UPDATED 11-22-99
UPDATED 11-21-19
City of St. Helena
Regular City Council Meeting
Tuesday, November 26, 2019 @ 6:00 PM
Vintage Hall Board Room - Second Floor
465 Main Street, St. Helena

PLEASE NOTE: Any person who wishes to speak regarding an item on the agenda or make a comment under the "Oral Communication" portion of the agenda may do so, but please observe the time limit of four minutes.

Page

1. CALL TO ORDER

2. PLEDGE OF ALLEGIANCE

3. ROLL CALL
Mayor: Geoff Ellsworth, Vice Mayor: Paul Dohring, City Council Members: Anna Chouteau, David Knudsen and Mary Koberstein

4. PUBLIC FORUM:
Members of the public are entitled to speak on matters of municipal concern not on the agenda during Public Forum. Each person's comments shall be limited to 4 minutes. Each person is entitled to speak on any non-agendized item only once at any meeting. Brief questions by Council Members for clarifications may be posed and answered, and Council Members may make requests that items be placed on future agendas, but in accordance with state law, no substantive discussion or action may take place unless and until the matter properly appears on the agenda.

4.1. Public Comment.Susan Kenward 7 - 9

5. REPORTS BY STAFF AND CITY COUNCIL, FUTURE AGENDA ITEMS, AND AB 1234 REPORTS:
Reports by staff and/or Council Members on items of general interest. Brief questions for clarification may be posed and answered, and Council Members may request that items be placed on a future agenda. Except under certain circumstances, the Brown Act prohibits any other discussion or action by the City Council.

6. PRESENTATIONS AND PUBLIC RECOGNITIONS

6.1. None

7. STAFF BRIEFING

7.1. Upper York Creek Dam Project Update by Erica Ahmann Smithies, Public Works Director and City Engineer

7.2. Update on Waste Water Treatment Plant Upgrade Project by Erica Ahmann Smithies, Public Works Director and City Engineer

8. CONSENT ITEMS
Members of the Council or the public may ask that any items be considered

individually for purposes of considering alternative action, for extended discussion, or for public comment. Unless that is done, one motion may be used to adopt all recommended actions. (Roll Call Vote)

8.1. Consideration and proposed approval of Regular Meeting Minutes of October 8, 2019 and October 22, 2019 (to be provided prior to the meeting) 11 - 29

CEQA Determination: Not a CEQA project
Prepared By: Cindy Tzafopoulos, City Clerk
Recommendation:
Staff recommends adopting the minutes.

Regular City Council - 08 Oct 2019 - Minutes
Regular City Council - 22 Oct 2019 - Minutes

8.2. UPDATED STAFF REPORT 11-22-19 31 - 37
UPDATED STAFF REPORT AND ATTACHMENT 11-19-19
Consideration and approval of a Resolution adopting rental fees for use of the Crane Park Baseball Fields for private, organized, commercial use in the amount of $100 per use for residents and $125 per use for non-residents.

CEQA Determination: Not a CEQA project
Prepared By: Andre Pichly, Parks & Recreation Manager
Recommendation:
Staff recommends the City Council adopt the resolution authorizing rental fees for use of the Crane Park Baseball Fields private, organized, commercial use in the amount of $100 per use for residents and $125 per use for non-residents.

Staff Report - Pdf
Public Comment.Bobbi Monnette

8.3. Consideration and approval of a resolution authorizing: (1) the lease-purchase of a Ford F-450 in an amount not-to-exceed $100,100 financed over a five-year period with Enterprise Fleet Management; (2) the lease-purchase of a Ford F-550 in an amount not-to-exceed $141,530 financed over a five-year period with Enterprise Fleet Management; and (3) authorizing the City Manager to execute all documents necessary for the lease-purchase of both vehicles. 39 - 54

CEQA Determination: Not a CEQA project
Prepared By: April Mitts, Finance Director
Recommendation:
Staff recommends City Council approve a resolution authorizing: (1) the lease-purchase of a Ford F-450 in an amount not-to-exceed $100,100 financed over a five-year period with Enterprise Fleet Management; (2) the lease-purchase of a Ford F-550 in an amount not-to-exceed $141,530 financed over a five-year period with Enterprise Fleet Management; and (3) authorizing the City Manager to execute all documents necessary for the lease-purchase of both vehicles.

Staff Report - Pdf

8.4. Consideration and proposed approval of Amendment No. 1 in the amount of $12,200 to Professional Services Agreement with Napa County Resource Conservation District STH Contract: 2019-036 for Mitigation Monitoring on the Upper York Creek Dam Removal Project for a new not-to-exceed amount of $30,000. 55 - 78

CEQA Determination: Environmental Impact Report (SCH. No. 2006092096)
Prepared By: Erica Ahmann Smithies, Public Works Director and City Engineer
Recommendation:
Staff recommends the City Council approve a resolution authorizing Amendment No. 1 to the professional services agreement with Napa County Resource Conservation District STH Contract: 2019-036 for an additional $12,200 for a total not-to-exceed contract amount of $30,000.

Staff Report - Pdf

8.5. Consideration of proposed approval of a resolution authorizing Amendment #1 to the professional services agreement with Dudek for an additional $78,650 for a total not-to-exceed contract amount of $313,161 in order to complete the Hunter Subdivision Environmental Impact Report (EIR). 79 - 90

CEQA Determination: Categorically Exempt, Section 15323
Prepared By: Aaron Hecock, Acting Planning & Building Director
Recommendation:
Staff recommends the City Council approve a resolution authorizing Amendment #1 to the professional services agreement with Dudek for an additional $78,650 for a total not-to-exceed contract amount of $313,161.

Staff Report - Pdf

9. PUBLIC HEARINGS

9.1. Proposed adoption and second reading of an ordinance amending Title 15, Buildings and Construction of the St. Helena Municipal Code, adopt and amend in full the 2019 California Building Standards Code, Title 24. 91 - 168

CEQA Determination: Exempt from the requirements of CEQA under the "General Rule", Section 15061 (b)(3), in that it can be seen with certainty that the proposed action will have no impact on the environment.
Prepared By: Philip Henry, Chief Building Official
Recommendation:
The Planning and Building Department recommends the City Council:

1. Find the proposed amendments to the Building Code are exempt from CEQA under Section 15061 (b) (3) the 'General Rule'; and
2. Conduct a second reading of the draft Ordinance (Attachment

1), adopt by title only and waive further reading.

Staff Report - Pdf

10. OLD BUSINESS

10.1. *UPDATED ATTACHMENT 11-21-19 169 - 325

Annual Elm Tree Tunnel Update and Presentation of Tree Risk Assessment and Review of existing Elm Tree Management Plan by consultant HortScience, a division of Bartlett Consulting

CEQA Determination: Exempt
Prepared By: Carlos Uribe, Assistant Public Works Operations Manager
Recommendation:
Review and provide direction to staff.

Staff Report - Pdf
Final Elm Tunnel Risk Assessment Report
11.25.19 HBC Elm Tunnel presentation

10.2. UPDATED TITLE AND STAFF REPORT 11-21-19 327 - 404

Discussion and Direction Regarding Process Options for Decisions Related to Civic Building Site Selection, Construction, and Financing Options including Unfunded Stormwater and Streetscape Improvements, and Consideration of a Resolution to Memorialize the City Council's Preferred Approach and Desired Scope/Mission.

CEQA Determination: Not a CEQA project
Prepared By: Preya Nixon, Asst. to the City Manager
Recommendation:
Provide direction to the City Manager.

Staff Report - Pdf
Public Comment.Thomas Allen
Options Presentation
Public-Private Partnerships in California

11. NEW BUSINESS

11.1. Consideration to adopt a resolution authorizing the City to enroll in the 100% renewable energy option with Marin Clean Energy and authorizing use of reserves and fund balances for: (1) General Fund Utilities of $5,570, (2) Water Fund Utilities of $5,125, and (3) Wastewater Fund Utilities of $2,645 to cover the additional energy costs for the remainder of Fiscal Year 2019-20. 405 - 414

CEQA Determination: Not a "project" as defined by State CEQA Guidelines Section 15378(a); Further, even if deemed a "project", otherwise exempt from CEQA under the common sense exemption set forth in Section 15061(b)(3).
Prepared By: Erica Ahmann Smithies, Public Works Director and City Engineer
Recommendation:
Staff recommends the City Council adopt a resolution authorizing the City to enroll in the 100% renewable energy option with Marin Clean

Energy and authorizing use of reserves and fund balances for: (1) General Fund Utilities of $5,570, (2) Water Fund Utilities of $5,125, and (3) Wastewater Fund Utilities of $2,645 to cover the additional energy costs for the remainder of Fiscal Year 2019-20.

Staff Report - Pdf

12. ITEMS LIKELY TO BE PLACED ON THE NEXT OR FUTURE MEETING AGENDA:

12.1.

December City Council Meetings: **12/10 (staff reports due 10/25)** **12/24 Cancelled** **TBD Joint P&R\ATSC\City Council Mtg (Dec)** **The City of St. Helena is changing the frequency of the utility billing cycle from monthly to bi-monthly starting January 1, 2020**
PROCLAMATIONS/PUBLIC RECOGNITION/STAFF BRIEFING:
Honor and recognize committees (December or January)
SB - Upper York Creek Dam Project Update by Erica Ahmann Smithies, Public Works Director and City Engineer
SB - Update on Waste Water Treatment Plant Upgrade Project by Erica Ahmann Smithies, Public Works Director and City Engineer
CONSENT:
Declare end of emergency
Joint use agreement with SHUSD for the use of Vintage Hall (Expires February 2020)
NOC for paving projects
NOC (R19-79)
NOC (Hunt)
Out of state travel for library staff member
Mead & Hunt PSA Amendment
OLD BUSINESS:
Park light improvement light study
Add back list (Paying down PERS- Prefunding medical)
PH or NEW BUSINESS:
Williamson Act (493 Dowdell Lane)
Prop 68 per capita program
PH - Measure T Project List
PH Sewer Annexation 1057 Pratt Avenue

13. ADJOURNMENT

The next Regular City Council meeting is scheduled for December 10, 2019, at 6:00 p.m. in the Vintage Hall Board Room located at 465 Main Street.

This agenda was posted at City Hall, 1480 Main Street, and at Vintage Hall, 465 Main Street, St. Helena, California on ~~November 15, 2019~~. ~~Reposted 11-21-19~~ Reposted 11-22-19

Cindy Tzafopoulos, City Clerk

In Compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please call the City Clerk's Office (707) 967-2792. Notification 72 hours prior to the meeting as required by Section 202 of the Americans with Disabilities Act will enable the City to make reasonable arrangements to ensure accessibility to this meeting

CHALLENGING DECISIONS OF CITY ENTITIES

The time limit within which to commence any lawsuit or legal challenge to any quasi-adjudicative decision made by the City of St. Helena is governed by Section 1094.6 of the Code of Civil Procedure, unless a shorter limitation period is specified by any other provision, including without limitation Government Code section 65009 applicable to many land use and zoning decisions, Government Code section 66499.37 applicable to the Subdivision Map Act, and Public Resources Code section 21167 applicable to the California Environmental Quality Act (CEQA). Under Section 1094.6, any lawsuit or legal challenge to any quasi-adjudicative decision made by the City must be filed no later than the 90th day following the date on which such decision becomes final. Any lawsuit or legal challenge, which is not filed within that 90-day period, will be barred. Government Code section 65009 and 66499.37, and Public Resources Code section 21167, impose shorter limitations periods and requirements, including timely service in addition to filing.

If a person wishes to challenge the above actions in court, they may be limited to raising only those issues they or someone else raised at the meeting described in this notice, or in written correspondence delivered to the City of St. Helena, at or prior to the meeting. In addition, judicial challenge may be limited or barred where the interested party has not sought and exhausted all available administrative remedies.

SUPPLEMENTAL MATERIAL RECEIVED AFTER THE POSTING OF THE AGENDA

Any supplemental writings or documents distributed to a majority of the City Council regarding any item on this Agenda, after the posting of the Agenda, will be available for public review in the City Clerk's Office located at 1480 Main Street, St. Helena, California, during normal business hours. In addition, such writings or documents will be made available on the City's web site at https://sthelena.civicweb.net and will be available for public review at the respective meeting.

November 20, 2109,

Good evening,
I am here tonight to encourage you to issue the RFQ/RFP for a small hotel on Adams Street.

If you would refer back to last May, more speakers and letter writers **urged you to move forward** than were opposed. **But** in the face of a smaller but very vocal opposition, a majority of you decided to put the RFQ/RFP on hold until you could see all the cost estimates for City Hall and more. Now these costs are pouring in. They are significant and as we delay finding solutions, one thing is certain - - costs only increase.

I want you to know that there are many residents like myself who want you to move forward. The citizens of St. Helena have been battling it out on Adams for a decade or more. We need a supportive community and Council that puts the greater good for all above our individual priorities. One that address the realities of today and the needs of tomorrow.

It is evident that a hotel on Adams would ensure long term economic stability for the City and help pay for some of our much-neglected infrastructure needs possibly help fund an updated library, a community building, maybe even a decent working environment at our corporate yard?

But beyond the wish for new and improved city infrastructure, we also have a struggling downtown. Pop-ups are filling some of our empty store fronts, but they are not a permanent solution. For this we need a smart, sustainable, economic development strategy that supports businesses and workers and benefits the City and all the residents into the future.

Through the 2018 Downtown Market Study we learned that St. Helena's demographics are currently insufficient to support our businesses. To address this issue, Kosmont recommended that, we consider a luxury hotel on Adams precisely because it is so close and walkable to downtown.

We don't have a business -friendly reputation. There is a "let's-wait-and-see" sentiment in the community. We need to turn the conversation from "do nothing" to "investment in our future". And we need to find the right partners to work with us to go forward in a responsible and sustainable manner. We can either continue to drift or we can move forward. So far, drift has not been pretty.

Are there creative ways a developer could work with the city to create a small hotel on the Adams Street property that would benefit downtown and the City in general? As a community **we will never know** until we see a proposal.

The draft RFQ/RFP that was put on hold in May, envisioned a significantly smaller hotel on less property than 2016. It preserved land for public use. It spoke to the importance of sustainable land planning and architectural design, aesthetic character that respects the neighborhood and community. It preserved walking path to the river, requires a workforce-housing needs profile, and more.

I see no downside. We should **at least look** to see whether there is a willing partner who wants to invest in St. Helena. A firm with proven development experience and the financial wherewithal to deliver a project that **we define** and that has the potential to benefit St. Helena now and for the future.

The new finance committee you are going to discuss later tonight may help you determine how to pay for all the infrastructure work that must be done. But it does not address the equally important need to revitalize our downtown. As for our largest City asset – Adams Street, they will have to operate on guestimates instead of concrete proposals.

But there is no doubt that private investment in a small hotel on Adams will not only yield an immediate cash infusion. It will support business and deliver a long-term revenue stream for the betterment of the entire City.

I encourage you to issue the RFQ/RFP. I think there is a way for almost everyone to get something of what they want.

Thank you for listening. Susan Kenward 1261 Springbrook Court.

MINUTES
City of St. Helena
Regular City Council Meeting
Tuesday, October 8, 2019 @ 6:00 PM
Vintage Hall Board Room - Second Floor
465 Main Street, St. Helena

A complete video recording of this meeting, except for closed session, can be found at https://sthelena.civicweb.net/Portal/ or by calling the City Clerk at (707) 968-2742. The City Council video is the official record of the Council meeting.

Present: Mayor Geoff Ellsworth, Vice Mayor Paul Dohring, Council Member Anna Chouteau, Council Member David Knudsen, and Council Member Mary Koberstein

Absent:

1. CALL TO ORDER

2. PLEDGE OF ALLEGIANCE

3. ROLL CALL

4. PUBLIC FORUM:
No public comment was received.

5. REPORTS BY STAFF AND CITY COUNCIL, FUTURE AGENDA ITEMS, and AB 1234 REPORTS:

City Attorney Michael Biddle reported that the City Council met in closed session and no reportable actions were taken for labor negotiations with the unrepresented employees-mid manager employees, executive staff employees and fire fighters and fire engineers. He further reported in regards to Hall Vineland, LLC and Hall Vista, LLC v. City of St. Helena, City of St. Helena Office of the Director of Public Works; Napa County Superior Court, Case No. 19CV000897, the City Council voted 4-0 to authorize the City Attorney to file a petition with the court of appeal challenging the trial courts decision to over rule the City's demurrer to the complaint that was filed in that action.

Reports by Staff and City Council Members were made.

6. PRESENTATIONS AND PUBLIC RECOGNITIONS

6.1 None

7. STAFF BRIEFING

7.1 None

8. CONSENT ITEMS

Members of the Council or the public may ask that any items be considered individually for purposes of considering alternative action, for extended discussion, or for public comment. Unless that is done, one motion may be used to adopt all recommended actions. (Roll Call Vote)

8.1 *UPDATED TITLE 10-1-19

Second reading of an ordinance 2019-8 amending sections 10.08.010 and 10.08.020, and adding section 10.08.030 to Chapter 10.08, Title 10 of the City of St. Helena Municipal Code, regarding the establishment of speed limits within the City of St. Helena

Consideration and adoption of resolution of the City Council of the City of St. Helena, California, rescinding all prior resolutions adopted by the City Council of the City of St Helena establishing speed limits within the City of St. Helena, including but not limited to Resolution No. 2005-099, establishing a prima facie speed limit of 15 mph along streets within the vicinity of schools per California Vehicle Code Section 22358.4, and establishing a prima facie speed limit of 25 mph along Pope Street in proximity to Jacob Meily Park and Wappo Park during hours of the day when children are expected to use the facilities per California Vehicle Code 22357.1

CEQA Determination: Not a “project” as defined by State CEQA Guidelines Section 15378(a); Further, even if deemed a “project”, otherwise exempt from CEQA under the common sense exemption set forth in Section 15061(b)(3).
Prepared By: Erica Ahmann Smithies, Public Works Director and City Engineer
Recommendation:
Accordingly, staff recommends the City Council:

1. Approve the second reading of the Ordinance (Attachment 1) amending Chapter 10.08, Title 10 of the City of St. Helena Municipal Code, regarding the establishment of speed limits within the City of St. Helena; and

2. Approve the proposed Resolution (i) rescinding all prior resolutions adopted by the City Council of the City of St Helena establishing speed limits within the City of St. Helena, including but not limited to Resolution No. 2005-099, (ii) establishing a prima facie speed limit of 15 mph along streets within the vicinity ofschools per California Vehicle Code Section 22358.4, and (iii) establishing a prima facie speed limit of 25 mph along Pope Street in proximity to Jacob Meily Park and Wappo Park during hours of the day when children are expected to use the facilities per California Vehicle Code 22357.1; and

3. Direct staff to conduct additional speed surveys to the Pope Street and Madrona Avenue segments discussed above to see if the results meets the criteria to justify a posted speed limit of 25 mph.

8.2 Consideration of approval of a Resolution 2019-117 approving out-of-state travel for Accounting Technician Jennifer Weeks to attend the Government Finance Officers Association (GFOA) conference in New Orleans, Louisiana from May 17-20, 2020

CEQA Determination: Not a CEQA project
Prepared By: April Mitts, Finance Director
Recommendation:
City Staff recommends City Council approve a resolution authorizing out-of-state travel for Accounting Technician Jennifer Weeks to attend the Government Finance Officer Association (GFOA) Annual Conference in New Orleans, Louisiana from May 17-20, 2020.

8.3 *UPDATED STAFF REPORT
Consideration and approval of a Resolution 2019-118 of the City Council of the City of St. Helena Setting a Hearing for 6:00 p.m., Tuesday, November 26, 2019 to Consider Objections to the Proposed Annexation of Territory, known as 1057 Pratt Avenue, St Helena, CA. 94574 (APN 009-142-003), into the St Helena Municipal Sewer District No. 1, MSD Annexation No. 137.

CEQA Determination: Not a CEQA project
Prepared By: Yoseline Chavez-Toscano, Administrative Assistant
Recommendation:
Staff recommends the City Council adopt a Resolution Setting a Hearing for 6:00 p.m. on Tuesday, November 26, 2019, to consider objections to the proposed Annexation of Territory, known as 1057 Pratt Avenue, St Helena, CA. 94574 (APN 009-142-003), into the St Helena Municipal Sewer District No. 1, MSD Annexation No. 137.

8.4 Consideration and proposed approval of a resolution 2019-119 authorizing the fifth amendment to the Unrepresented Compensation Program for Mid-Managers and Department Heads to amend Section 8: Executive Leave to include the Assistant to the City Manager position as an eligible position to receive 40 additional hours of executive leave per the same conditions as at-will executive positions and amend Section 1.3 C. to include the Assistant to the City Manager as a Confidential Mid-Manager.

CEQA Determination: Not a CEQA project
Prepared By: Kathy Robinson, Human Resources & IT Director
Recommendation:
Approve resolution authorizing the fifth amendment to the Unrepresented Compensation Program for Mid-Managers and Department Heads to amend Section 8: Executive Leave to include the Assistant to the City Manager position as an eligible position to receive 40 additional hours of executive leave per the same conditions as at-will executive positions and amend Section 1.3 C. to include the Assistant to the City Manager as a Confidential Mid-Manager.

8.5 Second Reading and Proposed Approval of an Ordinance 2019-9 Amending Sections 13.04.030, 13.04.080, 13.04.100, and 13.04.170 of Article 1, Chapter 13.04, Title 13 of the St. Helena Municipal Code and Section 13.20.020 of Chapter 13.20, Title 13 of the St. Helena Municipal Code Regarding Changes to Utility Billing Cycle for Water Service and Sewer Service from Monthly to Bi-Monthly Billing.

CEQA Determination: Not a CEQA project
Prepared By: April Mitts, Finance Director
Recommendation:
Staff recommends the City Council conduct the second reading and adopt the Ordinance (Attachment C) amending Sections 13.04.030, 13.04.080, 13.04.100, and 13.04.170 of Article 1, Chapter 13.04, Title 13 of the St. Helena Municipal Code and Section 13.20.020 of Chapter 13.20, title 13 of the St. Helena Municipal Code regarding changes to the utility billing cycle for water and sewer service from monthly billing to bi-monthly billing.

Item 8.6 was removed from consent.

8.6 ~~Consideration and approval of a resolution authorizing the lease-purchase of a vehicle from Enterprise Fleet to replace the current Police Department Community Services Officer Vehicle #287 in an amount not-to-exceed $33,650 over a five-year period, and authorizing the City Manager to execute all documents necessary for the lease-purchase~~

8.7 Consideration of a Proclamation in recognition of Upvalley Family Centers' important contributions to our community and designating October 17, 2019 as Upvalley Family Centers' Day in St. Helena

CEQA Determination: Not a CEQA project
Prepared By: Cindy Tzafopoulos, City Clerk
Recommendation:
Staff recommends the proclamation be approved.

8.8 Consideration of approval of a Resolution 2019-120 approving out-of-state travel for Library Assistant Casey McConnell to attend the Guadalajara International Book Fair in Guadalajara, Mexico from November 30 – December 3, 2019

CEQA Determination: Not a CEQA project
Prepared By: Chris Kreiden, Library Director
Recommendation:
City Staff recommends City Council approve a resolution authorizing out-of-state travel for Library Assistant Casey McConnell to attend the Guadalajara International Book Fair in Guadalajara, Mexico from November 30 – December 3, 2019.

8.9 Consideration and Proposed Approval of a Resolution 2019-121 Rescinding

Resolution No. 2018-144 and Adopting Investment Policy P-FI-0002 for the City of St. Helena

CEQA Determination: Not a CEQA project
Prepared By: Mandy Kellogg, Finance Manager
Recommendation:
Staff recommends the approval of a Resolution Rescinding Resolution No. 2018-144 and Adopting Investment Policy P-FI-0002 for the City of St. Helena.

