY AVENUE - MAIN ENTRY - ROSE GARDEN/DISPLAY GARDEN

The historic main entry at Nursery Avenue will be retained. The wooden gateway sign will be restored and the security gate repaired or replaced. New palm trees will be used to extend this feature to the southern park boundary. At the end of Nursery Avenue in the southwest corner of the park there is space for a prominent element that will provide a focal point for visitors as they enter the park. The existing rose garden and the historic roses will be retained. Roses may also be planted in other areas of the park.

OFFICE - GREAT LAWN

Historically the office and Great Lawn were the primary event space at the California Nursery where visitors would gather for picnics and other major events. The master plan will restore the office building and two existing restrooms in the building. The master plan shows an addition to the south side of the office that will add restrooms and a kitchen. A new patio is shown west of the office – and away from adjacent neighbors - that could be used as a dance floor or as set up space for a caterer for functions taking place here. The road to the office will be extended to allow equipment drop-off at the patio. The historic Changing Room will be used for storage and as a changing room for brides, as it was used historically. The display gardens will be rehabilitated. Pathways around the Great Lawn will be improved and dense planting will be added to mitigate sound from Niles Boulevard. The middle section of the fence will be kept open for views into the garden and a transparent fence/wall will reduce vehicular noise. New shrubs will be added to buffer sound where the park abuts residences. With these additions, the Office/Great Lawn area will be suitable as a rentable event venue. A small corp yard, for tools and supplies for park volunteers, may be added in the west area of the Office.

VISITOR INFORMATION BUILDING AT THE PARK ENTRY & PARKING

A new visitor information building is shown at the park entry with an outdoor terrace and designated parking (17 regular and one accessible space) immediately adjacent to the building. The visitor information building may also include a cafe - temporarily or permanently. This depends on the nature of the future development of the Interpretive/Education Center.

PARKING OFF NURSERY AVENUE

The primary parking area remains where it is today and is accessed from Nursery Avenue. Parking for 105 cars, plus four accessible parking spaces and drop-off space for 2 buses is provided at this location. A metal high lath structure similar to the lath structures used to shade nursery plants, is shown over the cars. The purpose of the structure is to screen cars and more importantly to reintroduce what was once an important feature of the California Nursery. Multiple paths will lead from the parking lot to other areas in the park. The extent and exact location of the lath structure has some flexibility.

PICNIC AREA

The space between the Boxed Tree Forest and the lath-covered parking retains a very pleasant open feeling that is nicely shaded by a canopy of tall trees. This area of the site includes a rich variety of tree species and as such is an important part of the arboretum that will be featured and interpreted throughout the park. New plantings in this area could be added to create a permaculture demonstration area that will be overseen by a Master Gardener program. Groupings of a variety of shorter palm specimens are a distinctive feature of this space. The plan proposes this area for family and group picnicking – a quiet activity that will benefit from the shade. Sinuous paths weave through this area to protect tree roots from compaction, and connect to the interpretive spine and two restrooms. Facilities for up to 250 are provided with tables, bar-be-ques and prep tables.

INTERPRETIVE CENTER

A new, single story 9,000 square foot, or two-story 18,000 square foot interpretive/education center will house historic artifacts and exhibits telling the story of the Roeding family, the California Nursery and the City of Fremont's role in California's rich agricultural heritage. On the west side of the center, wide stone walkways at either side of ornamental planting beds and framed by hedgerows form a grand entrance to the center and interpretive elements of the historic nursery. These beds will be an artistic interpretive display of "the character of the nursery". This space could be cordoned off to create another event venue. Pathways and planting east of the center connect to the complex of buildings and outdoor spaces on the east side of the center. These connections provide flexibility for outdoor events of varying size. A temporary plaza may be constructed where the stone walkway meets Nursery Avenue. It will serve as a gathering area and include signs that depict the future plans for the park. Optionally, the location of the Interpretive/Education Center may be considered for the area south of the main parking lot and would be laid out to avoid conflicts with historic trees.

VALLEJO ADOBE

The Vallejo Adobe lies at the center of the park. The existing fence will be removed and replaced with a low fence and barrier plants. The gardens will be interpreted to more accurately reflect a California-era garden. The non-historic restroom building adjacent to the adobe will be screened with shrubs. The storage space and restrooms will be upgraded and possibly enlarged.

ARBORETUM WAY - INTERPRETIVE PROGRAM

Many of the park facilities are connected to an interpretive spine that follows the alignment of a major circulation road in the nursery. It will be anchored at one end by the President's House and at the south with a plaza and metal trellis. Interpretive material telling the history of the nursery and environs will be displayed at each end and all along the spine. Another paved gathering area at the mid point features the two water tanks. Multiple pedestrian paths connect the other features in the park to the spine.