8.10 *NEW ITEM 10-4-19
Consideration of meeting minutes for August 13, 2019
Prepared By: Cindy Tzafopoulos, City Clerk

8.11 *NEW ITEM 10-4-19
Consideration and proposed approval adopting a resolution authorizing Amendment No. 1 to increase Bob Murray and Associates' Professional Services Agreement for recruiting services in the amount of $3,000 for a total contract amount not to exceed $27,000

CEQA Determination: Not a CEQA project
Prepared By: Kathy Robinson, Human Resources & IT Director
Recommendation:
Approve resolution authorizing Amendment No. 1 to Bob Murray and Associates' Professional Services Agreement in the amount of $3,000.

8.12 *NEW ITEM 10-4-19
Consideration and Proposed Approval of a Resolution 2019-123 Supporting Sensible Gun Safety Legislation and the Reinstatement of Federal Assault Weapons Ban

CEQA Determination: Exempt
Prepared By: Cindy Tzafopoulos, City Clerk
Recommendation:
Consider approving a resolution supporting a federal assault weapons ban.

Vice Mayor Paul Dohring moved to approve 8.1 through 8.5 and 8.7 through 8.12. The motion was seconded by Council Member Anna Chouteau and on roll call carried by the following vote:

AYES: Mayor Geoff Ellsworth, Vice Mayor Paul Dohring, Council Member Anna Chouteau, Council Member David Knudsen, and Council Member Mary Koberstein
NOES: None
ABSENT: None
ABSTAIN: None
RECUSE: None

8.6 Consideration and approval of a resolution authorizing the lease-purchase of a vehicle from Enterprise Fleet to replace the current Police Department Community Services Officer Vehicle #287 in an amount not-to-exceed $33,650 over a five-year period, and authorizing the City Manager to execute all documents necessary for the lease-purchase

CEQA Determination: Not a CEQA project
Prepared By: April Mitts, Finance Director
Recommendation:
Staff recommends City Council approve a resolution authorizing the lease-purchase of a vehicle from Enterprise Fleet to replace the current Police Department Community Services Officer Vehicle #287 in an amount not-to-exceed $33,650 over a five-year period, and authorizing the City Manager to execute all documents necessary for the lease-purchase.

Finance Director April Mitts reported on this item.

No public comment was received.

Vice Mayor Paul Dohring moved to table item 8.6 to a date uncertain. The motion was seconded by Council Member Mary Koberstein and on roll call carried by the following vote:

AYES: Mayor Geoff Ellsworth, Vice Mayor Paul Dohring, Council Member Anna Chouteau, Council Member David Knudsen, and Council Member Mary Koberstein
NOES: None
ABSENT: None
ABSTAIN: None
RECUSE: None

9. PUBLIC HEARINGS

9.1 None

10. OLD BUSINESS

10.1 Discussion of four options for CIP C20-01 St. Helena Library Roof Replacement Project, direction to staff on preferred option, and approval of a resolution authorizing the preferred option for CIP C20-01 St. Helena Library Roof Replacement Project. The options are as follows:

1. Option 1 - Award of construction contract to Stronger Building Services for alternate bid 1 for $440,500 (asphalt shingles); authorize the Director of Public Works to approve Change Order not-to-exceed 10% of the contract amount; authorizing a CIP budget increase of $117,125 to CIP C20-01 St. Helena Library Roof Repair Project; and authorizing the use of General Fund Reserves in a amount not-to-exceed $114,125;

2. Option 2 - Award of construction contract to Stronger Building Services for the base bid for $598,000 (synthetic slate shingles); authorize the Director of Public Works to approve Change Order not-to-exceed 10% of the contract amount; authorizing a CIP budget increase of $314,000 to CIP C20-01 St. Helena Library Roof Repair Project; and authorizing the use of General Fund Reserves in an amount not-to-exceed $314,000;
3. Option 3 - Reject all construction bids and consider Option 4;
4. Option 4 - Issue an informal bid for only the PVC flat roof replacement.

CEQA Determination: Categorically Exempt, Section 15323
Prepared By: Edrees Argand, Junior Assistant Engineer
Recommendation:
Discussion of four options for CIP C20-01 St. Helena Library Roof Replacement Project, direction to staff on preferred option, and approval of a resolution authorizing the preferred option for CIP C20-01 St. Helena Library Roof Replacement Project.

Public Works Director Erica Ahmann Smithies reported on this item.

No public comment was received.

Vice Mayor Paul Dohring moved to adopt a resolution 2019-124 to issue an informal bid for only the PVC flat roof replacement. The motion was seconded by Council Member Mary Koberstein and on roll call carried by the following vote:

AYES: Mayor Geoff Ellsworth, Vice Mayor Paul Dohring, Council Member Anna Chouteau, Council Member David Knudsen, and Council Member Mary Koberstein
NOES: None
ABSENT: None
ABSTAIN: None
RECUSE: None

10.2 *NEW ITEM 10-4-19
Consideration of Approval of a Resolution 2019-125 Rejecting the Sole Construction Bid for the W-26 Phase 1 Upper York Creek Ecosystem Restoration and Aquatic Habitat Enhancement Project

CEQA Determination: Final Environmental Impact Report (SCH. No. 2006092096); Addendum to Final EIR
Prepared By: Erica Ahmann Smithies, Public Works Director and City Engineer
Recommendation:
Approve a Resolution rejecting the sole construction bid for the W-26 Phase 1 Upper York Creek Ecosystem Restoration and Aquatic Habitat Enhancement

Project.

Public Works Director Erica Ahmann Smithies reported on this item.

No public comment was received.

The City Council requested that the Upper York Creek Dam removal item be agendized for each City Council meeting to receive updates.

Council Member Anna Chouteau moved to approve a resolution rejecting the sole construction bid for the W-26 Phase 1 Upper York Creek Ecosystem Restoration and Aquatic Habitat Enhancement Project. The motion was seconded by Vice Mayor Paul Dohring and on roll call carried by the following vote:

AYES: Mayor Geoff Ellsworth, Vice Mayor Paul Dohring, Council Member Anna Chouteau, Council Member David Knudsen, and Council Member Mary Koberstein
NOES: None
ABSENT: None
ABSTAIN: None
RECUSE: None

11. NEW BUSINESS

11.1 None

12. ITEMS LIKELY TO BE PLACED ON THE NEXT OR FUTURE MEETING AGENDA:

12.1

October City Council Meetings: 10/22 (staff reports due 10/4)
PROCLAMATIONS/PUBLIC RECOGNITION/STAFF BRIEFING:
10/22 Movember Proclamation
10/22 National Friends of the Library Week
CONSENT:
Cell tower lease renewal - Finance
Joint use agreement with SHUSD for the use of Vintage Hall (Expires February 2020)
10/22 Downtown Holiday Lighting/Jingle all the way
10/22 Napa RCD Amendment
OLD BUSINESS:
Legal Services RFP award of contract
Crane Park Light Study Presentation
Will-serve discussion

10/22 Generator Permit Regulations
PH or NEW BUSINESS:
Zoning Code Update – award of contract
Mid Managers, Exec Staff and SHEA Mou's
Library Roof Replacement
OB 10/22 Pratt and Main
10/22 1st Qtr Finance Report
10/22 Grant Report
Process to fund civic improvement
10/22 PH Sewer Annexation 1057 Pratt Avenue
<u>November City Council Meetings</u>: **11/12 (staff reports due 10/25)** **11/26 (staff reports due 11/8)**
PROCLAMATIONS AND PUBLIC RECOGNITION:
Arbor Day Proclamation
CONSENT:
11/12 Mid-Year Budget Adjustment
OLD BUSINESS:
11/12 Noll & Tam Report
11/12 Add back list
Curfew Ordinance Review
<u>December City Council Meetings</u>: **12/10 (staff reports due 10/25)** **12/24 Cancelled**
PROCLAMATIONS/PUBLIC RECOGNITION/STAFF BRIEFING:
SB - Elm Tunnel Update
Honor and recognize committees
CONSENT:
Joint use agreement with SHUSD for the use of Vintage Hall (Expires February 2020)
NOC for paving projects

13. ADJOURNMENT

Mayor Ellsworth adjourned the meeting at 6:59 p.m.

The October 8, 2019 regular City Council meeting minutes were approved at the November 26, 2019 regular City Council meeting.

APPROVED: **ATTEST:**

Regular City Council
October 8, 2019

_____	_____
Geoff Ellsworth, Mayor	Cindy Tzafopoulos, City Clerk

MINUTES
City of St. Helena
Regular City Council Meeting
Tuesday, October 22, 2019 @ 6:00 PM
Vintage Hall Board Room - Second Floor
465 Main Street, St. Helena

A complete video recording of this meeting, except for closed session, can be found at https://sthelena.civicweb.net/Portal/ or by calling the City Clerk at (707) 968-2742. The City Council video is the official record of the Council meeting.

Present: Mayor Geoff Ellsworth, Vice Mayor Paul Dohring, Council Member Anna Chouteau, Council Member David Knudsen, and Council Member Mary Koberstein

Absent:

1. CALL TO ORDER

2. PLEDGE OF ALLEGIANCE

3. ROLL CALL

4. PUBLIC FORUM:
Marisol Vargas, Rodolfo Morales, Cheryl Kelly and Mark Linder addressed the City Council.

4.1 Public Comment - Rodolfo Morales

5. REPORTS BY STAFF AND CITY COUNCIL, FUTURE AGENDA ITEMS, and AB 1234 REPORTS:

City Attorney Michael Biddle noted there was no reportable action taken in closed session, but the City Council gave direction regarding proposed terms of the settlement of the matter.

Reports by Staff and City Council Members were made.

6. PRESENTATIONS AND PUBLIC RECOGNITIONS

6.1 Fourth Annual Saint Helena Movember Mens' Health Month November 1st – November 30th, 2019 presented to Chris Hartley, Acting Police Chief

6.2 National Friends of Libraries Week Proclamation presented to Maria Criscione Stel, St. Helena Public Library Friends & Foundation Executive Director

7. STAFF BRIEFING

7.1 Holiday Lighting and Jingle All the Way by Andre Pichly, Parks & Recreation Director

7.2 Upper York Creek Dam Project Update by Erica Ahmann Smithies, Public Works Director and City Engineer

7.3 Update on Waste Water Treatment Plant Upgrade Project by Erica Ahmann Smithies, Public Works Director and City Engineer

8. CONSENT ITEMS

Members of the Council or the public may ask that any items be considered individually for purposes of considering alternative action, for extended discussion, or for public comment. Unless that is done, one motion may be used to adopt all recommended actions. (Roll Call Vote)

8.1 Consideration and proposed approval of Regular Meeting Minutes of August 27, 2019 (~~To be provided prior to the meeting~~ Provided October 22, 2019 at 3:20 pm)
Prepared By: Cindy Tzafopoulos, City Clerk

Item 8.2 was removed from consent.

8.2 ~~Consideration of proposed approval of a resolution authorizing (1) Amendment #1 to Professional Services Agreement with Noll & Tam Architects STH Contract No: FY 2019-091 for an additional $17,674 for a total contract amount not-to-exceed $273,244; (2) a budget increase of $15,624 to 101-4000-2130 and use of General Fund Reserves of the same; and (3) a budget increase of $2,050 to 713-4000-2130.~~

8.3 Consideration and proposed approval of a resolution 2019-126: (1) authorizing and approving classification and compensation study recommendations for Mid-Managers and Department Heads; (2) approving classification changes for those Mid-Managers and Department Heads recommended for a reclassification as noted on the publicly available salary schedules; (3) authorizing and approving implementation of compensation adjustments for all Mid-Manager and Department Heads to be within 7.5% of the market median study, effective July 1, 2019; and a 2% salary adjustment for all Mid-Managers and Departments Heads effective January 1, 2020; (4) in accordance with the requirement of California Code Section 54953(c)(3) including an oral report summarizing the recommended final action for the Executive Department Heads which includes a 1.1% for the Finance Director, 7.2% compensation adjustment for the Human Resources and Information Technology (HR&IT) Director, 14.9% for the Library Director, 0.8% compensation adjustment for the Police Chief,and 10.4% compensation adjustment for the Parks and Recreation Director, effective July 1, 2019 and a 2% compensation adjustment to the City Clerk, Finance Director, HR&IT Director, Library Director, Building & Planning Director, Police Chief, Public Works Director, and Recreation Director effective January 1, 2020; (5) duly approving and adopting publicly available compensation schedules in accordance with California Code Section 570.5;

and (6) approving the sixth amendment to the Unrepresented Compensation Program to update Section 1.3 Covered Employees with the new classification recommendations.

CEQA Determination: Not a CEQA project
Prepared By: Kathy Robinson, Human Resources & IT Director, Mandy Kellogg, Finance Manager
Recommendation:
Authorize and approve recommended classification changes, compensation adjustments for positions that were below market median, effective July 1, 2019; and a 2% salary adjustment for all mid-managers and department heads effective January 1, 2020; authorize and approve publicly available pay schedules in accordance with the requirement of California Code of Regulations, Title 2, Section 570.5; and approve the sixth amendment to the Unrepresented Compensation Program to update Section 1.3 Covered Employees with the new classification recommendations.

Item 8.4 was removed from consent.

8.4 ~~Consideration and Adoption of a Resolution Awarding Legal Services Contract to Best Best & Krieger LLP and Appointing Kara Ueda as City Attorney.~~

Council Member Mary Koberstein moved to approve consent items 8.1 and 8.3. The motion was seconded by Council Member Anna Chouteau and on roll call carried by the following vote:

AYES: Mayor Geoff Ellsworth, Vice Mayor Paul Dohring, Council Member Anna Chouteau, Council Member David Knudsen, and Council Member Mary Koberstein
NOES: None
ABSENT: None
ABSTAIN: None
RECUSE: None

8.2 Consideration of proposed approval of a resolution 2019-125 authorizing (1) Amendment #1 to Professional Services Agreement with Noll & Tam Architects STH Contract No: FY 2019-091 for an additional $17,674 for a total contract amount not-to-exceed $273,244; (2) a budget increase of $15,624 to 101-4000-2130 and use of General Fund Reserves of the same; and (3) a budget increase of $2,050 to 713-4000-2130.

CEQA Determination: Categorically Exempt, Section 15323
Prepared By: April Mitts, Finance Director
Recommendation:
Staff recommends City Council approve a resolution authorizing (1) Amendment #1 to Professional Services Agreement with Noll & Tam Architects STH Contract No: FY 2019-091 for an additional $17,674 for a total contract

amount not-to-exceed $273,244; (2) a budget increase of $15,624 to 101-4000-2130 and use of General Fund Reserves of the same; and (3) a budget increase of $2,050 to 713-4000-2130.

No public comment was received.

Council Member Mary Koberstein moved to approve item 8.2. The motion was seconded by Vice Mayor Paul Dohring and on roll call carried by the following vote:

AYES: Mayor Geoff Ellsworth, Vice Mayor Paul Dohring, Council Member Anna Chouteau, Council Member David Knudsen, and Council Member Mary Koberstein
NOES: None
ABSENT: None
ABSTAIN: None
RECUSE: None

8.4 Consideration and Adoption of a Resolution 2019-127 Awarding Legal Services Contract to Best Best & Krieger LLP and Appointing Kara Ueda as City Attorney.

CEQA Determination: Categorically Exempt, Section 15323
Prepared By: April Mitts, Finance Director
Recommendation:
Based on City Council direction, staff recommends City Council adopt a resolution awarding Legal Services Contract to Best Best & Krieger LLP and appointing Kara Ueda as City Attorney.

Council Member Anna Chouteau moved No public comment was received. The motion was seconded by Council Member Mary Koberstein and on roll call carried by the following vote:

AYES: Mayor Geoff Ellsworth, Vice Mayor Paul Dohring, Council Member Anna Chouteau, Council Member David Knudsen, and Council Member Mary Koberstein
NOES: None
ABSENT: None
ABSTAIN: None
RECUSE: None

New Business item 11.2 was heard after consent.

11.2 Caltrans Presentation on Highway 29 Sulphur and York Creek Bridges Barrier Rails Upgrade Project

Ahmad Rahimi, Caltrans District Project Manager provided a presentation.

Patrick Band, Napa County Bicycle Coalition Executive Director addressed the City Council.

9. PUBLIC HEARINGS

9.1 None

10. OLD BUSINESS

10.1 Review and Discussion of Possible Back-up/Standby Generator Regulations

CEQA Determination: Not a CEQA project
Prepared By: Philip Henry, Chief Building Official
Recommendation:
Provide direction to the City Manager.

Acting Planning Director Aaron Hecock and Chief Building Official Philip Henry reported on this item.

No public comment was received.

It was the consensus of the City Council to direct staff to draft an ordinance with options for consideration at a later meeting.

10.2 Consideration, discussion and direction regarding policy of the City of St. Helena pertaining to the provision of water services to “new development” on property located ***outside*** the City of St. Helena city limits

CEQA Determination: Not a “project” as defined in CEQA Guidelines Section 15378(a); Common Sense exemption, as set forth in CEQA Guidelines Section 15061(b)(3).
Recommendation:
Staff recommends that the City Council consider the discussion above, take public
comment, and provide direction regarding the following:
1. Eligibility criteria for will-serve letters, including approving authority;

2. Whether to move forward with consideration of revisions to water neutrality ordinance, such as capital improvements, and timing of such work within the adopted work plan;

3. Timing of discussion and elements and/or terms and conditions of Water Use Agreements for “New Development”, developments within the City and/or modifications to existing agreements.

Following City Council discussion and direction, staff will then work toward

preparation of appropriate legislation to implement the Council direction for its consideration at a future meeting.

Council Member Anna Chouteau is choosing not to participate in the discussion because of the concern of a possible conflict of interest arising from her husband's employment with Hall Winery, which is outside of the City limits with a water connection from the City. Council Member Anna Chouteau left the dais and meeting room.

City Attorney Michael Biddle reported on this item.

No public comment was received.

The City Council directed the City Attorney to bring back the ordinance with revisions for discussion and possible codification.

11. NEW BUSINESS

11.1 Quarterly Grant Report for FY 2020 Q1, for the period ending September 30, 2019

CEQA Determination: Not a CEQA project
Prepared By: Mandy Kellogg, Finance Manager
Recommendation:
Receive and file report.

Council Member Anna Chouteau returned to the meeting room and sat at the dais.

Finance Directed April Mitts reported on this item.

No public comment was received.

11.2 Item 11.2 was heard after consent.

~~Caltrans Presentation on Highway 29 Sulphur and York Creek Bridges Barrier Rails Upgrade Project~~

CEQA Determination: CEQA will be completed as part of project design
Prepared By: Erica Ahmann Smithies, Public Works Director and City Engineer
Recommendation:
Receive, discuss, and provide feedback on Caltrans presentation.

11.3 Consideration and adoption of Resolution 2019-128 of the City Council of the City of St. Helena Regarding the Refund Of Defense Cost On Appeal Application of Joseph C. McGrath Pursuant to St. Helena Municipal Code

§17.08.060 In A Range From $0.00 To An Amount Not To Exceed $87,201.37

CEQA Determination: Not a "project" as defined in Section 15378(a) subject to CEQA; further, even if deemed a "projeect" subject to CEQA, exempt from CEQA under the common sense exemption set forth in Section 15061 (b)(3), in that it can be seen with certainty that the proposed action will have no impact on the environment.

City Attorney Michael Biddle reported on this item.

Joe McGrath addressed the City Council.

Vice Mayor Paul Dohring moved to adopt the resolution as amended to include the following findings:

1. The City Council hereby determines that good cause exists for Mr. McGrath not to have paid the City's defense cost on appeal based on a prior understanding with the City, and therefore hereby waives said requirement.

2.The City Council hereby determines that good cause exists for the affordable housing units provided by Mr. McGrath on Grayson Street not qualifying towards satisfaction of the City's regional housing needs allocation, and therefore hereby waives said requirement.

3.The City Council hereby grants Mr. McGrath's request to be released of his obligation to indemnify the City for the defense costs on appeal for the amount of $87,201.37.

The motion was seconded by Council Member Anna Chouteau and on roll call carried by the following vote:

AYES: Mayor Geoff Ellsworth, Vice Mayor Paul Dohring, Council Member Anna Chouteau, Council Member David Knudsen, and Council Member Mary Koberstein
NOES: None
ABSENT: None
ABSTAIN: None
RECUSE: None

11.4 Consideration and proposed approval of a resolution 2019-129 approving the POW/MIA flag to be flown on the City's ceremonial flag pole:

1. The week preceding and week after Memorial Day (Last Monday in May).
2. The week preceding and week after Veterans Day (November 11th).

CEQA Determination: Not a CEQA project
Prepared By: Cindy Tzafopoulos, City Clerk

Recommendation:
Approve Resolution authorizing the MIA/POW flag to be flown on the City's ceremonial flag pole during the requested times.

Mayor Ellsworth reported on this item.

No public Comment was received.

Vice Mayor Paul Dohring moved to adopt a resolution authorizing the MIA/POW flag to be flown on the City's ceremonial flag pole during the requested times. The motion was seconded by Council Member Mary Koberstein and on roll call carried by the following vote:

AYES: Mayor Geoff Ellsworth, Vice Mayor Paul Dohring, Council Member Anna Chouteau, Council Member David Knudsen, and Council Member Mary Koberstein
NOES: None
ABSENT: None
ABSTAIN: None
RECUSE: None

12. ITEMS LIKELY TO BE PLACED ON THE NEXT OR FUTURE MEETING AGENDA:

12.1

November City Council Meetings: **11/12 (staff reports due 10/25)** **11/26 (staff reports due 11/8)** **TBD Joint P&R\ATSC\City Council Mtg (Nov or Dec)**
PROCLAMATIONS AND PUBLIC RECOGNITION:
Arbor Day Proclamation
CONSENT:
11/12 Napa RCD Amendment
11/26 Two NOC's (R19-79 and Hunt)
11/12 Mead & Hunt PSA Amendment
11/26 SHEA MOU
OLD BUSINESS:
11/12 Noll & Tam Report
11/12 Add back list (Paying down PERS- Prefunding medical)
11/12 Curfew Ordinance Review
11/12 CARES program update
11/12 Pratt and Main
11/12 Hydro Science report on WWTP
11/12 Crinella Pump Station
PH or NEW BUSINESS:

Zoning Code Update – award of contract
Measure T Project List
11/12 LRFF Policy discussion
PH Sewer Annexation 1057 Pratt Avenue
11/26 MCC Clean Energy
11/26 Williamson Act
December City Council Meetings: **12/10 (staff reports due 10/25)** **12/24 Cancelled**
PROCLAMATIONS/PUBLIC RECOGNITION/STAFF BRIEFING:
SB - Elm Tunnel Update
Honor and recognize committees
CONSENT:
Joint use agreement with SHUSD for the use of Vintage Hall (Expires February 2020)
NOC for paving projects

13. ADJOURNMENT

Mayor Ellsworth adjourned the meeting at 8:48 p.m.

The regular City Council meeting minutes of October 22, 2019 were adopted at the November 26, 2019 regular City Council meeting.

APPROVED: **ATTEST:**

_____ _____

Geoff Ellsworth, Mayor Cindy Tzafopoulos, City Clerk

Report to the City Council
Regular City Council - 26 Nov 2019 - UPDATED
Staff Reports 11-21-19

Agenda Section: **CONSENT ITEMS**

Subject: **UPDATED STAFF REPORT 11-22-19**
UPDATED STAFF REPORT AND ATTACHMENT 11-19-19
Consideration and approval of a Resolution adopting rental fees for use of the Crane Park Baseball Fields for private, organized, commercial use in the amount of $100 per use for residents and $125 per use for non-residents.

CEQA Determination: **Not a CEQA project**

Prepared By: Andre Pichly, Parks & Recreation Director

Reviewed By: April Mitts, Finance Director

Approved By: Mark T. Prestwich, City Manager

BACKGROUND

The City of St. Helena owns the baseball fields located at Crane Park. St. Helena Little League uses the fields from February 1st through July 31st each year and is responsible for maintenance and use of the fields. During the time period of August 1st through July 31st, when the City is responsible for use and maintenance, the fields are underutilized and only used by the City's youth soccer program.

Currently no rental fee has been established for the Crane Park baseball fields, other than the agreement with St. Helena Little League where they are responsible for maintenance of the fields.

DISCUSSION

Each year the Parks & Recreation Department receives several inquiries regarding the availability of the Crane Park east and west ballfields, and whether or not they are available to rent for private, organized, commercial use. While the City has a comprehensive fee study underway, the Parks & Recreation department has an immediate need to establish a reasonable fee to accommodate requests.

Currently, outdoor park facilities in St. Helena are rented by the day plus a $50 refundable cleaning deposit. As an example, residents can rent Crane Park picnic areas 1, 2, and 3 for $35 per day, Lyman Park Gazebo for $50 per day, and Picnic area 4 at Crane Park for $100 per day. Attachment 1 is the current reservation form with the corresponding fees.

In the interim, until the fee study is complete, staff recommends City Council adopt a resolution establishing a reasonable fee for use of Crane Park east and west ballfields. City staff has calculated the costs associated with the rental of the ballfield. The calculated costs per day, per use is $150 which includes staffing and facility expenses. While the per day, per use cost is $150, the fee being recommended is $100 per use, per day for residents and $125 per use, per day for non-residents. The recommended fee for both residential and non-residential is the same as the current rental amount for Picnic area 4 at Crane Park.

The non-residential rate is 25% higher than the residential rate. The justification for the slightly higher rate is because residents contribute funds for general park maintenance through taxes paid.

It is important to note, this fee does not apply to individuals or groups who recreationally use the facilities and only applies to groups who want to reserve the field(s) for a specific date/time.

FISCAL IMPACT

While the adoption of fees associated with the renting of the Crane Park baseball fields is not expected to be significant, it would demonstrate that use of the fields have value and any revenue generated would offset a small portion of maintenance costs for these facilities.

RECOMMENDED ACTION

Staff recommends the City Council adopt the resolution authorizing rental fees for use of the Crane Park Baseball Fields private, organized, commercial use in the amount of $100 per use for residents and $125 per use for non-residents.

ATTACHMENTS

Attachment 1 - Park Reservation Form
Crane Park baseball field rental fees Resolution

St. Helena Picnic Area Reservation

Please make out checks and send to: St. Helena Public Works Dept.
1480 Main St., St. Helena, Ca. 94574

Picnic Area:_____ **Estimated Attendance:**_____

Date Requested:_____ **Hours:**_____

Organization:_____

Details of Intended Activity or Use:_____

Applicants Name:_____

Address:_____

Telephone:_____

Emergency Contact:_____ **Telephone:**_____

Reservation Fees:

St. Helena Residents:		**Non-Resident:**	
Crane Park Areas 1-3:	**$35.00**	**(1-50 persons)**	**$65.00**
		(50-100 persons)	**$125.00**
		(100+ persons)	**$200.00**
Covered Shelter Area 4:	**$100.00**	**(1-50 persons)**	**$125.00**
		(50-100 persons)	**$200.00**
		(100+ persons)	**$250.00**
Lyman Park Gazebo:	**$50.00**		**$100.00**
Cleaning Deposit:	**$50.00**	**(1-50 persons)**	**$50.00**
		(50+ persons)	**$100.00**

Horse Shoes and volleyball can be rented for an additional fee of $15.00

Payment Type: **Credit Card ( ) Check ( ) Cash ( )**

Credit Card: **VISA ( ) MasterCard ( )**

Card Number: _____ ***Exp. Date:*** _____ **V *Code:*** _____

Refund Policy: Cleaning deposits will be returned within 2 weeks of use. ***Reservation fees are not refundable unless the St. Helena Public Works Department is notified of cancelation 14 days prior to the reservation date. We do not issue refunds due to rain or other bad weather conditions.***

Would you like your refund check mailed ____ or held at City Hall for pickup ____?

Office use only

Deposit Refund Date: _____ ***Refunded By:*** _____

St. Helena Picnic Area Reservation

Please make out checks and send to: St. Helena Public Works Dept.
1480 Main St., St. Helena, Ca. 94574

Park Rules and Regulations:

1. **This reservation is for picnic areas only. The park is a public park and cannot be used exclusively by a group.**
2. **Hours are from 6:00 a.m. to 10:00 p.m.**
3. **Fires are allowed only in barbecue pits and must be completely out before leaving the picnic area.**
4. **No firearms or explosives.**
5. **No Jump Houses.**
6. **No Water Slides.**
7. **Dogs must be on a leash.**
8. **No golf playing.**
9. **No vehicles or motorcycles beyond the parking lot.**
10. **Bicycles must be wheeled or pushed by hand over grassy or wooded areas.**
11. **No radios, amplified music, generators, or other sound producing equipment is allowed.**
12. **No piñatas allowed.**
13. **No skate board riding in park or on tennis courts.**
14. **Bocce Ball courts may be reserved at $20 per court.**

I, the undersigned, as applicant or on behalf of the applicant, signify that the information provided on this application is true and correct and hereby accept full responsibility for any breakage or damage to property or facility, and for department and conduct of those attending the function for which the facility is requested. I agree to indemnify and hold harmless the City of St. Helena and its agents, officers, officials, employees and volunteers from and against all claims, damages, losses and expenses including attorney fees arising out of the negligent act or omission of myself, any agent, anyone directly or indirectly by them or anyone for whose acts by them may be liable, except where caused by the active negligence, sole negligence or willful misconduct of the City. If permission is granted, I, or my representative agrees to be present during the entire use of the facility. My signature below signifies that I agree to abide by all of the rules and conditions of this application.

Signature_____ **Date:**_____

CITY OF ST. HELENA

RESOLUTION NO. 2019-___

Resolution of the City Council adopting rental fees for use of the Crane Park Baseball Fields for private, organized, commercial use in the amount of $100 per use for residents and $125 per use for non-residents.

RECITALS

A. Whereas the City of St. Helena owns the baseball fields located at Crane Park and the St. Helena Little League uses the fields from February 1st through July 31st each year and is responsible for maintenance and use of the fields; and

B. Whereas during the time period of August 1st through July 31st, when the City is responsible for use and maintenance, the fields are underutilized and only used by the City's youth soccer program; and

C. Whereas currently no rental fee has been established for use of the Crane Park baseball fields for private, organized, commercial use, other than the agreement with St. Helena Little League where they are responsible for maintenance of the fields; and

D. Whereas each year the Parks & Recreation department receives several inquiries regarding the availability of the Crane Park east and west ballfields, and whether or not they are available to rent; and

E. Whereas the Finance Department has a consulting firm working on a fee study, the Parks & Recreation department has an immediate need to establish a reasonable fee until the fee study recommends to the City a fee for rental of the ballfields; and

F. Whereas outdoor park facilities in St. Helena are rented by the day plus a $50 refundable cleaning deposit; and

G. Whereas until which time the fee study is complete, staff recommends City Council adopt a resolution establishing a reasonable fee for use of Crane Park east and west ballfields for private, organized, commercial use; and

H. Whereas, the City Council desires to adopt a fee of $100 per use, per day for residents and $125 per use, per day for non-residents, plus a $50 refundable cleaning deposit, which is based on the current rental amount for Picnic area 4 at Crane Park.

RESOLUTION

The City Council of the City of St. Helena hereby resolves as follows:

1. Establishing a fee schedule for the Crane Park baseball fields for private, organized, commercial use is not a CEQA project; and
2. Approves the establishment of a rental fee of $100 per use per day for residents, $125 per day for non-residents for the baseball fields for private, organized, commercial use at Crane Park plus a $50 refundable cleaning deposit; and
3. That this fee schedule will remain in place until a final determination is made as it pertains to the fee study recommendations that will be reviewed and recommended by staff and adopted by City Council at a future date.

Approved at a Regular Meeting of the St. Helena City Council on November 26, 2019, by the following vote:

Mayor Ellsworth: _____
Vice Mayor Dohring: _____
Councilmember Koberstein: _____
Councilmember Chouteau: _____
Councilmember Knudsen: _____

APPROVED: ATTEST:

_____ _____

Geoff Ellsworth, Mayor Cindy Tzafopoulos, City Clerk

Cindy Tzafopoulos

From: Bobbi Monnette <matildabologne@yahoo.com>
Sent: Friday, November 15, 2019 9:46 PM
To: Cindy Tzafopoulos
Subject: letter to cc members

Cindy,

Is it too late to get this letter to CC members before the 11/26/19 meeting?

Thanks.

Bobbi Monnette

Dear City Council Members, Chair and Vice Chair,

I am writing this letter as a citizen/resident of the City of St. Helena.

You may have discussed this item as new business already, but my reading of the Agenda for your November 26, 2019 CC meeting, shows this as a consent item, and since I do not regularly attend CC meetings any more, this is the first I recall reading about this issue.

The staff report for 8.2, states:

"FISCAL IMPACT While the adoption of fees associated with the renting of the Crane Park baseball fields is not expected to be significant, it would demonstrate that use of the fields have [sic] value and any revenue generated would offset a small portion of maintenance costs for these facilities."

I am disheartened, sad, and angry at the implications of the language in this Fiscal Impact statement. Do we, as a City, now believe that the only, and/or most meaningful demonstration of "value" is monetary????

I would like to see us preserve this vestige of our self-contained, small town character of having free access to our public park facilities. The resulting sense of a community that shares its assets equally among all of its Citizens, provides value that cannot be measured in dollars. If the revenue collected from "capitalizing the use of our parks" is inconsiderable, let us not tax our citizens and visitors to use them. We can give preference to our citizens if there is more demand than can be accommodated.

This is a regressive tax, as are almost all taxes. Fifty or a hundred dollars is nothing to some folks, but to others, for so many people who live in St. Helena, it would prove to be a deal breaker.

If we need more money to provide these services, I'm willing to pay higher property taxes or sales tax or whatever kind of tax might cover it. We could have fund raisers - Hey. How about we use the $45,000.00+ that is spent every year on fire works - those intrusive demonstrations that mimic the sounds of war, pollute the air with smoke and produce an auditory assault that frightens our pets and the wild creatures who share our biome, for whatever expenses need to be covered to keep the use of our public parks free?

I know - tradition - just a thought. My point is, if the revenue exacted by this resolution can be easily matched in some other way, I hope you will consider NOT capitalizing the free access and use of our public parks, and deny this resolution. If adopted, these fees will be a burden on protected groups in our population - low income workers/minorities, seniors and the disabled, and could be seen as denying access to public lands based on income and social status.

Thoughts for your consideration.

More shall be revealed.

bobbi monnette

Report to the City Council
Regular City Council - 26 Nov 2019

Agenda Section: **CONSENT ITEMS**

Subject: **Consideration and approval of a resolution authorizing: (1) the lease-purchase of a Ford F-450 in an amount not-to-exceed $100,100 financed over a five-year period with Enterprise Fleet Management; (2) the lease-purchase of a Ford F-550 in an amount not-to-exceed $141,530 financed over a five-year period with Enterprise Fleet Management; and (3) authorizing the City Manager to execute all documents necessary for the lease-purchase of both vehicles.**

CEQA Determination: **Not a CEQA project**

Prepared By: April Mitts, Finance Director

Reviewed By: April Mitts, Finance Director

Approved By: Mark T. Prestwich, City Manager

BACKGROUND

The Fiscal Year (FY) 2019-20 approved Operations Budget included appropriations for the lease-purchase of two Public Works vehicles. On January 9, 2018, City Council authorized a Master Lease Agreement with Enterprise Fleet Management ("Enterprise") for the replacement of vehicles under their Governmental Fleet Management Program. In addition to having the ability to lease vehicles from Enterprise, this contract also allows for the direct purchase of a vehicle and service plan utilization for vehicles. Enterprise's Governmental Fleet Management Program meets the requirements of St. Helena Municipal Code Section 3.04.150 allowing the purchasing officer to “piggy-back” with the competitive bidding of other agencies, and waive the formal bid procedures.

DISCUSSION

Two vehicles in the Public Works department are in need of replacement due to age, miles, and utility.

Vehicle #208

Vehicle #208 is used by both Streets and Wastewater divisions in Public Works. The current vehicle is a 2003 Chevy Silverado 3500 with 73,630 miles. This vehicle is currently out-of-service and inoperable because the seats are no longer functional, the seat belts do not work, the radiator is leaking at a rate of 1/2 gallon per month, and the vehicle burns white smoke which is an indication that parts of the motor need to be rebuilt. The estimated repair cost exceed the value of the vehicle. The City has made several repairs over the past two years to extend the life of the vehicle as long as possible.

Staff is recommending this vehicle be replaced with a Ford F-450 which will include tool boxes, ladder rack for transporting pips to repair sites, an inverter for on-site power, and a fuel transfer tank. The replacement cost of the vehicle is $100,100 and will be lease-financed over 60-months with annual payments of $20,020 split between two divisions. The replacement cost includes the prices of the vehicle, additional items on the vehicle, and a full maintenance program for five years.

When operable, the current vehicle has a Miles Per Gallon (MPG) of 9 and utilizes approximately 556 gallons of fuel per year which equates to 12,333 Carbon Dioxide Equivalent (CO2e) lbs. each year. The replacement vehicle has a MPG of 14 and will utilize an estimated 357 gallons of fuel each year which equates to 7,929 CO2e lbs. per year. This is an estimated 36% decrease in CO2e lbs. per year from the current vehicle. Replacement of this vehicle is consistent with the General Plan Climate Change Goal 10.4 which includes improving the fuel efficiency of vehicles.

Vehicle #104

Vehicle #104 is used by the Water Distribution division in Public Works. The current vehicle is a 2008 Ford F-550 with 36,352 miles. This vehicle's current design is not intended to be a service truck/utility emergency response unit. When called on-scene for repairs, there is a need to bring other equipment to accomplish tasks and emergency repair work. The additional equipment is necessary because the current vehicle can not be modified to accommodate the additional equipment. Because of the relative low mileage, this truck will continue to be utilized in the fleet for emergency purposes, not as a daily service vehicle, for an anticipated three years, at which time the engine will no longer meet California Air Resources Board standards for small utility trucks (see below).

Staff is recommending this vehicle be replaced with a Ford F-550 which will include tool boxes, power inverter for on-site power, auto-crane (to hoist fire hydrants, steel road plates, and other equipment), air compressor for air tools (jackhammer), and a ladder rack. The additional features will eliminate the need to bring the backhoe, tow behind air compressor, and other equipment which will help with limited personnel and will help in areas where minimal staging space is an issue. The cost of the vehicle is $141,530 and will be lease-financed over 60-months with annual payments of $28,306. The cost

includes the price of the vehicle, additional items on the vehicle, and a full maintenance program for five years.

The current vehicle has a MPG of 10 and utilizes approximately 500 gallons of fuel per year which equates to 11,100 CO2e lbs. each year. The replacement vehicles has a MPG of 14 and will utilize an estimated 357 gallons of fuel each year which equates to 7,929 CO2e lbs. per year. This is an estimated 29% decrease in CO2e lbs. per year from the current vehicle. As stated earlier, because of the low mileage of the current vehicle, it will be maintained in the fleet for an estimated three years for emergency purpose use and is estimated to utilize 50 gallons of fuel per year which is an estimated 1,100 CO2e per year. Combined with the replacement vehicle, it is estimated there will be a 19% decrease in CO2e lbs. per year. Replacement of this vehicle is consistent with the General Plan Climate Change Goal 10.4 which includes improving the fuel efficiency of vehicles.

California Air Resources Board

The recommended vehicles to be replaced will soon not meet the new Truck and Bus Regulation Compliance requirements issued by the California Air Resources Board (CARB). The new regulations affect diesel vehicles with a Gross Vehicle Weight Rating (GVWR) greater than 14,000 lbs. that operate in California. While there are exemptions from this regulation for local government vehicles, City staff recognize the importance of having a vehicle fleet with cleaner emissions and greater fuel efficiencies. Based on the GVWR and year of the two vehicles being replaced, the 2003 vehicle must meet new engine requirements by January 1, 2020 and the 2008 vehicle must meet new engine requirements by January 1, 2023. Performance-wise, diesel engines provide more power than alternatives such as gasoline, compressed natural gas, or liquefied natural gas. This additional power necessary for the new vehicles being purchased based on their function within each department.

FISCAL IMPACT

The fiscal impact over a five-year period for the lease-purchase of the two vehicles is $241,630. Funds for the first year lease-purchase have been included in the FY 2019-20 adopted budget.

RECOMMENDED ACTION

Staff recommends City Council approve a resolution authorizing: (1) the lease-purchase of a Ford F-450 in an amount not-to-exceed $100,100 financed over a five-year period with Enterprise Fleet Management; (2) the lease-purchase of a Ford F-550 in an amount not-to-exceed $141,530 financed over a five-year period with Enterprise Fleet Management; and (3) authorizing the City Manager to execute all documents necessary for the lease-purchase of both vehicles.

ATTACHMENTS

Attachment 1 - Resolution - PW Vehicle Leases
Attachment 2 - Quote F-450

Attachment 3 - Quote F-550

CITY OF ST. HELENA

RESOLUTION NO. 2019-___

Resolution authorizing: (1) the lease-purchase of a Ford F-450 in an amount not-to-exceed $100,100 financed over a five-year period with Enterprise Fleet Management; (2) the lease-purchase of a Ford F-550 in an amount not-to-exceed $141,530 financed over a five-year period with Enterprise Fleet Management; and (3) authorizing the City Manager to execute all documents necessary for the lease-purchase of both vehicles.

RECITALS

A. The City of St. Helena Public Works Department desires to replace Vehicle #208, a 2003 Chevy Silverado 3500, with a 2020 Ford F-450 for use with the Streets and Wastewater divisions; and

B. The City of St. Helena Public Works Department desires to replace Vehicle #104, a 2008 Ford F-500, with a 2020 Ford F-550 for use with the Water Distribution division; and

C. On January 9, 2018, City Council authorized a Master Lease Agreement with Enterprise Fleet Management which allows the lease or purchase of vehicles through their Governmental Fleet Management Program; and

D. The City of St. Helena wishes to utilize 60-month lease-purchase agreement for purchase of both vehicles through Enterprise Fleet Management.

RESOLUTION

The City Council of the City of St. Helena hereby resolves as follows:

1. Purchase of these two vehicles is not a CEQA project; and
2. Authorizes a 60-month lease-purchase of a Ford F-450 vehicle from Enterprise Fleet Management in an amount not-to-exceed $100,100; and
3. Authorizes a 60-month lease-purchase of a Ford F-550 vehicle from Enterprise Fleet Management in an amount not-to-exceed $141,530; and
4. Authorizes the City Manager to execute all documents necessary for the lease-purchase of these two vehicles.

Approved at a Regular Meeting of the St. Helena City Council on November 26, 2019, by the following vote:

Mayor Ellsworth: _____

Vice Mayor Dohring: _____

Councilmember Koberstein: _____

Councilmember Chouteau: _____

Councilmember Knudsen: _____

APPROVED:

_____
Geoff Ellsworth, Mayor

ATTEST:

_____
Cindy Tzafopoulos, City Clerk

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Open-End (Equity) Lease Rate Quote

Quote No: 4420542

Prepared For: City of St. Helena
Mitts, April

Date 10/21/2019
AE/AM KW3/JLT

Unit #
Year 2020 **Make** Ford **Model** F-450 Chassis
Series XL 4x2 SD Super Cab 192 in. WB DRW
Vehicle Order Type Ordered **Term** 60 **State** CA **Customer#** 579445

$ 74,299.49		Capitalized Price of Vehicle[1]
$ 0.00	*	Sales Tax 0.0000% **State** CA
$ 0.00	*	Initial License Fee
$ 0.00	*	Registration Fee
$ 500.00		Other:Courtesy Delivery Fee
$ 0.00	*	Capitalized Price Reduction
$ 0.00	*	Tax on Capitalized Price Reduction
$ 0.00		Gain Applied From Prior Unit
$ 0.00	*	Tax on Gain On Prior
$ 0.00	*	Security Deposit
$ 0.00	*	Tax on Incentive(Taxable Incentive Total : $0.00)
$ 74,799.49		Total Capitalized Amount (Delivered Price)
$ 1,246.61		Depreciation Reserve @ 1.6666%
$ 242.83		Monthly Lease Charge (Based on Interest Rate - Subject to a Floor)[2]
$ 1,489.44		**Total Monthly Rental Excluding Additional Services**
		Additional Fleet Management
		Master Policy Enrollment Fees
$ 0.00		Commercial Automobile Liability Enrollment
		Liability Limit $0.00
$ 0.00		Physical Damage Management — Comp/Coll Deductible 0 / 0
$ 55.87		Full Maintenance Program[3] Contract Miles 50,000 — OverMileage Charge $ 0.0670 Per Mile
		Incl: # Brake Sets (1 set = 1 Axle) 0 — # Tires 0 — Loaner Vehicle Not Included
$ 55.87		**Additional Services SubTotal**
$ 122.88		Sales Tax 8.2500% **State** CA
$ 1,668.19		**Total Monthly Rental Including Additional Services**
$ 2.89		Reduced Book Value at 60 Months
$ 400.00		Service Charge Due at Lease Termination

All language and acknowledgments contained in the signed quote apply to all vehicles that are ordered under this signed quote.

Order Information

Driver Name	
Exterior Color	(0 P) Oxford White
Interior Color	(0 I) Medium Earth Gray w/HD Vinyl 40/20/40 S
Lic. Plate Type	Exempt
GVWR	0

Quote based on estimated annual mileage of 10,000
(Current market and vehicle conditions may also affect value of vehicle)
(Quote is Subject to Customer's Credit Approval)
Notes

Enterprise FM Trust will be the owner of the vehicle covered by this Quote. Enterprise FM Trust (not Enterprise Fleet Management) will be the Lessor of such vehicle under the Master Open - End (Equity) Lease Agreement and shall have all rights and obligations of the Lessor under the Master Open - End (Equity) Lease Agreement with respect to such vehicle.

ALL TAX AND LICENSE FEES TO BE BILLED TO LESSEE AS THEY OCCUR.
Lessee hereby authorizes this vehicle order, agrees to lease the vehicle on the terms set forth herein and in the Master Equity Lease Agreement and agrees that Lessor shall have the right to collect damages in the event Lessee fails or refuses to accept delivery of the ordered vehicle.
Lessee certifies that it intends that more than 50% of the use of the vehicle is to be in a trade or business of the Lessee.

LESSEE City of St. Helena

BY **TITLE** **DATE**

* INDICATES ITEMS TO BE BILLED ON DELIVERY.
[1] Capitalized Price of Vehicle May be Adjusted to Reflect Final Manufacturer's Invoice. Lessee Hereby Assigns to Lessor any Manufacturer Rebates And/Or Manufacturer Incentives Intended for the Lessee, Which Rebates And/Or Incentives Have Been Used By Lessor to Reduce the Capitalized Price of the Vehicle.
[2] Monthly Lease Charge Will Be Adjusted to Reflect the Interest Rate on the Delivery Date (Subject to a Floor).
[3] The inclusion herein of references to maintenance fees/services are solely for the administrative convenience of Lessee. Notwithstanding the inclusion of such references in this [Invoice/Schedule/Quote], all such maintenance services are to be performed by Enterprise Fleet Management, Inc., and all such maintenance fees are payable by Lessee solely for the account of Enterprise Fleet Management, Inc., pursuant to that certain separate [Maintenance Agreement] entered into by and between Lessee and Enterprise Fleet Management, Inc.; provided that such maintenance fees are being billed by Enterprise FM Trust, and are payable at the direction of Enterprise FM Trust, solely as an authorized agent for collection on behalf of Enterprise Fleet Management, Inc.