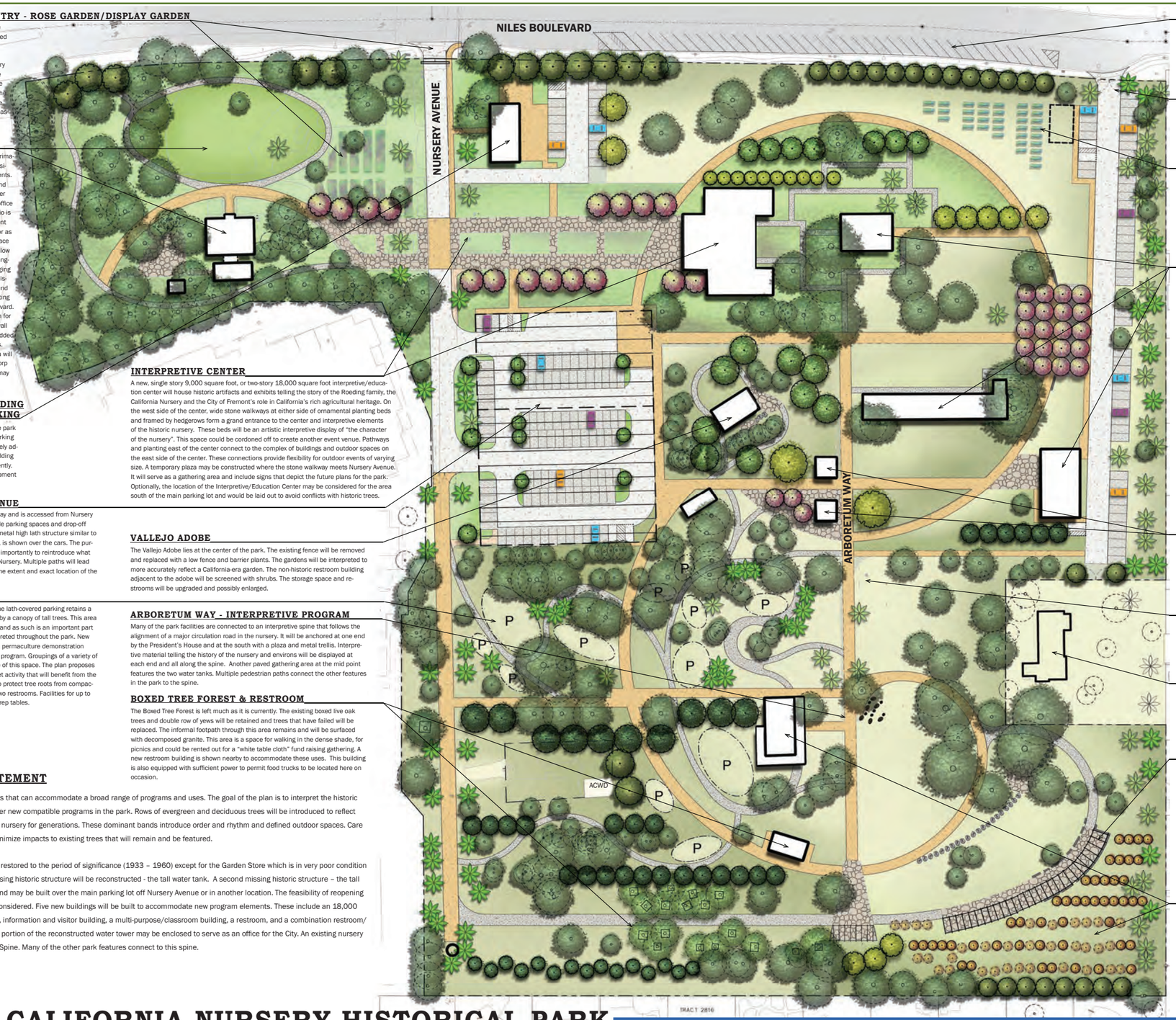
BOXED TREE FOREST & RESTROOM

The Boxed Tree Forest is left much as it is currently. The existing boxed live oak trees and double row of yews will be retained and trees that have failed will be replaced. The informal footpath through this area remains and will be surfaced with decomposed granite. This area is a space for walking in the dense shade, for picnics and could be rented out for a "white table cloth" fund raising gathering. A new restroom building is shown nearby to accommodate these uses. This building is also equipped with sufficient power to permit food trucks to be located here on occasion.

DESIGN CONTEXT STATEMENT

The park master plan shows improvements that can accommodate a broad range of programs and uses. The goal of the plan is to interpret the historic nursery and add new facilities that will offer new compatible programs in the park. Rows of evergreen and deciduous trees will be introduced to reflect the rows of trees that were lined up in the nursery for generations. These dominant bands introduce order and rhythm and defined outdoor spaces. Care has been taken throughout the park to minimize impacts to existing trees that will remain and be featured.

The historic buildings will be retained and restored to the period of significance (1933 – 1960) except for the Garden Store which is in very poor condition and will be demolished. One currently missing historic structure will be reconstructed - the tall water tank. A second missing historic structure – the tall lath house – will be interpreted in metal and may be built over the main parking lot off Nursery Avenue or in another location. The feasibility of reopening the arches of the Office Building may be considered. Five new buildings will be built to accommodate new program elements. These include an 18,000 square foot Interpretive/Education Center, information and visitor building, a multi-purpose/classroom building, a restroom, and a combination restroom/kitchen near the office building. The lower portion of the reconstructed water tower may be enclosed to serve as an office for the City. An existing nursery road will become the primary Interpretive Spine. Many of the other park features connect to this spine.