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Open-End (Equity) Lease Rate Quote

Quote No: 4420542

Aftermarket Equipment Total

Description	(B)illed or (C)apped	Price
Scelzi Q160820 dtd 9/3/19 Service Truck	C	$ 27,113.00
Maxrun Corp XPR5550e VHF 45Watt Mobile / Antenna	C	$ 1,691.49
Total Aftermarket Equipment Billed		$ 0.00
Total Aftermarket Equipment Capitalized		$ 28,804.49
Aftermarket Equipment Total		$ 28,804.49

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Open-End (Equity) Lease Rate Quote

Quote No: 4420542

VEHICLE INFORMATION:

2020 Ford F-450 Chassis XL 4x2 SD Super Cab 192 in. WB DRW - US
Series ID: X4G

Pricing Summary:

	INVOICE	MSRP
Base Vehicle	$ 39,644.00	$ 41,730.00
Total Options	$ 10,210.00	$ 11,220.00
Destination Charge	$ 1,595.00	$ 1,595.00
Total Price	**$ 51,449.00**	**$ 54,545.00**

SELECTED COLOR:

Exterior: Z1 - (0 P) Oxford White
Interior: AS - (0 I) Medium Earth Gray w/HD Vinyl 40/20/40 Split Bench Seat

SELECTED OPTIONS:

CODE	DESCRIPTION	INVOICE	MSRP
192WB	192" Wheelbase	STD	STD
425	50-State Emissions System	STD	STD
44G	Transmission: TorqShift 10-Speed Automatic	Included	Included
52B	Trailer Brake Controller	$ 246.00	$ 270.00
54K	Trailer Tow Mirrors w/Power Heated Glass	Included	Included
64Z	Wheels: 19.5" Argent Painted Steel	Included	Included
650A	Order Code 650A	NC	NC
67D	240 Amp Alternator	Included	Included
86D	Programmable Engine Idle Shutdown - 20 Minute	$ 228.00	$ 250.00
872	Rear View Camera & Prep Kit	$ 377.00	$ 415.00
90L	Power Equipment Group	$ 832.00	$ 915.00
90LACD	Accessory Delay	Included	Included
90LASP	Advanced Security Pack	Included	Included
90LPLK	Power Locks	Included	Included
90LPWN	Power Front & Rear Side Windows	Included	Included
90LRKE	Remote Keyless Entry	Included	Included
942	Daytime Running Lamps (DRL) (LPO)	$ 41.00	$ 45.00
99T	Engine: 6.7L 4V OHV Power Stroke V8 Turbo Diesel B20	$ 8,486.00	$ 9,325.00
A	HD Vinyl 40/20/40 Split Bench Seat	Included	Included
AS_01	(0 I) Medium Earth Gray w/HD Vinyl 40/20/40 Split Bench Seat	NC	NC
MYKEY	MyKey	Included	Included
PAINT	Monotone Paint Application	STD	STD
STDGV	GVWR: 16,500 lb Payload Package	Included	Included
STDRD	Radio: AM/FM Stereo w/MP3 Player	Included	Included
SYNC	SYNC Communications & Entertainment System	Included	Included
TGJ	Tires: 225/70Rx19.5G BSW A/P	Included	Included
X41	4.10 Axle Ratio	Included	Included
Z1_01	(0 P) Oxford White	NC	NC

CONFIGURED FEATURES:

Body Exterior Features:
- Number Of Doors 4
- Rear Driver Door: reverse opening rear passenger doors
- Driver And Passenger Mirror: power remote heated manual folding side-view door mirrors with turn signal indicator
- Convex Driver Mirror: convex driver and passenger mirror
- Mirror Type: manual extendable trailer mirrors
- Door Handles: black
- Front And Rear Bumpers: black front and rear bumpers with black rub strip
- Front Tow Hooks: 2 front tow hooks
- Front License Plate Bracket: front license plate bracket
- Front Mud Flaps: front and rear mud flaps
- Body Material: aluminum body material
- : trailering with harness, brake controller
- Fender Flares: black fender flares
- Grille: black grille
- Upfitter Switches: upfitter switches

Convenience Features:
- Air Conditioning manual air conditioning
- Air Filter: air filter
- Power Windows: power windows with driver and passenger 1-touch down
- Remote Keyless Entry: keyfob (front doors) remote keyless entry
- Illuminated Entry: illuminated entry
- Integrated Key Remote: integrated key/remote
- Remote Engine Start: remote engine start
- Steering Wheel: steering wheel with manual tilting, manual telescoping
- Day-Night Rearview Mirror: day-night rearview mirror
- Emergency SOS: 911 Assist emergency communication system
- Front Cupholder: front and rear cupholders
- Overhead Console: full overhead console with storage
- Glove Box: illuminated locking glove box
- Driver Door Bin: driver and passenger door bins
- Rear Door Bins: rear door bins
- Dashboard Storage: dashboard storage
- IP Storage: covered bin instrument-panel storage
- Retained Accessory Power: retained accessory power
- Power Accessory Outlet: 2 12V DC power outlets

Entertainment Features:
- radio AM/FM stereo with seek-scan
- Voice Activated Radio: voice activated radio
- Steering Wheel Radio Controls: steering-wheel mounted audio controls
- Speakers: 8 speakers
- Internet Access: FordPass Connect 4G LTE WiFi internet access
- 1st Row LCD: 2 1st row LCD monitor
- Wireless Connectivity: wireless phone connectivity
- Antenna: fixed antenna

Lighting, Visibility and Instrumentation Features:
- Headlamp Type delay-off aero-composite halogen headlamps
- Auto-Dimming Headlights: Ford Co-Pilot360 - Auto High Beam auto high-beam headlights
- Cab Clearance Lights: cab clearance lights
- Underhood Light: underhood light
- Front Wipers: variable intermittent wipers
- Tinted Windows: light-tinted windows
- Dome Light: dome light with fade
- Front Reading Lights: front reading lights
- Variable IP Lighting: variable instrument panel lighting
- Display Type: analog display
- Tachometer: tachometer
- Compass: compass
- Exterior Temp: outside-temperature display
- Trip Computer: trip computer

Trip Odometer: trip odometer
Water Temp Gauge: water temp. gauge
Turbo/Supercharger Boost Gauge: turbo/supercharger boost gauge
Transmission Oil Temp Gauge: transmission oil temp. gauge
Engine Hour Meter: engine hour meter
Clock: in-radio display clock
Systems Monitor: systems monitor
Rear Vision Camera: rear vision camera
Oil Pressure Warning: oil-pressure warning
Water Temp Warning: water-temp. warning
Battery Warning: battery warning
Lights On Warning: lights-on warning
Key in Ignition Warning: key-in-ignition warning
Low Fuel Warning: low-fuel warning
Door Ajar Warning: door-ajar warning
Brake Fluid Warning: brake-fluid warning

Safety And Security:
ABS four-wheel ABS brakes
Number of ABS Channels: 3 ABS channels
Brake Assistance: brake assist
Brake Type: four-wheel disc brakes
Vented Disc Brakes: front and rear ventilated disc brakes
Daytime Running Lights: daytime running lights
Driver Front Impact Airbag: driver and passenger front-impact airbags
Driver Side Airbag: seat-mounted driver and passenger side-impact airbags
Overhead Airbag: Safety Canopy System curtain 1st and 2nd row overhead airbag
Height Adjustable Seatbelts: height adjustable front seatbelts
Side Impact Bars: side-impact bars
Perimeter Under Vehicle Lights: remote activated perimeter/approach lights
Ignition Disable: SecuriLock immobilizer
Security System: security system
Panic Alarm: panic alarm
Traction Control: driveline traction control
Front and Rear Headrests: manual adjustable front head restraints
Rear Headrest Control: 3 rear head restraints

Seats And Trim:
Seating Capacity max. seating capacity of 6
Front Bucket Seats: front split-bench 40-20-40 seats
Number of Driver Seat Adjustments: 4-way driver and passenger seat adjustments
Reclining Driver Seat: manual reclining driver and passenger seats
Driver Lumbar: manual driver and passenger lumbar support
Driver Fore/Aft: manual driver and passenger fore/aft adjustment
Front Centre Armrest Storage: front centre armrest with storage
Rear Seat Type: rear 60-40 split-bench seat
Rear Folding Position: rear seat fold-up cushion
Leather Upholstery: vinyl front and rear seat upholstery
Headliner Material: full cloth headliner
Floor Covering: full vinyl/rubber floor covering
Shift Knob Trim: urethane shift knob
Interior Accents: chrome interior accents

Standard Engine:
Engine 330-hp, 6.7-liter V-8 (diesel)

Standard Transmission:
Transmission 10-speed automatic w/ OD and PowerShift automatic

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Open-End (Equity) Lease Rate Quote

Quote No: 4420544

Prepared For: City of St. Helena
Mitts, April

Date 10/21/2019
AE/AM KW3/JLT

Unit #
Year 2020 **Make** Ford **Model** F-550 Chassis
Series XL 4x2 SD Super Cab 192 in. WB DRW
Vehicle Order Type Ordered **Term** 60 **State** CA **Customer#** 579445

$ 106,505.49		Capitalized Price of Vehicle[1]
$ 0.00	*	Sales Tax 0.0000% **State** CA
$ 0.00	*	Initial License Fee
$ 0.00	*	Registration Fee
$ 500.00		Other:Courtesy Delivery Fee
$ 0.00	*	Capitalized Price Reduction
$ 0.00	*	Tax on Capitalized Price Reduction
$ 0.00		Gain Applied From Prior Unit
$ 0.00	*	Tax on Gain On Prior
$ 0.00	*	Security Deposit
$ 0.00	*	Tax on Incentive(Taxable Incentive Total : $0.00)
$ 107,005.49		Total Capitalized Amount (Delivered Price)
$ 1,783.35		Depreciation Reserve @ 1.6666%
$ 344.08		Monthly Lease Charge (Based on Interest Rate - Subject to a Floor)[2]
$ 2,127.43		**Total Monthly Rental Excluding Additional Services**
		Additional Fleet Management
		Master Policy Enrollment Fees
$ 0.00		Commercial Automobile Liability Enrollment
		Liability Limit $0.00
$ 0.00		Physical Damage Management — Comp/Coll Deductible 0 / 0
$ 55.87		Full Maintenance Program[3] Contract Miles 50,000 — OverMileage Charge $ 0.0680 Per Mile
		Incl: # Brake Sets (1 set = 1 Axle) 0 — # Tires 0 — Loaner Vehicle Not Included
$ 55.87		**Additional Services SubTotal**
$ 175.51		Sales Tax 8.2500% **State** CA
$ 2,358.81		**Total Monthly Rental Including Additional Services**
$ 4.49		Reduced Book Value at 60 Months
$ 400.00		Service Charge Due at Lease Termination

All language and acknowledgments contained in the signed quote apply to all vehicles that are ordered under this signed quote.

Order Information

Driver Name	
Exterior Color	(0 P) Oxford White
Interior Color	(0 I) Medium Earth Gray w/HD Vinyl 40/20/40 S
Lic. Plate Type	Exempt
GVWR	0

Quote based on estimated annual mileage of 10,000
(Current market and vehicle conditions may also affect value of vehicle)
(Quote is Subject to Customer's Credit Approval)
Notes

Enterprise FM Trust will be the owner of the vehicle covered by this Quote. Enterprise FM Trust (not Enterprise Fleet Management) will be the Lessor of such vehicle under the Master Open - End (Equity) Lease Agreement and shall have all rights and obligations of the Lessor under the Master Open - End (Equity) Lease Agreement with respect to such vehicle.

ALL TAX AND LICENSE FEES TO BE BILLED TO LESSEE AS THEY OCCUR.
Lessee hereby authorizes this vehicle order, agrees to lease the vehicle on the terms set forth herein and in the Master Equity Lease Agreement and agrees that Lessor shall have the right to collect damages in the event Lessee fails or refuses to accept delivery of the ordered vehicle.
Lessee certifies that it intends that more than 50% of the use of the vehicle is to be in a trade or business of the Lessee.

LESSEE City of St. Helena

BY _____ **TITLE** _____ **DATE** _____

* INDICATES ITEMS TO BE BILLED ON DELIVERY.
[1] Capitalized Price of Vehicle May be Adjusted to Reflect Final Manufacturer's Invoice. Lessee Hereby Assigns to Lessor any Manufacturer Rebates And/Or Manufacturer Incentives Intended for the Lessee, Which Rebates And/Or Incentives Have Been Used By Lessor to Reduce the Capitalized Price of the Vehicle.
[2] Monthly Lease Charge Will Be Adjusted to Reflect the Interest Rate on the Delivery Date (Subject to a Floor).
[3] The inclusion herein of references to maintenance fees/services are solely for the administrative convenience of Lessee. Notwithstanding the inclusion of such references in this [Invoice/Schedule/Quote], all such maintenance services are to be performed by Enterprise Fleet Management, Inc., and all such maintenance fees are payable by Lessee solely for the account of Enterprise Fleet Management, Inc., pursuant to that certain separate [Maintenance Agreement] entered into by and between Lessee and Enterprise Fleet Management, Inc.; provided that such maintenance fees are being billed by Enterprise FM Trust, and are payable at the direction of Enterprise FM Trust, solely as an authorized agent for collection on behalf of Enterprise Fleet Management, Inc.

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Open-End (Equity) Lease Rate Quote

Quote No: 4420544

Aftermarket Equipment Total

Description	(B)illed or (C)apped	Price
XPR5550e VHF 45 Watt Mobile w/Antenna	C	$ 1,691.49
Scelzi Q160839 dtd 9/3/19 Service Body	C	$ 58,276.00
Total Aftermarket Equipment Billed		$ 0.00
Total Aftermarket Equipment Capitalized		$ 59,967.49
Aftermarket Equipment Total		$ 59,967.49

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Open-End (Equity) Lease Rate Quote

Quote No: 4420544

VEHICLE INFORMATION:

2020 Ford F-550 Chassis XL 4x2 SD Super Cab 192 in. WB DRW - US
Series ID: X5G

Pricing Summary:

	INVOICE	MSRP
Base Vehicle	$ 40,688.00	$ 42,830.00
Total Options	$ 10,210.00	$ 11,220.00
Destination Charge	$ 1,595.00	$ 1,595.00
Total Price	**$ 52,493.00**	**$ 55,645.00**

SELECTED COLOR:

Exterior: Z1 - (0 P) Oxford White
Interior: AS - (0 I) Medium Earth Gray w/HD Vinyl 40/20/40 Split Bench Seat

SELECTED OPTIONS:

CODE	DESCRIPTION	INVOICE	MSRP
192WB	192" Wheelbase	STD	STD
425	50-State Emissions System	STD	STD
44G	Transmission: TorqShift 10-Speed Automatic	Included	Included
52B	Trailer Brake Controller	$ 246.00	$ 270.00
54K	Trailer Tow Mirrors w/Power Heated Glass	Included	Included
64Z	Wheels: 19.5" Argent Painted Steel	Included	Included
660A	Order Code 660A	NC	NC
67D	240 Amp Alternators	Included	Included
86D	Programmable Engine Idle Shutdown - 20 Minute	$ 228.00	$ 250.00
872	Rear View Camera & Prep Kit	$ 377.00	$ 415.00
87S	FordPass Connect 4G Wi-Fi Modem	Included	Included
90L	Power Equipment Group	$ 832.00	$ 915.00
90LACD	Accessory Delay	Included	Included
90LASP	Advanced Security Pack	Included	Included
90LPLK	Power Locks	Included	Included
90LPWN	Power Front & Rear Side Windows	Included	Included
90LRKE	Remote Keyless Entry	Included	Included
91M	SYNC Communications & Entertainment System	Included	Included
942	Daytime Running Lamps (DRL) (LPO)	$ 41.00	$ 45.00
99T	Engine: 6.7L 4V OHV Power Stroke V8 Turbo Diesel B20	$ 8,486.00	$ 9,325.00
A	HD Vinyl 40/20/40 Split Bench Seat	Included	Included
AS_01	(0 I) Medium Earth Gray w/HD Vinyl 40/20/40 Split Bench Seat	NC	NC
MYKEY	MyKey	Included	Included
PAINT	Monotone Paint Application	STD	STD
STDGV	GVWR: 18,000 lbs Payload Package	Included	Included
STDRD	Radio: AM/FM Stereo/MP3 Player	Included	Included
TGJ	Tires: 225/70Rx19.5G BSW A/P	Included	Included
X41	4.10 Axle Ratio	Included	Included
Z1_01	(0 P) Oxford White	NC	NC

CONFIGURED FEATURES:

Body Exterior Features:
- Number Of Doors 4
- Rear Driver Door: reverse opening rear passenger doors
- Driver And Passenger Mirror: power remote heated manual folding side-view door mirrors with turn signal indicator
- Convex Driver Mirror: convex driver and passenger mirror
- Mirror Type: manual extendable trailer mirrors
- Door Handles: black
- Front And Rear Bumpers: black front and rear bumpers with black rub strip
- Front Tow Hooks: 2 front tow hooks
- Front License Plate Bracket: front license plate bracket
- Front Mud Flaps: front and rear mud flaps
- Body Material: aluminum body material
- : trailering with harness, brake controller
- Fender Flares: black fender flares
- Grille: black grille
- Upfitter Switches: upfitter switches

Convenience Features:
- Air Conditioning manual air conditioning
- Air Filter: air filter
- Power Windows: power windows with driver and passenger 1-touch down
- Remote Keyless Entry: keyfob (front doors) remote keyless entry
- Illuminated Entry: illuminated entry
- Integrated Key Remote: integrated key/remote
- Remote Engine Start: remote engine start
- Steering Wheel: steering wheel with manual tilting, manual telescoping
- Day-Night Rearview Mirror: day-night rearview mirror
- Emergency SOS: 911 Assist emergency communication system
- Front Cupholder: front and rear cupholders
- Overhead Console: full overhead console with storage
- Glove Box: illuminated locking glove box
- Driver Door Bin: driver and passenger door bins
- Rear Door Bins: rear door bins
- Dashboard Storage: dashboard storage
- IP Storage: covered bin instrument-panel storage
- Retained Accessory Power: retained accessory power
- Power Accessory Outlet: 2 12V DC power outlets

Entertainment Features:
- radio AM/FM stereo with seek-scan
- Voice Activated Radio: voice activated radio
- Steering Wheel Radio Controls: steering-wheel mounted audio controls
- Speakers: 8 speakers
- Internet Access: FordPass Connect 4G LTE WiFi internet access
- 1st Row LCD: 2 1st row LCD monitor
- Wireless Connectivity: wireless phone connectivity
- Antenna: fixed antenna

Lighting, Visibility and Instrumentation Features:
- Headlamp Type delay-off aero-composite halogen headlamps
- Auto-Dimming Headlights: Ford Co-Pilot360 - Auto High Beam auto high-beam headlights
- Cab Clearance Lights: cab clearance lights
- Underhood Light: underhood light
- Front Wipers: variable intermittent wipers
- Tinted Windows: light-tinted windows
- Dome Light: dome light with fade
- Front Reading Lights: front reading lights
- Variable IP Lighting: variable instrument panel lighting
- Display Type: analog display
- Tachometer: tachometer
- Compass: compass
- Exterior Temp: outside-temperature display
- Trip Computer: trip computer

Trip Odometer: trip odometer
Water Temp Gauge: water temp. gauge
Turbo/Supercharger Boost Gauge: turbo/supercharger boost gauge
Transmission Oil Temp Gauge: transmission oil temp. gauge
Engine Hour Meter: engine hour meter
Clock: in-radio display clock
Systems Monitor: systems monitor
Rear Vision Camera: rear vision camera
Oil Pressure Warning: oil-pressure warning
Water Temp Warning: water-temp. warning
Battery Warning: battery warning
Lights On Warning: lights-on warning
Key in Ignition Warning: key-in-ignition warning
Low Fuel Warning: low-fuel warning
Door Ajar Warning: door-ajar warning
Brake Fluid Warning: brake-fluid warning

Safety And Security:
ABS four-wheel ABS brakes
Number of ABS Channels: 3 ABS channels
Brake Assistance: brake assist
Brake Type: four-wheel disc brakes
Vented Disc Brakes: front and rear ventilated disc brakes
Daytime Running Lights: daytime running lights
Driver Front Impact Airbag: driver and passenger front-impact airbags
Driver Side Airbag: seat-mounted driver and passenger side-impact airbags
Overhead Airbag: Safety Canopy System curtain 1st and 2nd row overhead airbag
Height Adjustable Seatbelts: height adjustable front seatbelts
Side Impact Bars: side-impact bars
Perimeter Under Vehicle Lights: remote activated perimeter/approach lights
Ignition Disable: SecuriLock immobilizer
Security System: security system
Panic Alarm: panic alarm
Traction Control: driveline traction control
Front and Rear Headrests: manual adjustable front head restraints
Rear Headrest Control: 3 rear head restraints

Seats And Trim:
Seating Capacity max. seating capacity of 6
Front Bucket Seats: front split-bench 40-20-40 seats
Number of Driver Seat Adjustments: 4-way driver and passenger seat adjustments
Reclining Driver Seat: manual reclining driver and passenger seats
Driver Lumbar: manual driver and passenger lumbar support
Driver Fore/Aft: manual driver and passenger fore/aft adjustment
Front Centre Armrest Storage: front centre armrest with storage
Rear Seat Type: rear 60-40 split-bench seat
Rear Folding Position: rear seat fold-up cushion
Leather Upholstery: vinyl front and rear seat upholstery
Headliner Material: full cloth headliner
Floor Covering: full vinyl/rubber floor covering
Shift Knob Trim: urethane shift knob
Interior Accents: chrome interior accents

Standard Engine:
Engine 330-hp, 6.7-liter V-8 (diesel)

Standard Transmission:
Transmission 10-speed automatic w/ OD and PowerShift automatic

Report to the City Council
Regular City Council - 26 Nov 2019

Agenda Section: **CONSENT ITEMS**

Subject: **Consideration and proposed approval of Amendment No. 1 in the amount of $12,200 to Professional Services Agreement with Napa County Resource Conservation District STH Contract: 2019-036 for Mitigation Monitoring on the Upper York Creek Dam Removal Project for a new not-to-exceed amount of $30,000.**

CEQA Determination: **Environmental Impact Report (SCH. No. 2006092096)**

Prepared By: Erica Ahmann Smithies, Public Works Director and City Engineer

Reviewed By: April Mitts, Finance Director

Approved By: Mark T. Prestwich, City Manager

BACKGROUND

The City of St. Helena is in the process of developing plans and securing permits for the Upper York Creek Dam Removal Project. The dam, which is owned by the City, is slated for removal. As part of the permitting process, the City is required to develop a Mitigation and Monitoring Plan (MMP) to assess and offset the environmental effects of the dam removal work. On October 16, 2018, the City of St. Helena City Council approved a contract with Napa County Resource Conservation District to develop a MMP to assess and offset the environmental effects of the dam removal work. The total contract amount was not-to-exceed $17,800.

DISCUSSION

The City of St. Helena (City) is modifying York Creek Cam to provide unimpeded fish passage and improve ecological conditions at the site. The City requires a range of environmental services during the pre-construction, construction, and post-construction phases of the project in order to successfully execute the project and comply with the requirements of the funding agencies. The Napa County Resource Conservation District (Consultant) has extensive knowledge of the York Creek watershed and a

history of assessment and monitoring efforts in York Creek and throughout the greater Napa River basin. The Consultant will continue to provide a range of environmental services to the City on an as-needed basis, including modifications to the MMP, participation in permit coordination meetings, and environmental monitoring.

Consultant may perform any of the following tasks:

1. Permit Coordination: Provide technical staff (biologist, hydrologist) to participate in permit coordination meetings and correspondences.
2. MMP Development: Provide technical peer review and comments on draft MMP.
3. Pre-Construction Monitoring: Conduct preliminary and/or pre-construction environmental monitoring outlined in the MMP or requested by the City.
4. Post-Construction Monitoring: Conduct post-construction photo monitoring and visual assessments of installed structures and BMPs as outlined in the MMP or requested by the City.
5. Other Tasks: Other environmental services which are requested by the City and are within the skills, abilities, and competencies of the Consultant.

The original Professional Services Agreement (PSA) STH Contract: 2019-36 was for a not-to-exceed amount of $17,800. Additional funds of $12,200 is necessary to continue with the development of the MMP for a total not-to-exceed amount of $30,000.

FISCAL IMPACT

The total project budget for the Upper York Creek Dam Removal is $6,455,000. Funding for the project is comprised of State Proposition 84 funds, EPA funds, City Water Bonds, City Water Enterprise Funds, and City General Funds. Funds for Amendment No. 1 are available in the current project budget.

RECOMMENDED ACTION

Staff recommends the City Council approve a resolution authorizing Amendment No. 1 to the professional services agreement with Napa County Resource Conservation District STH Contract: 2019-036 for an additional $12,200 for a total not-to-exceed contract amount of $30,000.

ATTACHMENTS

Attachment 1: Resolution
Attachment 2: Amendment No. 1
Attachment 3: Professional Services Agreement RCD

CITY OF ST. HELENA

RESOLUTION NO. 2019- _____

Authorizing Amendment No. 1 to Professional Services Agreement with Napa County Resource Conservation District; STH Contract No: 2019-036 for an additional $12,200.00 for a total contract amount not-to-exceed $30,000.00.

RECITALS

A. On October 16, 2018 the City and Consultant entered into the Agreement for Consultant to provide professional services for the development of a Mitigation and Monitoring Plan (MMP) to assess and offset the environmental effects of the dam removal work on York Creek. Consultant will support the City with input on and technical review of the MMP, participate in meetings with permitting agencies and the City's consultants, and conduct preliminary and/or pre-construction monitoring surveys as needed; and

B. The Agreement's current Scope of Services do not include the funds or the additional work that have been identified by Napa County Resource Conservation District; and

C. The additional funding is necessary to continue the process of developing plans and securing permits and to modify the York Creek dam to provide unimpeded fish passage and improve ecological conditions at the site; and

D. City and Consultant now desire to amend the Agreement with Consultant for the purpose of modifying York Creek dam to provide unimpeded fish passage and improve ecological conditions at the site. This City requires a range of environmental services during the pre-construction, construction, and post-construction phases of the project in order to successfully execute the project and comply with the requirements of its funders. The Napa County Resource Conservation District (Consultant) has extensive knowledge of the York Creek watershed, and a history of assessment and monitoring efforts in York Creek and throughout the greater Napa River basin. Consultant will provide a range of environmental services to the City on an as-needed basis, including modifications to the Mitigation and Monitoring Plan, participation in permit coordination meetings, and environmental monitoring.

RESOLUTION

NOW, THEREFORE, the City Council of the City of St. Helena resolves as follows:

1. Approves Amendment No. 1 to Professional Services Agreement with Napa County Resource Conservation District STH Contract No: FY 2019-0036 for an additional $12,200.00 for a total contract amount not-to-exceed $30,000.00.

Approved at a Regular Meeting of the St. Helena City Council on November 26, 2019 by the following vote:

Mayor Ellsworth: _____
Vice Mayor Dohring: _____
Councilmember Koberstein: _____
Councilmember Chouteau: _____
Councilmember Knudsen: _____

APPROVED: ATTEST:

_____ _____
Geoff Ellsworth, Mayor Cindy Tzafopoulos, City Clerk

AMENDMENT NO. 1
TO PROFESSIONAL SERVICES AGREEMENT WITH NAPA COUNTY RESOURCE CONSERVATION DISTRICT; STH CONTRACT NO: 2019-036 FOR MITIGATION MONITORING ON THE UPPER YORK CREEK DAM REMOVAL PROJECT, CAPITAL IMPROVEMENT PROJECT NO. W-26

This First Amendment to Professional Services Agreement STH Contract: 2019-036 dated October 16, 2018 ("Agreement") is made as of this ____ day of _____, 2019 by and between the City of St. Helena, a municipal corporation ("City"), and Napa County Resource Conservation District. ("Consultant").

RECITALS

A. On October 16, 2018 the City and Consultant entered into the Agreement for Consultant to provide professional services for the development of a Mitigation and Monitoring Plan (MMP) to assess and offset the environmental effects of the dam removal work on York Creek. Consultant will support the City with input on and technical review of the MMP, participate in meetings with permitting agencies and the City's consultants, and conduct preliminary and/or pre-construction monitoring surveys as needed; and

B. The Agreement's current Scope of Services do not include the funds or the additional work that have been identified by Napa County Resource Conservation District; and

C. The additional funding is necessary to continue the process of developing plans and securing permits and to modify the York Creek dam to provide unimpeded fish passage and improve ecological conditions at the site; and

D. City and Consultant now desire to amend the Agreement with Consultant for the purpose of modifying York Creek dam to provide unimpeded fish passage and improve ecological conditions at the site. This City requires a range of environmental services during the pre-construction, construction, and post-construction phases of the project in order to successfully execute the project and comply with the requirements of its funders. The Napa County Resource Conservation District (Consultant) has extensive knowledge of the York Creek watershed, and a history of assessment and monitoring efforts in York Creek and throughout the greater Napa River basin. Consultant will provide a range of environmental services to the City on an as-needed basis, including modifications to the Mitigation and Monitoring Plan, participation in permit coordination meetings, and environmental monitoring.

AGREEMENT

NOW, THEREFORE, in consideration of the promises and of the mutual covenants and agreements herein contained, for good and valuable consideration, the adequacy of which is hereby acknowledged, the parties agree to amend the Agreement as follows:

1. Section 1. Basic Services
   Parties agree to amend Section 1, "Basic Services" of the Agreement to provide additional services, as outlined in Exhibit A, "Scope of Work" attached hereto.

2. Section 3. Time of Completion
The time of completion of services shall be as identified in “Exhibit A, “Scope of Work” attached hereto.

3. Section 4.A. Compensation and Method of Payment, is amended to read as follows:
“Total compensation shall not exceed $30,000.00…”

All other terms of the Agreement shall remain in full force and effect.

Entered as of the day and year first above stated.

CONSULTANT:

Signatures of Authorized Persons:

By: _____

Print Name:_____

Title: _____

CITY OF ST. HELENA
a Municipal Corporation

By:_____

Print Name: Mark T. Prestwich

Title: City Manager

APPROVED AS TO FORM:

_____
Kara K. Ueda, City Attorney

ATTEST:

_____
City Clerk

Attachments:

Exhibit A, “Scope of Work”
Exhibit B, “Budget & Compensation”

EXHIBIT A
"Scope of Work"

I. Background

The City of St. Helena (City) is modifying York Creek dam to provide unimpeded fish passage and improve ecological conditions at the site.. This City requires a range of environmental services during the pre-construction, construction, and post-construction phases of the project in order to successfully execute the project and comply with the requirements of its funders. The Napa County Resource Conservation District (Consultant) has extensive knowledge of the York Creek watershed, and a history of assessment and monitoring efforts in York Creek and throughout the greater Napa River basin. Consultant will provide a range of environmental services to the City on an as-needed basis, including modifications to the Mitigation and Monitoring Plan, participation in permit coordination meetings, and environmental monitoring.

II. Work to be Performed

The specific work to be performed by the Consultant will be authorized in advance and in writing by the City Council or City Manager of the City. Consultant may perform any of the following tasks:

1. Permit Coordination: Provide technical staff (biologist, hydrologist) to participate in permit coordination meetings and correspondences.

2. MMP Development: Provide technical peer review and comments on draft MMP.

3. Pre-Construction Monitoring: Conduct preliminary and/or pre-construction environmental monitoring outlined in the MMP or requested by the City.

4. Post-Construction Monitoring: Conduct post-construction photo monitoring and visual assessments of installed structures and BMPs as outlined in the MMP or requested by the City.

5. Other Tasks: Other environmental services which are requested by the City and are within the skills, abilities, and competencies of the Consultant.

III. Deliverables

Monthly invoices and activity reports. Technical memos summarizing monitoring and/or survey results. Typically, one technical memo per survey will be delivered within 2 weeks of survey date. Photos
in electronic file format will also be delivered with technical memos.

IV. Time for Completion

Work will be completed by June 30, 2021.

EXHIBIT B
"Budget & Compensation"

I. Budget

The total payment for services and expenses under this Agreement shall not exceed $30,000.00. Expenses can include auto mileage, daily equipment usage fees, and supplies. Mileage rates shall correspond to annual IRS Standard Mileage Rates for Business Use. The 2019 IRS rate is 58 cents per mile driven. All supplies must be tied to specific project activities and cannot include general use office supplies.

II. Compensation

Consultant shall invoice the City each month, and the City shall compensate Consultant for the services outlined in Exhibit A, in accordance with the following hourly rates for the Consultant employees whose positions are noted:

Position Classification	Hourly Rate
Senior Biologist	$97.12
Senior Hydrologist	$89.34
General Manager	$93.10
Office Manager	$73.96

Consultant adjusts its billable rates annually on July 1 and whenever there is a change in an employee's underlying direct pay rate. On July 1, 2019, or whenever there is any other change to any of these rates, Consultant will notify City immediately, and with the approval of City's City Manager, or his/her designee, Consultant may implement such adjusted rates.

STH CONTRACT: FY 2019-036

AGREEMENT FOR PROFESSIONAL SERVICES

THIS AGREEMENT, made and entered into on October 16, 2018, by and between the City of St. Helena, located in the County of Napa, State of California (City), and Napa County Resource Conservation District (Consultant).

RECITALS:

A. City desires to employ Consultant to furnish professional services in connection with the project described as Mitigation Monitoring for Upper York Creek Dam Removal.

B. Consultant has represented that Consultant has the necessary expertise, experience, and qualifications to perform the required duties.

NOW, THEREFORE, in consideration of the mutual premises, covenants, and conditions herein contained, the parties agree as follows:

SECTION 1 – BASIC SERVICES

Consultant agrees to perform the services set forth in **Exhibit A, "Scope of Services"** and made part of this Agreement.

SECTION 2 – ADDITIONAL SERVICES

Consultant shall not be compensated for any services rendered in connection with its performance of this Agreement that are in addition to or outside of those set forth in this Agreement or **Exhibit A, "Scope of Services,"** unless such additional services and compensation are authorized in advance and in writing by the City Council or City Manager of the City.

SECTION 3 – TIME FOR COMPLETION

The time for completion of services shall be as identified in **Exhibit A, "Scope of Services"**.

SECTION 4 – COMPENSATION AND METHOD OF PAYMENT

A. Subject to any limitations set forth in this Agreement, City agrees to pay consultant the amount specified in Exhibit B, "Compensation" attached hereto and made a part hereof. Total compensation shall not exceed $17,800.00, unless additional compensation is approved in accordance with Section 2.

B. Consultant shall furnish to City an original invoice for all work performed and expenses incurred during the preceding month. The invoice shall detail charges by the following categories if applicable: labor (by sub-category), travel, materials, equipment, supplies, subconsultant contracts, and miscellaneous expenses. Each original invoice furnished shall include the expenses incurred during the preceding month, the cumulative Agreement amount, and the amount remaining on the Agreement. City shall independently review each invoice

submitted to determine whether the work performed and expenses incurred are in compliance with the provisions of this Agreement. If no charges or expenses are disputed, the invoice shall be approved, and City will use its best efforts to cause Consultant to be paid within 30 days of receipt of invoice. If the City disputes any charges or expenses, the City will return the original invoice to Consultant for correction and resubmission. If the City reasonably determines, in its sole judgment, that the invoiced charges and expenses exceed the value of the services performed to date and that it is probable that the Agreement will not be completed satisfactorily within the contract price, City may retain all or a portion of the invoiced charges and expenses. Within thirty (30) days of satisfactory completion of the project, City shall pay the retained amount, if any, to Consultant.

C. Payment to the Consultant for work performed pursuant to this Agreement shall not be deemed to waive any defects in work performed by Consultant.

SECTION 5 – STANDARD OF PERFORMANCE

Consultant represents and warrants that it has the qualifications, experience and facilities necessary to properly perform the services required under this Agreement in a thorough, competent and professional manner. Consultant shall at all times faithfully, competently and to the best of its ability, experience and talent, perform all services described herein. In meeting its obligations under this Agreement, Consultant shall employ, at a minimum, generally accepted standards and practices utilized by persons engaged in providing services similar to those required of Consultant under this Agreement.

SECTION 6 – INSPECTION AND FINAL ACCEPTANCE

City may inspect and accept or reject any of Consultant's work under this Agreement, either during performance or when completed. City shall reject or finally accept Consultant's work within sixty (60) days after submitted to City, unless the parties mutually agree to extend such deadline. City shall reject work by a timely written explanation, otherwise Consultant's work shall be deemed to have been accepted. City's acceptance shall be conclusive as to such work except with respect to latent defects and fraud. Acceptance of any of Consultant's work by City shall not constitute a waiver of any of the provisions of this Agreement including, but not limited to, the sections pertaining to indemnification and insurance.

SECTION 7 – INSURANCE REQUIRED

Consultant shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Consultant, its agents, representatives, or employees, as indicated:

A. Minimum Scope of Insurance. Coverage shall be at least as broad as:
   1. Insurance Services Office Commercial General Liability coverage (occurrence form CG 0001).
   2. Insurance Services Office form number CA 0001 (Ed. 1/87) covering Automobile Liability, code 1 (any auto).

3. Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance.

B. Minimum Limits of Insurance. Consultant shall maintain limits no less than:

1. General Liability: $2,000,000 per occurrence for bodily injury, personal injury and property damage including operations, products and completed operations, as applicable. If Commercial General Liability Insurance or other form with a General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability: $2,000,000 per accident for bodily injury and property damage.
3. Employer's Liability: $2,000,000 per accident for bodily injury or disease.

C. Professional Liability Insurance. When Consultant under this Agreement is duly licensed under California Business and Professions Code as an architect, landscape architect, environmental engineer or other professional engineer, or land surveyor ("design professional"), Consultant shall maintain at least $2,000,000 of professional liability insurance.

D. Excess Limits. If Consultant maintains higher limits than the minimums shown above, City requires and shall be entitled to coverage for the higher limits maintained by Consultant. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.

E. Primary Coverage. For any claims related to this contract the Consultants insurance coverage shall be primary insurance as respects to City, its officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees, or volunteers shall be excess of Consultants insurance and shall not contribute with it.

F. Deductibles and Self-Insured Retentions. Any deductibles or self-insured retentions of $25,000 or greater must be declared to and approved by the City.

G. Other Insurance Provisions. The commercial general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:

1. The City, its agent, officers, officials, employees, and volunteers are to be covered as additional insured as respects: liability arising out of work or operations performed by the Consultant or Consultant's subconsultants; or automobile owned, leased, hired or borrowed by the Consultant.
2. For any claims related to Consultant's conduct while performing the work of this project, the Consultant's insurance coverage shall be primary insurance as respects the City, its agents, officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the City, its agents, officers, officials, employees or volunteers shall be excess of the Consultant's insurance and shall not contribute with it.
3. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be cancelled by either party, except after thirty (30) days prior

written notice by certified mail, return receipt requested, has been given to the City.

4. Coverage shall not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under Subsection (b) of Section 2782 of the Civil Code.

H. Waiver of Subrogation. Consultant's commercial general liability, automobile liability, workers' compensation, and employer's liability policies shall be endorsed with a waiver of subrogation. The insurance company, in its endorsement, agrees to waive all rights of subrogation against the City, its agents, officers, officials, employees and volunteers for losses paid under the terms of this policy which arises from the work performed by the named insured for the City.

I. The Acceptability of Insurers. Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A: VII, unless otherwise acceptable to the City.

J. Verification of Coverage. Consultant shall furnish the City with original certificates and amendatory endorsements effecting coverage required by this clause. The endorsements should be on forms provided by the City or on forms that conform to City requirements. All certificates and endorsements are to be received and approved by the City before work commences. The City reserves the right to require complete, certified copies of all required insurance policies, including endorsements affecting the coverage required by these specifications at any time.

SECTION 8 – INDEMNIFICATION

A. To the fullest extent allowed by law (including without limitation California Civil Code Sections 2782 and 2782.8), as may be applicable, Consultant shall indemnify and hold harmless City, its agents, officers, officials, employees, and volunteers from any and all claims, demands, suits, loss, damages, injury, and/or liability (including any and all costs and expenses in connection therewith) (collectively, "Liabilities"), incurred by reason of any negligent or otherwise wrongful act or omission of Consultant, its officers, agents, employees, and subcontractors, or any of them, under or in connection with this Agreement; and Consultant agrees at its own cost, expense and risk to defend any and all claims, actions, suits, or other legal proceedings brought or instituted against City, its agents, officers, officials, employees, and volunteers, or any of them, arising out of such negligent or otherwise wrongful act or omission, and to pay and satisfy any resulting judgments.

B. When Consultant under this Agreement is duly licensed under California Business and Professions Code as an architect, landscape architect, professional engineer, or land surveyor ("design professional"), the provisions of this section regarding Consultant's duty to defend and indemnify apply only to claims that arise out of or relate to the negligence, recklessness, or willful misconduct of the design professional.

C. If any action or proceeding is brought against Indemnitees by reason of any of the matters against which Consultant has agreed to indemnify Indemnitees as provided above, Consultant, upon notice from City, shall defend Indemnitees at Consultant's expense by counsel acceptable to City, such acceptance not to be unreasonably withheld. Indemnitees need not have

first paid for any of the matters to which Indemnitees are entitled to Indemnification in order to be so indemnified. The insurance required to be maintained by Consultant shall ensure Consultant's obligations under this section, but the limits of such insurance shall not limit the liability of Consultant hereunder. The provisions of this section shall survive the expiration or earlier termination of this Agreement.

D. The provisions of this section do not apply to claims to the extent occurring as a result of the City's sole negligence, active negligence, or willful acts or misconduct.

E. Duty to Cooperate. Each party shall notify the other party immediately in writing of any claim or damage related to activities or services performed under this Agreement. The parties shall cooperate with each other in the investigation and disposition of all Liabilities arising out of the activities or services under this Agreement.

SECTION 9 – INDEPENDENT CONTRACTOR STATUS

A. Consultant is and shall at all times remain a wholly independent contractor and not an officer, employee, or agent of City. Consultant shall have no authority to bind City in any manner or to incur an obligation, debt, or liability of any kind on behalf of or against City, whether by contract or otherwise, unless such authority is expressly conferred under this Agreement or is otherwise expressly conferred in writing by City.

B. The personnel performing the services under this Agreement on behalf of Consultant shall at all times be under Consultant's exclusive direction and control. Neither City, nor any elected or appointed boards, officers, officials, employees, or agents of City, shall have control over the conduct of Consultant or any of Consultant's officers, employees or agents, except as set forth in this Agreement. Consultant shall not at any time or in any manner represent that Consultant or any of Consultant's officers, employees, or agents are in any manner officials, officers, employees, or agents of City.

C. Neither Consultant, nor any of Consultant's officers, employees, or agents, shall obtain any rights to retirement, health care or any other benefits which may otherwise accrue to City's employees. Consultant expressly waives any claim Consultant may have to any such rights.

SECTION 10 – CONFLICTS OF INTEREST AND ANTI-FRAUD AND ANTI-CORRUPTION POLICIES

A. Consultant covenants that neither it, nor any officer or principal of its firm, has or shall acquire any interest, directly or indirectly, which would conflict in any manner with the interests of City or which would in any way hinder Consultant's performance of services under this Agreement. Consultant further covenants that in the performance of this Agreement, no person having any such interest shall be employed by it as an officer, employee, agent, or subcontractor without the express written consent of the City Manager. Consultant agrees to at all times avoid conflicts with the interests of City in the performance of this Agreement.

B. City understands and acknowledges that Consultant is, as of the date of execution of this Agreement, independently involved in the performance of non-related services for other governmental agencies and private parties. Consultant is aware of any stated position of City

relative to such projects. Any future position of City on such projects shall not be considered a conflict of interest for purposes of this section.

C. Consultant understands and acknowledges City maintains an anti-fraud and anti-corruption policy to protect the City, its operations, and its employees from and against financial risks, operational breaches, and unethical, fraudulent, and corrupt activities. Consultant represents and warrants that Consultant, its subcontractor(s)/subconsultant(s) and their respective employees providing services pursuant to the Agreement are (1) in good standing; (2) have not been previously investigated, convicted, or debarred for fraudulent or corrupt activities; (3) will not participate in fraudulent or corrupt activities, and (4) will take steps to ensure that its employees and subcontractor(s)/subconsultant(s) employees do not participate in any fraudulent or corrupt activities. Consultant acknowledges and agrees further that it has a duty to and will report to City any information or incident(s) about possible fraudulent or corrupt activities Consultant may discover, and will cooperate in any fraud or corruption investigation conducted, with respect to Consultant's service provided pursuant to this Agreement.

SECTION 11 – OWNERSHIP OF DOCUMENTS

A. All original maps, models, designs, drawings, photographs, studies, surveys, reports, data, notes, computer files, files, and other documents prepared, developed or discovered by Consultant in the course of providing any services pursuant to this Agreement shall become the sole property of City and may be used, reused, or otherwise disposed of by City without the permission of the Consultant. When requested by City, but no later than three years after project completion, Consultant shall deliver to City all such original maps, models, designs, drawings, photographs, studies, surveys, reports, data, notes, computer files, files, and other documents.

B. All copyrights, patents, trade secrets, or other intellectual property rights associated with any ideas, concepts, techniques, inventions, processes, improvements, developments, works of authorship, or other products developed or created by Consultant during the course of providing services (collectively the "Work Product") shall belong exclusively to City. The Work Product shall be considered a "work made for hire" within the meaning of Title 17 of the United States Code. Without reservation, limitation, or condition, Consultant hereby assigns, at the time of creation of the Work Products, without any requirement of further consideration, exclusively and perpetually, any and all right, title, and interest Consultant may have in the Work Product throughout the world, including without limitation any copyrights, patents, trade secrets, or other intellectual property rights, all rights of reproduction, all rights to create derivative works, and the right to secure registrations, renewals, reissues, and extensions thereof.

SECTION 12 – CONFIDENTIAL INFORMATION; RELEASE OF INFORMATION

A. All information gained or work product produced by Consultant in performance of this Agreement shall be considered confidential, unless such information is in the public domain or already known to Consultant. Consultant shall not release or disclose any such information or work product to persons or entities other than City without prior written authorization from the City Manager, except as may be required by law.

B. Consultant, its officers, employees, agents, or subcontractors, shall not, without prior written authorization from the City Manager or unless requested by the City Attorney of City, voluntarily provide declarations, letters of support, testimony at depositions, response to interrogatories, or other information concerning the work performed under this Agreement. Response to a subpoena or court order shall not be considered "voluntary" provided consultant gives City notice of such court order or subpoena.

C. If Consultant, or any officer, employee, agent, or subcontractor of Consultant, provides any information or work product in violation of this Agreement, then City shall have the right to reimbursement and indemnity from Consultant for any damages, costs, and fees, including attorneys' fees, caused by or incurred as a result of Consultant's conduct.

D. Consultant shall promptly notify City should Consultant, its officers, employees, agents, or subcontractors be served with any summons, complaint, subpoena, notice of deposition, request for documents, interrogatories, request for admissions, or other discovery request, court order, or subpoena from any party regarding this Agreement and the work performed thereunder. City retains the right, but has no obligation, to represent Consultant or be present at any deposition, hearing or similar proceeding. Consultant agrees to cooperate fully with City and to provide City with the opportunity to review any response to discovery requests provided by Consultant. However, this right to review any such response does not imply or mean the right by City to control, direct, or rewrite such response.

SECTION 13 – SUSPENSION OF WORK

City may, at any time, by ten (10) days written notice suspend further performance by Consultant. All suspensions shall extend the time schedule for performance in a mutually satisfactory manner and Consultant shall be paid for services performed and reimbursable expenses incurred prior to the suspension date.

SECTION 14 – COMPLIANCE WITH LAW

Consultant shall keep itself informed of and comply with all applicable federal, state and local laws, statutes, codes, ordinances, regulations, and rules in effect during the term of this Agreement. Consultant shall obtain any and all licenses, permits and authorizations necessary to perform the services set forth in this Agreement. Neither City, nor any elected or appointed boards, officers, officials, employees, or agents of City, shall be liable, at law or in equity, as a result of any failure of Consultant to comply with this section.