NILES BOULEVARD IMPROVEMENTS

Under a separate contract, Niles Boulevard and the intersection at Nursery Avenue will be improved. As part of that work, 37 new, diagonal parking spaces will be created along the north property line of the park. These spaces are included in the 218 count needed for the park.

NORTHEAST CORNER - SECONDARY ENTRY

Additional parking is shown along the east property line – between the historic palms planted by John Rock. Additional palms will be planted to reinforce this feature. This area will accommodate 51 standard plus 3 accessible parking spaces and can be accessed from the secondary entry gate.

COMMUNITY GARDEN

The community gardens are located in the northeast corner adjacent to nearby parking along the east property line. The gardens will be fenced and visible from Niles Boulevard. A row of trees will provide a buffer between the garden and street. Alternatively, this area could provide space for a 1 ½ to 2-acre boutique nursery.

PRESIDENT'S HOUSE – PACKING SHED – CLASSROOM BUILDING COMPLEX

Two of the oldest and most important historic buildings on the property are the President's House and the Packing Shed. Both will be retained and rehabilitated. The master plan proposes to add a third, new building to this complex, near the Packing Shed. It will contain a bathroom and enough power and counter space for a warming kitchen. The new building is located beyond the safety zone defined by a fault line in the northeast corner of the site. The new building is intended to be a multi-purpose space. It can be used as a classroom for students on field trips or used for an adult education program. A terrace will provide a flexible outdoor venue associated with the classroom building.

The President's House and gardens will be used as rentable event space. The gardens will be interpreted on all sides of the home and will feature shrubs and perennials from the historic period. The Packing Shed will retain its rustic open-shed character and will be used to house the historic pick-up trucks and other machinery used at the California Nursery.

The open space enclosed between the President's House, the Packing Shed, and the new Bosque of trees will be used as an outdoor area for events taking place in these buildings. Small events could be focused in one building and large events could use both buildings plus the central space defined by them. The location of the multi-purpose classroom may be adjusted to minimize impacts to owl habitat.

WATER TOWERS

The existing water tower base will be stabilized and a replacement water tank added. The second, high water tower and tank will be reconstructed based on available historic documents. The base of the new structure will be enclosed to create a one or two story office or storage facility for the City. This iconic element could afford views from the top overlooking the park and environs.

LONG MEADOW

An open tree-studded meadow is shown between the Packing Shed and historic orchard in the southeast corner of the park. This is a flexible space that could be used for informal gatherings associated with other park activities, or for the community garden.

ROEDING FAMILY HOME

The city may acquire this property in the future and incorporate it into the park. The house and property will be used to interpret the Roeding Family history in relation to the California Nursery, and for other park purposes. The property includes driveway access to Hillview Drive and a connection to the new parking.

ORCHARD PERGOLA

A gracefully curving path and vine-covered pergola will be built in the orchard. This 210-foot long structure with stone columns and stout metal trellis structure will be custom-crafted to reflect the historic nursery and engage modern elements. Its sculptural form will be open – inviting visitors to walk into and through the orchard - the trees and structure woven together. A 90-foot long seat-height stone wall will anchor the terminus of the structure creating another special place within the park where small groups may gather. Also, a 35-foot diameter paved circle of stone, located beneath the canopy of mature trees, can be used for weddings or larger group activities.

HISTORIC ORCHARD & CALIFORNIA NURSERY ARCHIVE BUILDING

The historic orchard in the southeast corner of the site will be expanded and will provide a buffer between more active park uses and the adjacent residences.

The California Nursery Archive Building (previously known as the ROP Building) will be converted to an archive for historic material and will be temperature controlled. A deck and veranda will be built on three sides. The space east of the building will provide a venue for small events like lectures or a gathering place for garden tours. A historic relocated bunkhouse may be brought to the park and integrated into the plan.

The Legacy of CALIFORNIA NURSERY Historic Park
the root of an industry

CALIFORNIA NURSERY HISTORICAL PARK MASTER PLAN

SEPTEMBER 29, 2017

DESIGN TEAM

PGAdesign inc. - Landscape Architect
Carey & Company - Historic Architect
BKF Engineers - Civil Engineer
Lamphier-Gregory - Environmental Consultants
Pivot Engineering - Structural Engineer
HortScience - Arborist
Land Economics Consultants - Financial Advisor
Leverton & Associates - Cost Estimator
Math Science Nucleus - Historic Advisor

City of Fremont

PGAdesign
LANDSCAPE ARCHITECTS

THIS PAGE INTENTIONALLY LEFT BLANK

PGAdesign

LANDSCAPE ARCHITECTS

The Legacy of CALIFORNIA NURSERY Historic Park

the root of an industry

PGAdesign[inc] 444-17th Street Oakland, CA 94612 t 510 465 1284 PGAdesign.com