SECTION 15 – COMPLIANCE WITH CIVIL RIGHTS

During the performance of this contract, Consultant agrees as follows:

A. Equal Employment Opportunity. In connection with the execution of this Agreement, Consultant shall not discriminate against any employee or applicant for employment because of race, religion, color, ancestry, age, sexual orientation, gender, gender identity and gender expression as protected categories specifically and expressively in that category, physical handicap, medical condition, marital status, sex, or national origin. Such actions shall include, but not be limited to, the following: employment, promotion, upgrading, demotion, or transfer;

recruitment, or recruitment advertising; layoff or termination; rate of pay or other forms of compensation; and selection for training including apprenticeship.

B. Nondiscrimination Civil Rights Act of 1964. Consultant will comply with all federal regulations relative to nondiscrimination to federally-assisted programs.

C. Solicitations for Subcontractors including Procurement of Materials and Equipment. In all solicitations, either by competitive bidding or negotiations, made by Consultant for work to be performed under a subcontract, including procurement of materials or leases of equipment, each potential subcontractor, supplier, or lessor shall be notified by Consultant of Consultant's obligations under this Agreement and the regulations relative to nondiscrimination.

SECTION 16 – RECORDS

A. Records of Consultant's direct labor costs, payroll costs, and reimbursable expenses pertaining to this project covered by this Agreement will be kept on a generally recognized accounting basis and made available to City if and when required for a period of up to 3 years from the date of Consultant's final invoice.

B. Consultant's records and design calculations will be available for examination and audit if and as required. The cost of any reproductions shall be paid by City.

SECTION 17 – COOPERATION BY CITY

All public information, data, reports, records, and maps as are existing and available to City as public records, and which are necessary for carrying out the work as outlined in the Exhibit A, "Scope of Services," shall be furnished to Consultant in every reasonable way to facilitate, without undue delay, the work to be performed under this Agreement.

SECTION 18 – NOTICES

All notices required or permitted to be given under this Agreement shall be in writing and shall be personally delivered, or sent by facsimile, first-class mail, or email addressed as follows:

To City:
City Manager
1480 Main Street
St. Helena, California 94574

To Consultant:
Lucas Patzek, General Manager
1303 Jefferson Street
Suite 500B
Napa, California 94559

Notice shall be deemed effective on the date personally delivered or transmitted by facsimile, or, if mailed, three (3) days after deposit in the custody of the U.S. Postal Service.

SECTION 19 – TERMINATION

A. City may terminate this Agreement, with or without cause, at any time by giving ten (10) days written notice of termination to Consultant. If such notice is given, Consultant shall cease immediately all work in progress.

B. If either Consultant or City fail to perform any material obligation under this Agreement, then, in addition to any other remedies, either Consultant, or City may terminate this Agreement immediately upon written notice.

C. Upon termination of this Agreement by either Consultant or City, all property belonging to City which is in Consultant's possession shall be delivered to City. Consultant shall furnish to City a final invoice for work performed and expenses incurred by Consultant, prepared as set forth in this Agreement.

SECTION 20 – ATTORNEYS' FEES

If litigation or other proceeding is required to enforce or interpret any provision of this Agreement, the prevailing party in such litigation or other proceeding shall be entitled to an award of reasonable attorneys' fees, costs, and expenses, in addition to any other relief to which it may be entitled. In addition, any legal fees, costs, and expenses incurred to enforce the provisions of this Agreement shall be reimbursed to the prevailing party.

SECTION 21 – ENTIRE AGREEMENT

This Agreement, including the attached Exhibits, is the entire, complete, final, and exclusive expression of the parties with respect to the matters addressed therein and supersedes all other agreements or understandings, whether oral or written, or entered into between Consultant and City prior to the execution of this Agreement. No statements, representations, or other agreements, whether oral or written, made by any party which are not embodied herein shall be valid and binding unless in writing duly executed by the parties or their authorized representatives.

SECTION 22 – SUCCESSORS AND ASSIGNS

This Agreement shall be binding on the heirs, executors, administrators, successors and assigns of the parties. However, this Agreement shall not be assigned by Consultant without written consent of the City.

SECTION 23 – CONTINUITY OF PERSONNEL

Consultant shall make every reasonable effort to maintain the stability and continuity of Consultant's staff assigned to perform the services required under this Agreement. Consultant shall notify City of any changes in Consultant's staff assigned to perform the services required under this Agreement, prior to any such performance.

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SECTION 24 – DEFAULT

In the event that Consultant is in default under the terms of this Agreement, the City shall not have any obligation or duty to continue compensating Consultant for any work performed after the date of default and may terminate this Agreement immediately by written notice to Consultant.

SECTION 25 – WAIVER

Waiver by any party to this Agreement of any term, condition, or covenant of this Agreement shall not constitute a waiver of any other term, condition, or covenant. Waiver by any party of any breach of the provisions of this Agreement shall not constitute a waiver of any other provision, or a waiver of any subsequent breach or violation of any provision of this Agreement. Acceptance by City of any work or services by Consultant shall not constitute a waiver of any of the provisions of this Agreement.

SECTION 26 – LAW TO GOVERN; VENUE

This Agreement shall be interpreted, construed and governed according to the laws of the State of California. In the event of litigation between the parties, venue in state trial courts shall lie exclusively in the County of Napa. In the event of litigation in a U.S. District Court, venue shall lie exclusively in the Northern District of California, in San Francisco.

SECTION 27 – SEVERABILITY

If any term, condition or covenant of this Agreement is declared or determined by any court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions of this Agreement shall not be affected thereby and the Agreement shall be read and construed without the invalid, void or unenforceable provision(s).

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SECTION 28 – SPECIAL PROVISIONS

This Agreement is subject to the following special provisions: none.

IN WITNESS WHEREOF, the parties hereto have accepted, made, and executed this Agreement upon the terms, conditions, and provisions above stated, the day and year first above written.

Consultant:

By: _____
Name: Gretchen Stranzl McCann
Title: President, Board of Directors

Approved as to Form:

By: *Shana A. Bagley (e-sign)*
Name: Shana Bagley
Title: RCD Legal Counsel

City:

By: _____
Name: Mark T. Prestwich
Title: City Manager

Approved as to Form:

By: _____
Name: Thomas B. Brown
Title: City Attorney

EXHIBIT A
"Scope of Services"

I. Background

The City of St. Helena (City) is in the process of developing plans and securing permits for a dam removal project on York Creek. The defunct dam, which is owned by the City, is slated for removal beginning in 2019. As part of the permitting process, the City is required to develop a Mitigation and Monitoring Plan (MMP) to assess and offset the environmental effects of the dam removal work. The Napa County Resource Conservation District (Consultant) has extensive knowledge of the York Creek watershed, and a history of assessment and monitoring efforts in York Creek and throughout the greater Napa River basin. Consultant will support the City with input on and technical review of the MMP, participate in meetings with permitting agencies and the City's consultants, and conduct preliminary and/or pre-construction monitoring surveys as needed.

II. Work to be Performed

Consultant shall perform the following tasks:

1. Permit Coordination: Provide technical staff (biologist, hydrologist) to participate in permit coordination meetings and correspondences.

2. MMP Development: Provide technical peer review and comments on draft MMP.

3. Pre-Construction Monitoring: Conduct preliminary and/or pre-construction environmental monitoring outlined in the MMP or requested by the City.

III. Deliverables

Monthly invoices and activity reports. Task 3 deliverables (only if implemented) will include a technical memo summarizing monitoring and/or survey results.

IV. Time for Completion

Work will be completed by June 30, 2019.

EXHIBIT B
"Budget & Compensation"

I. Budget

The total payment for services and expenses under this Agreement shall not exceed $17,800.00, but the presented task budgets are only an estimate, as funding may be allocated differently by tasks depending on the project needs. Expenses include auto mileage ($0.545 per mile) and daily equipment usage fees.

Task	Labor	Expenses	Budget, Row Total
1. Permit Coordination	$2,000.00	$100.00	$2,100.00
2. MMP Development	$5,000.00	$0.00	$5,000.00
3. Pre-Construction Monitoring	$10,000.00	$700.00	$10,700.00
Budget, Column Total:	**$17,000.00**	**$800.00**	**$17,800.00**

II. Compensation

Consultant shall invoice the City each month, and the City shall compensate Consultant for the services outlined in Exhibit A, in accordance with the following hourly rates for the Consultant employees whose positions are noted:

Position Classification	Work to be Performed	Hourly Rate
Senior Biologist	Project Manager, Technical Review and Monitoring	$97.35
Senior Hydrologist	Technical Review and Monitoring	$87.10
General Manager	Administration & Oversight	$92.64
Office Manager	Bookkeeping	$72.06

NON-MEMBER'S CERTIFICATE OF COVERAGE

Issue Date
9/25/2018

Provider Special District Risk Management Authority
1112 'I' Street, Suite 300
Sacramento, California 95814
800.537.7790 www.sdrma.org

SDRMA

Member **Napa County Resource Conservation District**
1303 Jefferson Street, Suite 500 B
Napa, California 94559

Member Number: 7273
Certificate Number: 150

This is to certify that coverages listed below have been issued to the Member named above for the period indicated. This certificate is not an insurance policy or an agreement of coverage and does not amend, extend or alter the coverage afforded by the agreements listed herein. Notwithstanding any requirement, term, or condition of any contract or other document with respect to which this certificate may be issued or may pertain, the coverage described herein is subject to all the terms, exclusions, and conditions of the specific coverage document. This certificate of coverage evidences the limits of liability in effect at the inception of the agreements shown; limits shown may have been reduced by paid claims. This certificate is issued as a matter of information only and confers no rights upon the certificate holder.

Type of Coverage	Policy Number	Effective Date	Expiration Date	Limits	
Auto Liability	LCA-SDRMA-201819	7/1/2018	7/1/2019		
Auto Bodily Injury				Per Occurrence	$2,000,000
Auto Property Damage					$2,000,000
General Liability	LCA-SDRMA-201819	7/1/2018	7/1/2019		
Bodily Injury				Per Occurrence	$2,000,000
Property Damage					$2,000,000

City of St. Helena, its agents, officers, officials, employees, and volunteers are named as additional covered parties in respects to dam removal project on York Creek.

Cancellation: Should any of the above-described policies be cancelled before the expiration dates thereof, the issuing company will endeavor to mail 30 days written notice to the above-named certificate holder, but failure to mail such notice shall impose no obligation or liability of any kind upon the company.

Certificate Dates:	Effective Date	Expiration Date	Certificate Type:	
	9/25/2018	7/1/2019		[X] Additional Covered Party [ ] Loss Payee [ ] Evidence of Coverage

Certificate Holder
City of St. Helena
1480 Main Street
St. Helena, CA 94574

Paul Frydendal - Chief Operating Officer

SDRMA
SPECIAL DISTRICT RISK MANAGEMENT AUTHORITY

1112 I Street, Suite 300
Sacramento, California 95814-2865
T 916.231.4141 or 800.537.7790 * F 916.231.4111

Maximizing Protection. Minimizing Risk. * www.sdrma.org

This endorsement changes the Liability Coverage Agreement. Please read it carefully.

COVERAGE PERIOD: **9/25/2018 through 7/1/2019**

MEMBER AGENCY
Napa County Resource Conservation District
1303 Jefferson Street, Suite 500 B
Napa, California 94559

ADDITIONAL COVERED PARTY
City of St. Helena
1480 Main Street
St. Helena, CA 94574

This endorsement modifies the Liability Coverage Agreement provided under the following:

Auto Liability - Auto Bodily Injury - LCA-SDRMA-201819 - Per Occurrence - $2,000,000

Auto Liability - Auto Property Damage - LCA-SDRMA-201819 - Per Occurrence - $2,000,000

General Liability - Bodily Injury - LCA-SDRMA-201819 - Per Occurrence - $2,000,000

General Liability - Property Damage - LCA-SDRMA-201819 - Per Occurrence - $2,000,000

It is hereby agreed that this endorsement is added to the Liability Coverage Agreement issued to **Napa County Resource Conservation District** by Special District Risk Management Authority ("SDRMA") adding the following as an **Additional Covered Party.**

City of St. Helena, its agents, officers, officials, employees, and volunteers are named as additional covered parties in respects to dam removal project on York Creek.

Unless required by a contract between **Napa County Resource Conservation District** and **City of St. Helena**, coverage afforded by this **ENDORSEMENT** shall be excess and non-contributory with respect to any other valid and collectible insurance or risk financing providing coverage to **City of St. Helena**, including any self-insured retention the **City of St. Helena** may have, and any other insurance or risk financing providing coverage to the **City of St. Helena** shall be considered primary to this coverage. If required by a contract between **Napa County Resource Conservation District** and **City of St. Helena**, the coverage afforded by this ENDORSEMENT shall be primary with respect to any other valid and collectible insurance or risk financing providing coverage to the **City of St. Helena** including any self-insured retention the **City of St. Helena** may have, and any other insurance or risk financing providing coverage to the **City of St. Helena** shall be considered excess to this coverage. The coverage afforded by this **ENDORSEMENT** is afforded only with respect to liability arising out of the ongoing operations of the SDRMA Member named above and provided further that this coverage does not apply to the sole negligence of the additional covered party named above. Coverage shall not be extended for the active negligence of the **City of St. Helena** in any case where an agreement to indemnify the additional named party would be invalid under Subdivision (b) of Section 2782 of the Civil Code.

All other terms and conditions remained unchanged.

Coverage provided by this endorsement, under the terms, conditions and exclusions contained in the Liability Coverage Agreement issued by SDRMA to **Napa County Resource Conservation District** shall not be reduced or canceled without 30 days written notice given to the ***City of St. Helena*** via certified mail.

THIS ENDORSEMENT CHANGES THE LIABILITY COVERAGE AGREEMENT. PLEASE READ IT CAREFULLY.

The inclusion of more than one **Covered Party** shall not operate to impair the rights of one Covered Party against another Covered Party and the coverages afforded shall apply as though separate policies have been issued to each Covered Party except that the inclusion of more than one covered party shall not increase the limit of liability of SDRMA.

Effective date of this endorsement is: 9/25/2018

Signed by: _____
Paul Frydendal - Chief Operating Officer

NON-MEMBER'S CERTIFICATE OF COVERAGE

Issue Date
9/25/2018

Provider Special District Risk Management Authority
1112 'I' Street, Suite 300
Sacramento, California 95814
800.537.7790 www.sdrma.org

SDRMA

Member **Napa County Resource Conservation District**
1303 Jefferson Street, Suite 500 B
Napa, California 94559

Member Number: 7273
Certificate Number: 151

This is to certify that coverages listed below have been issued to the Member named above for the period indicated. This certificate is not an insurance policy or an agreement of coverage and does not amend, extend or alter the coverage afforded by the agreements listed herein. Notwithstanding any requirement, term, or condition of any contract or other document with respect to which this certificate may be issued or may pertain, the coverage described herein is subject to all the terms, exclusions, and conditions of the specific coverage document. This certificate of coverage evidences the limits of liability in effect at the inception of the agreements shown; limits shown may have been reduced by paid claims. This certificate is issued as a matter of information only and confers no rights upon the certificate holder.

Type of Coverage	Policy Number	Effective Date	Expiration Date	Limits
Workers' Compensation	WCP-SDRMA-201819	7/1/2018	7/1/2019	Per Occurrence Statutory

Evidence of coverage in respects to dam removal project agreement.

Cancellation: Should any of the above-described policies be cancelled before the expiration dates thereof, the issuing company will endeavor to mail 30 days written notice to the above-named certificate holder, but failure to mail such notice shall impose no obligation or liability of any kind upon the company.

Certificate Dates:	Effective Date	Expiration Date	Certificate Type:	☐ Additional Covered Party ☐ Loss Payee ☒ Evidence of Coverage
	9/25/2018	7/1/2019		

Certificate Holder
City of St. Helena
1480 Main Street
St. Helena, CA 94574

Paul Frydendal - Chief Operating Officer

Report to the City Council
Regular City Council - 26 Nov 2019

Agenda Section: **CONSENT ITEMS**

Subject: **Consideration of proposed approval of a resolution authorizing Amendment #1 to the professional services agreement with Dudek for an additional $78,650 for a total not-to-exceed contract amount of $313,161 in order to complete the Hunter Subdivision Environmental Impact Report (EIR).**

CEQA Determination: **Categorically Exempt, Section 15323**

Prepared By: Aaron Hecock, Acting Planning & Building Director

Reviewed By: April Mitts, Finance Director

Approved By: Mark T. Prestwich, City Manager

BACKGROUND

On December 12, 2017, the City of St. Helena City Council approved a contract with the consulting firm Dudek to prepare an Environmental Impact Report (EIR) for the Hunter Subdivision Project (file no. PL10-040). The total contract amount was not-to-exceed $234,511.

DISCUSSION

During preparation of the Administrative Draft EIR, several new issues arose that had not been foreseen when the original Scope of Services and Budget was executed. Specifically, the potential presence of Native American remains and pre-historic artifacts require an extensive on-site investigation and search of applicable data bases related to the identification of potential resources on the site and immediate vicinity that may be impacted by the proposed project. In order to complete the Phase II Cultural Resource Evaluation Dudek has requested $59,910.

In addition, due to the extensive number of comments received in response to the Notice of Preparation, a significant number of unanticipated meetings and changes to

the project description occurred during the course of preparing the Administrative Draft EIR, Dudek has expended the allocated budgets for several of the components of the EIR. Consequently, Dudek has requested a budget augmentation of $18,740 to complete Phase 04, the Screen Check Draft EIR ($8,210); Phase 06, Meetings/Hearings ($4,680); and Phase 07, Project Management ($5,850).

FISCAL IMPACT

There is no direct fiscal impact to the City as the costs associated with preparation of the EIR are paid by the project applicant. The City is also billing the applicant a 10% administration fee for contracting with and managing the consultant which is not reflected in the dollar figures in this report.

RECOMMENDED ACTION

Staff recommends the City Council approve a resolution authorizing Amendment #1 to the professional services agreement with Dudek for an additional $78,650 for a total not-to-exceed contract amount of $313,161.

ATTACHMENTS

Dudek Contract Amendment Resolution
Dudek_Phase II SOW Cultural Evaluation June 2019
Project Status 7-9-19

CITY OF ST. HELENA

RESOLUTION NO. 2019-_____

Authorizing (1) Amendment #1 to Professional Services Agreement with Dudek STH Contract No: FY 2017-082 for an additional $78,650 for a total contract amount not-to-exceed $313,161.

RECITALS

A. On December 12, 2017 the City and Consultant entered into the Agreement for Consultant to provide professional services in connection with the project described as EIR for the Hunter Property Residential Subdivision project; and

B. During preparation of the Administrative Draft EIR it was discovered that there may be potential presence of Native American remains and pre-historic artifacts, which would require a Cultural Resource Evaluation that was not included in the original scope of work; and

C. Due to extensive comments received in response to the Notice of Preparation, un-anticipated meetings, and changes to the project description while preparing the Administrative Draft EIR, the Consultant has expended the allocated budgets for several components of the EIR; and

D. Additional funding has been requested to complete Phase 04, the Screen Check Draft EIR; Phase 06, Meetings/Hearings; and Phase 07, Project Management; and

E. No budget adjustment is necessary because all costs are paid directly by the applicant.

RESOLUTION

NOW, THEREFORE, the City Council of the City of St. Helena resolves as follows:

1. Approval of this resolution is CEQA Categorically Exempt under Section 15323; and
2. Approves Amendment #1 to Professional Services Agreement with Dudek STH Contract No: FY 2017-082 for an additional $78,650 for a total contract amount not-to-exceed $313,161 and authorizes the City Manager to execute all necessary documents.

Approved at a Regular Meeting of the St. Helena City Council on November 26, 2019, by the following vote:

Mayor Geoff Ellsworth:

Vice Mayor Paul Dohring:

Councilmember Koberstein:

Councilmember Anna Chouteau:

Councilmember David Knudsen:

APPROVED:

_____
Geoff Ellsworth, Mayor

ATTEST:

_____
Cindy Tzafopoulos, City Clerk

Task 9A: Cultural Resources - Phase II Evaluation

Dudek's in-house cultural resources team will provide all necessary cultural resources services to assist with compliance requirements, and also with those aspects of the project involving coordination with other governmental and tribal entities. This consists of the completion of the cultural resource evaluation efforts to comply with the California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act (NHPA). A Phase I survey and Extended Phase I (XPI) subsurface probing effort was completed in April 2019, as part of Dudek's initial Cultural Resources report that was prepared with the intent of assessing previous recommendations included in the prior EIR completed for the Project site by Urban Planning Partners. This work indicated that there are three previously recorded archaeological resources (CA-NAP-406, CA-NAP-843 and CA-NAP-1008) within the Project site. XPI exploratory probing by Dudek confirmed that there are subsurface soil conditions with the potential to support the presence of buried cultural deposits throughout most portions of the Project site. No defined layer of fill was observed to be present, as indicated by the prior EIR, however substantial disturbances of the upper soil depths by agricultural use is evident. CA-NAP-843 and CA-NAP-1008 have been subject to previous evaluation efforts, and are not National Register of Historic Properties (NRHP) or California Register of Historical Resources (CRHR) eligible. Impacts to CA-NAP-843 and CA-NAP-1008 would not represent a significant effect, although appropriate mitigation to account for unanticipated impacts would be required. CA-NAP-406 has been determined to be eligible for CRHR (Criterion 4) and NRHP (Criterion D) listing. Previous investigations evaluating this resource were restricted to portions of this resource located immediately west of the present Projectsite. The actual distribution, composition, and significance of archaeological deposits within the current Project site associated with CA-NAP-406 remain undetermined. Based on available information, the potential resource area could occupy the majority of the Project site; essentially a 1,250 x 510 foot area within the center portion of the Project site from south of Paseo Grand Drive to 150 feet south of Starr Avenue.

CEQA does not provide for the "deferral of environmental analysis" (see *Madera Oversight Coalition, Inc. v. County of Madera 2011*). For cultural resources, standard practice is to apply the following "phased approach" with the intent of saving costs and to meet due diligence requirements under CEQA: Phase I Inventory (survey and archival research); Phase II Evaluation (excavation to determine the location of significant cultural features and deposits); Phase III Data Recovery (intensive excavation and other analysis of significant resources); Phase IV Cultural Monitoring. Currently, Dudek has completed Phase I.

The following options are available to the Project at present. All options assume CA-NAP-406 occupies the entire 1,250 x 510 foot area described above. The preferred approach under CEQA is avoidance of this entire area through dedicated open space or other options. There is a scenario that might include preservation in place of this resource through capping. This would require laying matting across the entire resource surface and then adding sterile soils of sufficient depth such that no portion of the existing native soil within this resource area would be directly disturbed by construction, including for access, ground preparation or utilities. It is assumed that both avoidance and capping would not be feasible from a design perspective and, absent having completed the Evaluation phase (Phase II), an environmental document with these recommendations would likely be contested during public comment. Another option is Data Recovery could be recommended as mitigation if any resources are unearthed during construction. Under this option, the entire area would be considered CRHR/NRHP eligible,

and would be subject to excavation, lab analysis, special studies, and reporting for a representative sample of this larger area. Phase III Data Recovery is essentially the same process as Phase II Evaluation, but more intensive (generally between 2-5 % by volume of the total area of a significant resource). It is also potentially more time consuming, expensive, negatively perceived by Native American communities, and would likely also be contested in comments received on the Draft EIR for skipping Phase II Evaluation work.

Based on review of available options, it appears that the level of environmental analysis required for a defensible document to support the Project as presently planned remains incomplete and additional evaluation efforts within this area of CA-NAP-406 would be required before the EIR could be deemed adequate. The goal of this evaluation work would be to do the following:

- Conduct a Phase II Evaluation to demonstrate that minimum due diligence efforts have been made for assessing Project impacts to potentially significant portions of resource CA-NAP-406, as standard archaeological practice. This will help create a defensible EIR and avoid comments citing the evaluation is inadequate and calling for additional work by the public, Native American tribes, and special interest groups.

- There were 163 Native American burial identified north of the Project site. Conducting ground penetrating radar (GPR) would help provide an increased level of assurance that all feasible efforts were made to avoid impacts to human remains.

- An appropriate evaluation strategy includes identifying the locations of significant and non-significant resources. While it is always possible that significant deposits or features might be present subsurface, the results of previous investigations for this resource suggest that a Phase II Evaluation would very likely result in the identification of additional areas where construction would not impact significant resources (i.e., some portions of CA-NAP-406 within the Project site would be found not to be significant). This would provide a better understanding where those areas on the site do not contain any resources..

The following provides a breakdown of the three components discussed above.

Ground Penetrating Radar:

Work completed for the St. Helen Flood Protection Project resulted in a substantial level of previous archaeological investigation to the west and north of the Project site. This work has demonstrated the area to contain significant and sensitive archaeological resources. Namely, 163 human burials were recovered from one site (CA-NAP-399); the largest number of burials recovered from a single site in Napa Valley to date. In order to assess the potential for burials to be present within the Project site, a GPR investigation is recommended as a relatively inexpensive method of investigation.

Dudek has in-house GPR equipment and personnel trained in non-invasive subsurface cultural resources investigations. The Dudek GPR is a wheeled device approximately the size of a child's wagon, and can be pushed across the ground in a pre-defined survey pattern that is tracked by a high-accuracy GPS devise. GPR uses electromagnetic fields to probe subsurface contexts for structures and changes in soil or material properties. Generally summarized, an antenna sends a finite frequency non-dispersive wave through the ground. This wave is then scattered and/or reflected back as "anomalies" with characteristics that are capable of interpretation. While the

location of anomalies can be identified in the field, and GPR survey strategies adjusted to focus on these areas in real-time, results are post-processed through specialized software for the final results. By walking continuous linear transects and/or grids, this software allows for generation of three dimensional horizontal and visual mapping of subsurface features. GPR works well in non-complex subsurface soils, providing subsurface readings to 10 feet or more below the surface. This is most effective when looking for features that would stand out against the surrounding soil matrix. Results are less conclusive through thick-dense materials, steel-reinforced concrete, dense clay, cobble-rich soils, construction debris, or other complex subsurface contexts with properties that either scatter or absorb waves. Because the process of prehistoric burial would require removal of soils in a discrete area, inhumation, then infilling of soils, this would suggest optimal conditions for use of GPR technology are present.

It is anticipated that a GPR specialist will be able to cover all accessible portions of the project site in a two days. A Dudek archaeologist will be present for a single day to dig at least four "ground truthing" units, measuring up to 0.5 x 0.25 m in size, with the intent of visually exposing the four most promising anomaly. This excavation will be completed by hand. The total depth and dimensions of this unit will be dictated by the feasibility of digging at this location. GPR and GPS results will be processed at a Dudek archaeological laboratory. GIS maps will be generated of any anomalies or evident features identified within the project area. Vertical cross section figures will also be provided if possible features are observed. Results will be interpreted and summarized within the archaeological report. The City and the Project applicant will be contacted following this GPR survey with preliminary findings.

Estimated Cost for GPR..... $6,830.00

Fieldwork Evaluation:

Evaluation efforts will be focused on portions of CA-NAP-406 that intersect the Project site (Table 1). This work will build upon previous XPI investigations. Fieldwork includes detailed recording of features (if identified), surface collection, shovel test pits (STPs) and formal test units. Collected artifacts will be cataloged, analyzed, and curated. STPs, each measuring 0.5 x 0.25 meters in size, are used to assess the distribution of cultural resources deposits. These will be placed generally 40 meters apart throughout the potential CA-NAP-406 area intersecting the Project site; the goal of being to identify the presence/absence of archaeological deposits. STPs will be excavated in levels 20 cm below the surface, and terminated following two sterile (lacking artifacts) levels. Up to three formal Shovel Test Units (STUs), measuring 1 x 0.5 m, will be placed in areas identified through excavation of STPs that have the potential to contain subsurface cultural deposits that may contribute to the significance of this NRHP-eligible resource. The larger volume and controlled depth of excavation (completed in 10 cm levels) provide for an appropriate sample of cultural material and direct inspection of subsurface soil profiles. This inspection of soil profiles allows archaeologists to directly assess the level of disturbance within the site, and thereby consider the level of disturbance to cultural deposits. This spatial "integrity" of cultural material is an important contributor to the significance of any archaeological resource because this context provides information about how different activities have occurred over time. Fieldwork will include description of subsurface conditions, photographic documentation of excavated units, and GPS recordation of all locations. We anticipate that excavation will be completed by four archaeologists in five eight-hour days. The results of this work will be summarized by updating the Department of Parks and Recreation (DPR) forms for this resource using a DPR Continuation Form, in addition to the cultural report provided for in the following task. The

DPR form(s) will also include an updated map with the boundary of the site, the location of significant deposits, and all excavation units.

TABLE 1. CULTURAL RESOURES EVALUATION EFFORTS

Resource Name	Resource Age	Site Type	Significance Status	Evaluation Needed	Likely Subsurface Potential
CA-NAP-000406	Prehistoric Site	Habitation Site	NRHP Eligible	33 STPs - 3 STUs	High
CA-NAP-000843	Prehistoric Site	Lithic Scatter	Not NRHP Eligible	No Additional Evaluation Required	Low
CA-NAP-001008	Prehistoric	Lithic Scatter	Not NRHP Eligible	No Additional Evaluation Required	Low-Moderate
Total Sites Requiring Testing = 1			**Total STPs = 33 Total STUs = 3**		

There are no specific requirements that a Native American monitor be present for fieldwork, however this is strongly recommended given the known sensitivity of the area and the potential of tribes to contest the adequacy if the Draft EIR in the future. The estimated cost provides for a Native American monitor to be present for five days of work.

Estimated Cost for Evaluation Fieldwork..... $24,440.00

Reporting and Labwork:

All archaeological material that is recovered through evaluation efforts must be appropriately inventoried, catalogued, analyzed, documented, and curated. This is a part of evaluating the significance of any archaeological site. Evaluation work will result in preparation of a technical report describing survey and evaluation methods, field results, scientific analyses of recovered artifacts and documented features, assessments of cultural sites for eligibility for listing on the CRHR/NRHP, and provide recommendations for additional management of resources pursuant to regulatory requirements. DPR 523 site forms will be included in the appendices of this report. The report will meet build upon the existing Phase I Cultural Report prepared for the Project (XPI document), meeting standard federal agency format requirements and content.

Estimated Cost for Reporting and Lab Work..... $28,640.00

Assumptions:

- No more than 33 STPs and 3 STUs will be excavated.
- Testing will require no more than 4 archaeologists five days of work. Provided cost includes drive time.
- Standard dry screening of soils will be possible, no water screening will be required
- Excavation will not result in more than 2 standard banker's boxes of cultural material; each of which will cost no more than $800.00 for curation.

- Includes $130/day worked for each individual for food and accommodations locally.
- No more than one agency or tribal meetings
- No documents beyond the scoped report and DPR form
- No Native American human remains will be identified requiring special attention and additional services.
- No data recovery efforts are included as part of the present scope, should resources be determined NRHP/CRHR eligible.
- The scope of work reflected above assumes preparation of the cultural resources study and responding to two rounds of comments.
- This cost estimate is valid for 90 days.

Total Estimated Cost for Task 9A..... $59,910.00

1102 R STREET
SACRAMENTO, CALIFORNIA 95811
T 916.443.8335 F 916.443.5113

July 9, 2019

Chris Gustin
City of St. Helena
Planning & Community Improvement Department
1480 Main Street
St. Helena, CA 94574

Subject: Hunter Subdivision Project – Budget Status

Dear Chris,

As requested, the following provides a breakdown of the Hunter Subdivision project EIR budget broken down by project phase and the contract budget amount. The status of the remaining budget is also provided. To complete the Draft EIR we are requesting a budget augment of $18,740 (based on Dudek's 2017 bill rates). Dudek only bills for labor required to complete a task, and often comes in under budget. This request does not include completion of the Final EIR or the additional cultural work that has been provided separately to the City. In the event more comment letters (and individual comments) are received than anticipated in our contracted scope of work we may request an additional budget augment to complete preparation of the Final EIR. If there are any remaining funds from this budget augment request after the Draft EIR is published we would inform City staff and request these funds be added to Phase 05 – Final EIR.

Phase 01 Project Initiation/Project Description – Budget $3,900 [remaining budget $0]

This task has been completed and there is no remaining budget in this phase.

Phase 02 Notice of Preparation – Budget $4,319 [remaining budget $0]

This task has been completed and there is no remaining budget in this phase.

Phase 03A Administrative Draft EIR – Budget $78,000 [remaining budget $0]

This task has been completed and there is no remaining budget in this phase to complete preparation of the alternatives chapter, cultural section, or update the other EIR sections based on any new information (i.e., grading, water off-sets, affordable housing). When we prepared our original scope of work we had assumed information prepared as part of the prior EIR would still be usable; however, this turned out not to be the case. In order to address concerns raised in response to the NOP and to ensure we had substantial evidence to support our findings, it required more labor than anticipated. This included using the California Land Evaluation and Site Assessment (LESA) Model to assess potentially significant effects on agricultural lands; the evaluation of hydrology and water quality and hazardous materials required more research and analysis; we prepared numerous iterations of the project description for staff and applicant review; and updated the EIR thresholds and accompanying analysis to be consistent with the revised CEQA Guidelines that went into effect in December 2018. This resulted in spending more Dudek staff time than originally anticipated to complete the ADEIR.

Phase 03B Traffic Report – Budget $60,750 [remaining budget $1,926]

There is a remaining budget of $1,926 in this phase. It is anticipated this remaining budget would be used to address traffic comments received on the Draft EIR.

Phase 03C Quality Control/Document Formatting – Budget $17,520 [remaining budget $7,456]

There is a remaining budget of $7,456 in this phase that will be used to complete review and production of the Screencheck and Draft EIR documents.

Phase 04 Screencheck Draft EIR – Budget $8,700 [remaining budget $4,459]

There is a remaining budget of $4,459 in this phase that will be used to complete the Screencheck EIR after receipt of requested information and direction from the City. I do not anticipate this budget will be adequate to complete the cultural section, prepare the alternatives chapter, and address any revisions to the analysis based on outstanding information still to come from the applicant. We are requesting a budget augment to ensure we can complete the screencheck and draft EIR documents.

Requested budget augment.....$8,210

Phase 05 Final EIR – Budget $28,810 [no change]

This task and budget is for preparing the Final EIR. The full budget is still remaining.

Phase 06 Meetings/Hearings – Budget $8,250 [remaining budget $2,197]

There is a remaining budget of $2,197 in this phase. More time was spent in conference calls with the City to address various aspects of the project than was originally anticipated. I do not anticipate this budget will be adequate through completion of the project. We are requesting a budget augment to this phase.

Requested budget augment.....$4,680

Phase 07 Project Management – Budget $10,725 [remaining budget $828]

There is a remaining budget of $828 in this phase. Because the project has exceeded the schedule included in the contract (assumed the EIR would be completed within 12 months or by the end of 2018), more project management time has been required to address a variety of issues that have arisen over the past 18 months. We are close to exhausting this budget; therefore, we are requesting a budget augment to this phase.

Requested budget augment.....$5,850

Phase 08 Contingency – Budget $30,588 [remaining budget $0]

There is no remaining budget in this phase. The contingency budget was spent to prepare the Cultural Resources Report $12,960; Analysis of Saturday Traffic $7,800; and preparation of a Wetland Delineation $10,626.

If you have any questions or need to discuss any of the items listed above, please feel free to contact me at your convenience.

Sincerely,

Christine Kronenberg, AICP
Sr. Project Manager

Report to the City Council
Regular City Council - 26 Nov 2019

Agenda Section: **PUBLIC HEARINGS**

Subject: **Proposed adoption and second reading of an ordinance amending Title 15, Buildings and Construction of the St. Helena Municipal Code, adopt and amend in full the 2019 California Building Standards Code, Title 24.**

CEQA Determination: **Exempt from the requirements of CEQA under the "General Rule", Section 15061 (b)(3), in that it can be seen with certainty that the proposed action will have no impact on the environment.**

Prepared By: Philip Henry, Chief Building Official

Reviewed By: Aaron Hecock, Acting Planning & Building Director

Approved By: Mark T. Prestwich, City Manager

BACKGROUND

The State of California has updated and adopted the California Building Standards Code, which will become effective on January 1, 2020. The proposed ordinance and resolution would adopt the California Building Standards Code as required by State law, as well as make local amendments to the Building Standards Code justified by local conditions in the City of St. Helena. Pursuant to State law, none of the local amendments may be less restrictive than the States Building Standards Codes.

The City Council held and approved the first reading of the proposed ordinance at the regular City Council meeting of November 12, 2019.

DISCUSSION

The California Building Standards Commission (CBSC) is responsible for developing and adopting State Building, Fire, and other related codes. Over the last three (3) years, the CBSC has gone through a planning process and adopted the 2019 California Building Standards Code, California Code of Regulations, Title 24, 12 Parts (Standards

Code). The Standards, which include some changes to the code currently in effect, becomes effective on January 1, 2020.

Every three (3) years the California Building Standards Commission reviews the available model codes. On July 1, 2019, the State of California adopted the 2019 California Building Standards Code, which becomes effective on January 1, 2020. The State has given local jurisdictions until the end of the year to adopt the new code and any local amendments.

Municipal Code Title 15, Buildings and Construction, contains either by reference or amendments to the rules and regulations which comprise the "City of St. Helena Building Code". The last update of this Title was in November of 2016 when the 2016 California Building Standards Code was adopted.

The attached "Exhibit A, Title 15, Buildings and Construction" includes the chapters of the Municipal Code that are proposed for amendment and adoption. The California Codes are adopted by reference and are available in the Planning and Community Improvement Department, Building Division for review.

The new code includes building, electrical, mechanical, plumbing codes, the fire code, the energy code, the historical building code, the green building code, and the residential code as follows:

I. Errata for the 2019 Title 24 Codes:

- Based on the 2018 International Building Code for the 2019 California Building Code, Part 2;
- Based on the 2018 International Residential Building Code for the 2019 California Residential Code, Part 2.5;
- Based on the 2017 National Electrical Code for the 2019 California Electrical Code, Part 3;
- Based on the 2018 Uniform Mechanical Code for the 2019 California Mechanical Code, Part 4;
- Based on the 2018 Uniform Plumbing Code for the 2019 California Plumbing Code, Part 5;
- Based on the 2018 International Fire Code for the 2019 California Fire Code, Part 9;
- Based on the 2018 International Existing Building Code for the 2019 California Existing Code, Part 10;

II. Updates for the following parts authored by the State of California:

- The 2019 California Administrative Code. Part 1;
- The 2019 California Green Building Standards (CAL Green) Code, Part 11;
- The 2019 California Referenced Standards Code, Part 12;
- The 2019 California Energy Code, Part 6; and
- The 2019 California Historical Building Code, Part 8

- (Part 7 of the code is vacant.)

III. The following list highlights the corrected and/or new amendments specific to the State of California Codes and the St. Helena Municipal Code:

1. Municipal Code, Section 15.04.010, is changed to show correct date of the new code.
2. Municipal Code, Section 15.04.140, item C, is changed to show correct date of the new code.
3. Municipal Code, Section 15.08.010, is changed to show the correct date of new code.
4. Municipal Code, Section 15.08.020, item C, is changed to show correct date of the new code.
5. Municipal Code, Section 15.08.030, is changed to show correct date of new code.
6. Municipal Code, Section 15.08.040, is changed to show correct date of new code.
7. Municipal Code, Section 15.12.010, is changed to show the correct date of the new code.
8. Municipal Code, Section 15.16.010 is changed to show the correct date of the new code.
9. Municipal Code, Section 15.18.010, is changes to show correct date of the new code.
10. Municipal Code, Section 15.20.010 is changed to show the correct date of the new code.
11. Municipal Code, Section 15.24.010, is changed to show the correct date of the new code.
12. Municipal Code, Section 15.28.010, is changed to show the correct date of the new code.
13. Municipal Code, Section 15.32. 010, is changed to show the correct date of the new code.
14. Municipal Code, Section 15.53.010, is changed to show correct date of the new code.
15. Municipal Code, Section 15.54.010, is changed to show the correct date of the new code.
16. Municipal Code, Section 15.55.010, is changed to show the correct date of the new code.

Municipal Code, Section 15.36 (Fire Code)

17. Municipal Code, Section 15.36.020, is changed to show the correct date of the new code.
18. Municipal Code, Section 15.36.030, A and C is updated to clarify language.
19. Municipal Code, Section 15.36.040 is updated to correct the date of new code.
20. Municipal Code Section 15.36.050, Section 503.4.1 is changed to clarify language.
21. Municipal Code Section 15.36.050, is updated to change date to new code.

22. Municipal Code, Section 15.36.060, B, 903.2.1, exception 3, is further changed to add requirement for non-sprinklered structures less than 10' from adjacent structures, unless all exterior walls provide 2-hour fire protection.
23. Municipal Code Section 15.36.060, B, 903.2.3 is further changed to add removal of 50% or more of the roof structure or roof sub-structure (excluding roof covering material) to sprinkler requirement.
24. Municipal Code, Section 15.36.080, is changed to correct date of new code. Municipal Code Section 15.36.090 Section 507 Fire Protection Water Supplies is amended to add Section B105.1. A. Section B105.1Fire-Flow Requirements for Buildings, California Fire Code 2019, Appendix B is amended to include to read as follows:1. One and Two-Family Dwellings Under 2500 Square Feet and not served by a Public Water System, the minimum water storage shall be 5,000 gallons of capacity dedicated for fire protection. Exception: A reduction in fire flow of 50% is allowed when the building is protected with an approved automatic fire sprinkler system. 2. One and Two-Family Dwellings Over 2500 Square Feet and Not Served by a Public Water System. The minimum water storage shall be in accordance with Table B105.1 of Appendix B.
25. Municipal Code Section 15.36.100 Fire Apparatus Access Roadsis changed to show the correct date of the new code.
26. Municipal Code Section 15.36.100 Fire Apparatus Access Roadsis further changed to add Section E, Gated Entrances. Section E clarifies requirements for gates on residential driveways, including the requirement that a permit shall be obtained prior to construction of gate, and that all gates be located at least 30' from roadway edge. Section E also provides requirements for replacement/repair of existing gates and historic or significant architectural existing gates.

FISCAL IMPACT

There are no fiscal impacts related to the City of St. Helena as a result of the proposed California Building Code Adoption.

RECOMMENDED ACTION

The Planning and Building Department recommends the City Council:

1. Find the proposed amendments to the Building Code are exempt from CEQA under Section 15061 (b) (3) the 'General Rule'; and
2. Conduct a second reading of the draft Ordinance (Attachment 1), adopt by title only and waive further reading.

ATTACHMENTS

Attachment 1 - Ordinance Adopting CA Bldg Code
Exhbit A - CA Building Code Ordinance Adoption

CITY OF ST. HELENA

ORDINANCE NO.

AMENDING TITLE 15 OF THE ST. HELENA MUNICIPAL CODE TO REVISE CHAPTERS 15.04 THROUGH 15.24 AND 15.28 THROUGH 15.55, INCLUSIVE, TO ADOPT BY REFERENCE THE 2019 EDITION OF THE CALIFORNIA BUILDING STANDARDS CODE (CALIFORNIA CODE OF REGULATIONS TITLE 24, PARTS 1, 2, 2.5, 3, 4, 5, 6, 8, 9, 10, 11, AND 12, INCLUDING APPENDICES IDENTIFIED HEREIN), INCLUDING LOCAL AMENDMENTS TO THE CALIFORNIA BUILDING STANDARDS CODE SPECIFIC TO THE CITY OF ST. HELENA

The City Council of the City of St. Helena does hereby ordain as follows:

SECTION 1: Findings. The City Council finds as follows:

A. The California Building Standards Commission ("Commission") adopts a comprehensive update to the California Building Standards Code (codified as Title 24 of the California Code of Regulations) every three years.

B. The Council completed the adoption of the 2019 update to the California Building Standards Code and made those updates available to the public by July 1, 2019.

C. The 2019 Code takes effect in all jurisdictions on January 1, 2020, pursuant to California Health and Safety Code Section 17958, and pursuant to the 2016 Code Part 2 (the "2019 California Building Code"), Appendix Chapter 1, Section 101.4.

D. The City is authorized pursuant to Health and Safety Code Sections 17958.7 and 18941.5 and California Government Code Section 50022.2 to adopt amendments to the 2019 Code in order to incorporate appendices, address unique administrative requirements of the City, and in order to modify building standards to the extent that the modifications are reasonably necessary because of local climatic, geological, or topographical conditions.

E. The City has previously adopted local amendments to previous versions of the California Building Standards Code, and codified those local amendments in Title 15 of the St. Helena Municipal Code.

F. On November 12, 2019, the City Council held the first reading of an ordinance to Amend Title 15 of the St. Helena Municipal Code to adopt and amend the 2019 California Building Standards Code (Title 24 of the California Code of Regulations), including the local amendments specific to the City of St. Helena (the "Ordinance").

G. On November 26, 2019, the City Council held a duly noticed public hearing to consider the Ordinance making findings and determinations that modifications to the California Building Standards Code and Fire Code are reasonably necessary to address unique administrative requirements of the City and because of local

climatic, geological, or topographical conditions.

H. The City Council finds that it is to the benefit of the City of St. Helena to adopt the 2019 Code, as amended by this Ordinance, because it provides minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures within the City.

SECTION 2: Compliance with CEQA. The City Council hereby finds that the action to adopt this Ordinance to amend Title 15 of the St. Helena Municipal Code is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.) (CEQA) because the action is exempt from environmental review pursuant to CEQA Guidelines Section 15061(b)(3). The activity is covered by the "general rule" which exempts activities that can be seen with certainty to have no possibility for causing a significant effect on the environment. The Ordinance introduces standards to regulate certain behavior to protect the health, safety, and public welfare, and does not authorize activities or development that could potentially have a physical impact on the environment. Buildings and development projects that are subject to CEQA are reviewed individually prior to issuance of building permit. Accordingly, the City Council hereby finds that it can be seen with certainty that there is no possibility the adoption and implementation of this Ordinance may have a significant effect on the environment.

SECTION 3: Amendment of Title 15. Title 15 of the St. Helena Municipal Code is hereby amended to read in its entirety as shown on Exhibit A, attached hereto and incorporated herein by reference.

SECTION 4: Severability. The City Council hereby declares every section, paragraph, sentence, clause and phrase is severable. If any section, paragraph, sentence, clause or phrase of this ordinance is for any reason found to be invalid or unconstitutional, such invalidity, or unconstitutionality shall not affect the validity or constitutionality of the remaining sections, paragraphs, sentences, clauses or phrases.

SECTION 5: Inclusion in the St. Helena Municipal Code. It is the intention of the St. Helena City Council that the text in Exhibit A of this ordinance be made a part of the St. Helena Municipal Code and that the text may be renumbered or re-lettered and the word "Ordinance" may be changed to "Section," "Chapter," or such other appropriate word or phrase to accomplish this intention.

SECTION 6: Effective Date. This ordinance shall take effect and be in force 30 days after its adoption, and a summary of this ordinance shall be published once with the names of the members of the Council voting for and against the ordinance in the St. Helena Star, a newspaper of general circulation published in the City of St. Helena.

THE FOREGOING ORDINANCE was introduced at a regular meeting of the St. Helena City Council on the 12th day of November, 2019, and was adopted at a regular meeting of the St. Helena City Council on the 26th day of November, 2019, by the following vote:

Mayor Ellsworth: _____
Vice Mayor Dohring: _____
Councilmember Koberstein: _____
Councilmember Chouteau: _____
Councilmember Knudsen: _____

APPROVED:

_____
Geoff Ellsworth, Mayor

ATTEST:

CITY OF ST. HELENA

_____
Cindy Tzafopoulos, City Clerk

I, CINDY TZAFOPOULOS, CITY CLERK of the City of St. Helena, California, do hereby certify that the foregoing Ordinance was regularly introduced and placed upon its first reading at a regular meeting of the City Council on the 12th day of November, 2019. That thereafter said Ordinance was duly adopted and passed at a regular meeting of the City Council on the 26th day of November, 2019, by the following vote:

Mayor Ellsworth: _____
Vice Mayor Dohring: _____
Councilmember Koberstein: _____
Councilmember Chouteau: _____
Councilmember Knudsen: _____

Exhibit A

Title 15
BUILDINGS AND CONSTRUCTION

Chapters:

15.04 General Provisions
15.08 Administration of the California Building Standards Code
15.12 California Building Code Adopted
15.16 California Mechanical Code Adopted
15.18 California Energy Code Adopted
15.20 California Plumbing Code Adopted
15.24 California Electrical Code Adopted
15.28 California Residential Code Adopted
15.32 California Existing Building Code
15.36 California Fire Code Adopted
15.40 Retrofitting of Unreinforced Masonry Buildings
15.44 Building Numbering System
15.48 Trailers and Trailer Camps
15.52 Flood Damage Prevention
15.53 California Green Building Standards Code Adopted
15.54 California Administrative Code Adopted
15.55 California Referenced Standards Code Adopted

Chapter 15.04
GENERAL PROVISIONS

Sections:

15.04.010 Short title.
15.04.020 Purpose.
15.04.030 Authority.
15.04.040 Building division—Created.
15.04.050 Building Official—Powers and duties generally.
15.04.060 Building Official—Recordkeeping duties.
15.04.070 Jurisdiction.
15.04.090 Inspections—Authority—Concealment prohibited.
15.04.100 Violations of other ordinance.
15.04.110 Conformance with zoning ordinance.
15.04.120 Copies of codes.
15.04.130 Specific findings for code amendments.
15.04.140 Violations—Penalties.

15.04.010 Short title.

The provisions codified in this title shall be known as the “St. Helena Building Code,” may be cited as such, and will be referenced to in this title as “this building code.” (Prior code § 4.1)

15.04.020 Purpose.

The city council expressly finds that the purpose of this building code is to provide minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures within the city, and certain equipment specifically regulated in this building code. (Prior code § 4.2)

15.04.030 Authority.

This building code is adopted pursuant to the authority granted by Section 11 of Article XI of the State Constitution to a city to make and enforce within its limits all such local police, sanitary, and other regulations as are not in conflict with general laws. It is further adopted in conformity with the provisions of Sections 50022.1 to 50022.10, inclusive, of the California Government Code relating to the adoption of codes by reference. (Prior code § 4.3)

15.04.040 Building division—Created.

There is contained within the city the building division, which shall be under the jurisdiction of the Building Official designated by the appointing authority. (Prior code § 4.4)

15.04.050 Building Official - Powers and duties generally.

Section 104.1, General, California Building Code 2019 Chapter 1, is amended to read as follows:

The Building Official is authorized and directed to enforce all of the provisions of this building code and of the codes adopted by reference by this building code. The Building Official is authorized to consult experts that he or she deems to be qualified in all fields related to the subject matter of this building code and of the codes adopted by reference by this building code to the extent that he or she deems it reasonably necessary to assist him or her in carrying out his or her duties hereunder. The decision of the Building Official in enforcing the provisions of this building code or of the codes adopted by reference by this building code or in interpreting the provisions thereof or in exercising the authority delegated thereby shall be final, subject to appeal as provided in Section 113 of the 2019 California Building Code Chapter 1.

15.04.060 Building Official—Recordkeeping duties.

The Building Official shall cause a permanent record to be kept of all pertinent transactions of the building division under this building code and the codes adopted by this building code and to render a monthly report to the city council of all permits issued and fees collected. (Prior code § 4.6)

15.04.070 Jurisdiction.

This building code shall apply within all of the territory of the city. (Prior code § 4.7)

15.04.090 Inspections—Authority—Concealment prohibited.

A. All work for which a permit is required shall be subject to inspection by the Building Official to insure compliance with all requirements of this building code.
B. It shall be the responsibility of the owner or person doing work authorized by a permit to notify the Building Official orally or in writing when such work is ready for inspection. Such notification shall be given at least twenty-four (24) hours before the work is to be inspected.
C. No portion of any building, structure, wiring, plumbing or equipment which is required to be inspected shall be permanently covered or concealed without approval of the Building Official.
D. The Building Official shall have authority to remove or require the removal of any obstruction which prevents the required inspection of any portion of a building, structure, wiring, plumbing, electrical or mechanical equipment. (Prior code § 4.9)

15.04.100 Violations of other ordinance.

No permit shall be issued pursuant to this title if at time of issuance there exists in respect to the premises for which the permit is to be issued any violation of the city's zoning ordinance, the city's subdivision ordinance, or of any other ordinance of the city whether such violation was committed by the then owner of the premises or his or her predecessors or by anyone claiming under the owner or his or her predecessors. (Prior code § 4.10)

15.04.110 Conformance with zoning ordinance.

No building permit shall be issued which is inconsistent with the St. Helena zoning ordinance. (Prior code § 4.11)

15.04.120 Copies of codes.

The Building Official shall make available in the offices of the building division, for review by the general public, at least one copy of all uniform codes or state building standards adopted by Sections 15.08.010, 15.12.010, 15.16.010, 15.20.010, 15.24.010, 15.28.010, 15.32.010, 15.36.010, 15.53.010, and 15.54.010, as well as local amendments and any other state regulations relating to buildings or structures, building service equipment published in Titles 8, 19, 20, 24, and 25 of the California Code of Regulations. (Prior code § 4.12)

15.04.130 Specific findings for code amendments.

Each amendment to the California Building Standards Code, California Code of Regulations, Title 24, adopted by this title, is reasonably necessary because of the following determinations due to local climatic, geological, or topographic conditions pursuant to Health and Safety Code, Section 17958.5:

A. The city is characterized by a narrow valley floor surrounded and intermingled with steep hill terrain, containing areas which are very susceptible to wildland fires. Wildland fires are considered a significant threat in St. Helena. Native vegetation of brush, woodland, grassland and forest become extremely flammable during summer and remain so if drought conditions prevail during the winter months. Drought cycles appear in this area every seven to eleven (11) years.

B. Earthquake is considered to be one of the most potentially destructive threats to life and property in the city. A moderate to severe seismic incident on any of the several fault zones in relative close proximity to St. Helena is expected to cause extensive property damage, disruptions to communications systems, and damage to public utility systems.

C. St. Helena is divided geographically into two parts by the north to south flow of the Napa River. Significant damaging flooding occurs in portions of the city approximately every five to ten (10) years. Warnings are usually given several hours to a few days before such floods. This natural barrier

can serve as a severe impediment to the delivery of public safety services in time of flood.

D. Several areas within the city offer poor access for the delivery of public safety services because of the severity of slopes, and the existence of natural barriers such as the Napa River, Sulphur Creek, and York Creek. (Prior code § 4.13)

15.04.140 Violations—Penalties.

Section 114 Violation Penalties, California Building Code Chapter 1, is amended to read as follows:

A. Generally. No person whether as owner, lessee, sub-lessee or occupant, shall erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy, or maintain any building or structure in the city, or cause the same to be done, contrary to or in violation of any of the provisions of this title. Maintenance of equipment which was unlawful at the time it was installed and which would be unlawful under this title, shall constitute a continuing violation of this title.

B. Misdemeanor. Any person violating any of the provisions of this title shall be deemed guilty of a misdemeanor, and each such person is guilty of a separate offense for each day or portion thereof during which any violation of any of the provisions of this title is committed, continued, or permitted.

C. Consistent with Section 109.4 and 114.4, of the 2019 California Building Code Administration, any person who violates a provision of this building code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the Building Official, or of a permit or certificate issued under the provisions of this building code, shall be subject to penalties as prescribed by law. An investigation fee, in addition to the permit fee, shall be collected whether or not a permit is then or subsequently issued. The payment of such investigation fee shall not exempt any person from compliance with all other provisions of this building code nor from any penalty prescribed by law.

D. Authority to File. Where a public nuisance exists, the city may immediately commence action or actions, proceedings at law and in equity, for the abatement, removal and enjoinment thereof in the manner provided by law; and shall take such other steps and shall apply to such court or courts as may have jurisdiction to grant such relief as will abate and remove such public nuisance and restrain and enjoin any person from maintaining such nuisance. (Ord. 02-5 § 4 (part): prior code § 15.04.140)

Chapter 15.08

ADMINISTRATION OF THE CALIFORNIA BUILDING STANDARDS CODE

Sections:

15.08.010 California Building Standards Code 2019 Chapter 1 Administration —Adopted

15.08.020 California Building Standards Code 2019 Chapter 1 Administration—Amendments

15.08.040 Adoption of the International Property Maintenance Code, 2018 Edition, with Amendments

15.08.050 Amendments to the International Property Maintenance Code

15.08.010 California Building Standards Code 2019 Chapter 1 Administration —Adopted

For the purpose of establishing proper regulations for the administration of the various codes covered in this building code, each of Chapter 1 of the California Building Code of the State of California, Chapter 1 of the Plumbing Code, Chapter 1 of the Mechanical Code, and Annex H of the Electrical Code, 2019 edition, is adopted in its entirety excepting additions, revisions and omissions listed in Section 15.08.020.

15.08.020 California Building Code 2019 Chapter 1 Administration—Amendments

A. Section 105.2, Work exempt from permit, California Building Code 2019 Chapter 1, items 1-5 only, is amended to read as follows:

1. One-story residential detached accessory buildings used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 120 square feet, not over 12 feet in height, and the structure contains no plumbing, electrical, or heating systems or appliances.

2. Fences not over 6 feet (1829 mm) high.

3. Oil derricks (subject to approval of Napa County Environmental Management)

4. Retaining walls that are not over 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding Class I,II,III A liquids.

5. Water tanks supported directly on grade if the capacity does not exceed 200 gallons.

B. Section109.2, Schedule of permit fees, California Building Code 2019 Chapter 1, is amended to read as follows:

On buildings, structures, electrical, gas, mechanical and plumbing systems or alterations requiring a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the most current City Council fee resolution.

C. Section109.6, Refunds, California Building Code 2019, is amended to read as follows:

The Building Official is authorized to establish a refund policy.

1. The Building Official may authorize refunding of the permit fee paid, less the hourly rate set forth by the most current City Council fee resolution, when no work has been done under a permit issued in accordance with this building code.

2. The Building Official may authorize refunding the plan review fee paid, less the hourly rate set forth by the most current City Council fee resolution, when an application for a permit for which a plan review fee has been paid is withdrawn or canceled before any examination time has been expended.

3. The Building Official shall not authorize the refunding of any fee paid except upon written application filed by the original permittee not later than one hundred eighty days after the date of fee payment.

15.08.040 Adoption of the International Property Maintenance Code, 2018 Edition, with Amendments.

For the purpose of regulation and governing the conditions and maintenance for all property, buildings and structures; by providing the standard for supplied utilities and facilities and other physical conditions essential to ensure that structures are safe, sanitary and fit for occupation and use; that certain code known as the International Property Maintenance Code, 2018 Edition including Appendix A, as published by the International Code Council, hereinafter referred to as the “Property Maintenance Code,” save and except such portions as are hereinafter changed, added to or amended by Section 15.08.060 of this chapter.

15.08.050 Amendments to the International Property Maintenance Code

The International Property Maintenance Code is amended to read as follows;

A. Section 101.1 These regulations shall be known as the Property Maintenance Code of the City of St. Helena (hereinafter referred to as “the code”).

B. Section 102.7 Where the term “International Building Code” appears in this code, it shall mean the California Building Code as adopted by this jurisdiction with amendments. Where the term “International Fire Code appears, it shall mean the California Fire Code as adopted by the City Council with amendments. Where the term “International Existing Building Code” appears, it shall mean the California Existing Building Code as adopted by City Council with amendments. Where the term “International Fuel Gas Code” appears, it shall mean the California Plumbing Code as adopted by the City Council with amendments. Where the term “International Mechanical Code” appears, it shall mean the California Mechanical Code as adopted by the City Council with amendments. Where the term “International Plumbing Code” appears, it shall mean the California Plumbing Code as adopted by the City Council with amendments. Where the term” International Zoning Code” appears, it shall mean the St. Helena Municipal Code, Title 17

C. Section 103 is hereby deleted.

D. Section 104.3 is amended to add the following phrase to the end of the last sentence; “including the warrant provisions of Section 1822.50 et seq. of the Code of Civil Procedure of the State of California.”

E. Section 106.2, 106.3, 106.4, and 106.5 are hereby deleted.

F. Section 107.1 Notice to person responsible. Whenever the Code Official determines that there has been a violation of this code or has grounds to believe that a violation has occurred, notice may be given in the manner prescribed in the St. Helena Municipal Code Section 1.12.

G. Sections 107.2, 107.3, 107.4, 107.5, and 107.6 are hereby deleted.

H. Section 108.3 Whenever the Code Official has condemned a structure or equipment under the provisions of this section, notice shall be posted in a conspicuous place in or about the structure affected by such notice and served on the owner or the person or persons responsible for the structure or equipment in accordance with Section 1.12 of the St. Helena Municipal Code. The notice shall be in the form prescribed in Section 1.12.150 of the St. Helena Municipal Code.

I. Sections 109.2 Temporary safeguards. Notwithstanding other provisions of this code, whenever, in the opinion of the Code Official, there is imminent danger due to an unsafe condition, the Code Official may order the necessary work be to be done, including the boarding up of openings, to render such structure temporarily safe whether or not the legal

procedure herein described has been instituted; and shall cause such other action to be taken as the Code Official deems necessary to meet such emergency.

J. Section 109.3 Closing streets. When necessary for public safety, the Code Official may temporarily close structures and close or order the authority having jurisdiction to close, sidewalks, streets, public ways and places adjacent to unsafe structures, and prohibit the same from being utilized.

K. Section 109.4 Emergency repairs. For the purposes of this section, the Code Official may employ the necessary labor and materials to perform the required work as expeditiously as possible.

L. Sections 109.5 and 109.6 are hereby deleted.

M. Sections 110.2 Notices and Orders. All notices and orders shall comply with the St. Helena Municipal Code Chapter 1.12.150.

N. Section 110.3 Failure to comply. If the owner of a premises fails to comply with a demolition order within the time prescribed, the Code Official may cause the structure to be demolished and removed, either through an available public agency or by contract or arrangement with private persons, and the cost of such demolition and removal shall be charged against the real estate upon which the structure is located and shall be in lien upon such real estate.

O. Section 111.2 is amended by adding the following sentence: Nothing contained in this section shall prevent the Mayor or City Council from appointing the Mayor and City Council as the Board of Appeals.

P. Section 112.4 Failure to comply. Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be in violation of this code.

Q. Section 202 definition of CODE OFFICIAL. Where used in this code, the term Code Official shall refer to the Chief Building Official, and his or her designated agents or representatives.

R. Section 302.4 Weeds. All premises and exterior property shall be maintained free from weeds or plant growth in excess of 6 inches tall. All noxious weeds shall be prohibited. Weeds shall be defined as all grasses, annual plants and vegetation, other than trees or shrubs, provided however, this term shall not include cultivated flowers and gardens.

S. Section 304.14 Insect Screens. Every door, window and other outside opening required for ventilation on habitable rooms, food preparation areas, food service areas, or any areas where products to be included or

utilized in food for human consumption are processed, manufactured, packaged or stored shall be supplied with approved tightly fitting screens of not less than 16 mess per inch (16 mesh per 25 mm), and every screed door used for insect control shall have a self-closing device in good working condition. (The exceptions in the code are not amended.)

T. Section 308.2.2 Refrigerator. Refrigerators and similar equipment not in operation shall not be discarded, abandoned or stored on premises without first removing the doors.

U. Section 308.3.1 Garbage facilities. The owner of every dwelling shall supply an approved leak proof, covered, outside garbage container and a recycling container. Every person maintaining or using any solid waste can or receptacle shall keep the same clean and sanitary.

V. Section 308.3.1.1. Within all residential districts in the city, no person shall use, locate or maintain (store) any solid waste can, garbage container or waste receptacle within the public right of way other than on the day of removal service. Containers shall be stored out of public view on non-service dates whenever practical; or stored nearest the main structure.

W. Section 602.3 Heat supply. Every owner and operator of any building who rents, leases or lets one or more dwelling units or sleeping units or terms, either expressed or implied, to furnish heat to the occupants thereof shall supply heat in order to maintain a temperature of not less that 68°F (18°C) during the period the spaces are occupies. (The exceptions in the code are not amended.)

15.08.070 Enforcement and Penalties.

A. In addition to the enforcement powers and/or remedies provided in this chapter, the Chief Building Official shall have the power to enforce the provisions of this chapter as provided in Chapter 15.04.030.

B. The violations of the International Property Maintenance Code as adopted in this chapter are misdemeanors/infractions and are subject to the penalties set forth in Section 1.12 of the St. Helena Municipal Code.

Chapter 15.12
CALIFORNIA BUILDING CODE ADOPTED

Sections:

15.12.010 California Building Code—Adopted.
15.12.020 California Building Code—Amendments
15.12.030 Moved Buildings
15.12.040 Appendix J

15.12.010 California Building Code—Adopted.

The 2019 California Building Code, known as the California Code of Regulations, Title 24, Part 2 Volumes 1 and 2, and Appendix J, Based on 2018 International Building Code, Published by the International Code Council and the amendments set forth in section 15.12.020 is adopted.

15.12.020 California Building Code—Amendments

Based upon the findings set forth in Section 15.04.130, the following sections and/or subsections of the 2019 California Building Code, are amended to read as follows:

A. Chapter 5, General Buildings Heights and Areas, Section 501.2, Address Identification.
Approved numbers or addresses shall be placed on all new and existing buildings in such a position as to be plainly visible and legible from the street or road fronting the property. Numbers shall contrast with their background and shall not be less than 4" in height. House numbers shall not be obstructed by vegetation. Any building located more than 50 feet from the street shall have its address posted at the driveway entrance and shall be visible from both directions of travel along the road. In new construction, the address shall be posted at the beginning of construction and shall be maintained thereafter, and the address shall be visible and legible from the road on which the address is located.
Where multiple addresses are required at a single driveway, they shall be mounted on a single post, and additional signs shall be posted at locations where driveways divide.
Where a roadway provides access solely to a single commercial or industrial business, the address sign shall be placed at the nearest road intersection providing access to that site.

B. Chapter 31, Special Construction, Section 3109.4.1, Swimming Pool Enclosures and Safety Devices, Barrier Height and Clearances:
The top of the barrier shall be at least 60 inches above grade measured

on the side of the barrier that faces away from the swimming pool. The maximum vertical clearance between grade and the bottom of the barrier shall be 2 inches measured on the side of the barrier that faces away from the swimming pool. Where the top of the pool structure is above grade, the barrier is authorized to be at ground level or mounted on top of the pool structure, and the maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall be 4 inches.

15.12.030 Moved Buildings

Chapter 34A, Existing Structures, Section 3410A Moved Structures is amended as follows to include:

Buildings, structures and their building service equipment moved into or within this jurisdiction shall comply with the provisions of the technical codes for new building or structures and their building service equipment.

A. Permits required. Before any building or structure is moved on or along any street within the city, a permit shall first be obtained from the Building Official for such moving. The permit application shall describe the streets and route over which the building will travel, the location of final installation if within the city, and the hours during which building will be moved. The Building Official will collect a fee of one hundred dollars ($100.00) for required investigations and inspections. This fee shall be separate from any construction permit related fees.

B. Prior to issuance of permit, the applicant shall obtain an encroachment permit from the city engineer. The Building Official shall notify all affected city officials and, in the event that any such officials object to route or time of travel, changes shall be made to meet such objections.

C. Bond Required. In addition to all other requirements of the building code relating to the moving of buildings and structures, no permit for such moving shall be issued until the applicant shall have filed with the Building Official a corporate surety bond in favor of the city or a cash deposit in lieu of such bond. The bond shall be conditioned that the applicant will strictly comply with all provisions of the Building Code relating to the moving of buildings and structures and that the applicant will pay for any and all damage which may result by reason of such moving to any fence, hedge, tree, pavement of streets or sidewalks, pipes, poles and wires, or to any public or private property, and to hold harmless the city against any costs or expense which may accrue in consequence of such moving. The bond shall be in such amount as determined by the Building Official and approved by the city attorney, but in no case less than one thousand dollars ($1,000.00). At the option of the applicant, a cash deposit in the same amount may be deposited with the city treasurer.

D. Time limited during which building may be left standing on one city block. No person owning, or having charge of the removal of, any building being moved over any street shall permit such building to be, or stand, on any street within the limits of one block for a period of more than twenty-four hours.

E. Moving buildings—Prevention of injury to street or property. No person owning or having charge of the moving of any building or structure over any street shall allow or cause injury to any fence, hedge, tree, pavement, sidewalk, gas pipe, water pipe, sewer pipe, electric wires or the poles supporting them, or any other public or private property by reason of such removal.

15.12.040 Appendix J Amended
Appendix J is amended as follows:

A. Where the term “building official” is used in this appendix, change to “City Engineer.”

B. Section J103.1, Permits required.
Except as exempted in Section J103.2, no grading shall be performed without first having obtained a permit therefore from the Building Official with approval from the City Engineer for minor grading activities which do not require a grading permit. A grading permit issued by the City Engineer is required for any one of the following:
   1. Grading of more than 50 cy of material (includes pools);
   2. Disturbance of an area or more than 10,000 sq ft;
   3. Cut or fill more than three feet;
   4. Alter or add any drainage facilities or courses

C. Section J103.2, Exemptions.
Except as stated in J103.1 above, a grading permit shall not be required for the following:
   1. Cemetery graves.
   2. Refuse disposal sites controlled by other regulations.
   3. Excavations for wells, or trenches for utilities.
   4. Mining, quarrying, excavating, processing or stockpiling rock, sand, gravel, aggregate or clay controlled by other regulations, provided such operations do not affect the lateral support of, or significantly increase stresses in, soil on adjoining properties
   5. Exploratory excavations performed under the direction of a registered design professional.

D. Section J106.1 Maximum Slope.
Repeal exceptions.

E. Section J108.3 Slope Protection

Change “approved by the building official” to “approved by the City Engineer”.

F. Section J109.1 Drainage and Terracing, General**,** Unless otherwise recommended by a registered design professional, drainage facilities and terracing shall be provided in accordance with requirements of this section and the latest state and local storm water quality requirements and ordinances.”

Repeal exceptions.

G. Section J109.3 Interceptor drains**,** Interceptor drains shall be installed along the top of cut slopes receiving drainage from a tributary width greater than 40 feet (12 192 mm), measured horizontally. They shall have a minimum depth of 1 foot (305 mm) and a minimum width of 3 feet (915 mm). The slope shall be approved by the City Engineer, but shall not be less than 50 horizontal to 1 vertical (2 percent). The drain shall be paved with concrete not less than 3 inches (76 mm) in thickness, or by other materials suitable to the application. Discharge from the drain shall be accomplished in a manner to prevent erosion and shall be approved by the City Engineer.

H. Section J109.4 Drainage across property lines, Drainage across property lines shall not exceed that by volume and flow that existed prior to grading. Excess or concentrated drainage shall be contained on site or directed to an approved drainage facility. Erosion of the ground in the area of discharge shall be prevented by installation of non-erosive down drains or other devices such as infiltrator and dissipater basins, riprap or cobble surrounds, and gravel or rock infiltration trenches/pits

I. Section J110.1 General, The faces of cut and fill slopes shall be prepared and maintained to control erosion.

Repeal exceptions.

Chapter 15.16
CALIFORNIA MECHANICAL CODE ADOPTED

Sections:

15.16.010 California Mechanical Code Adopted.

The 2019 Edition of the California Building Standards Code, known as the California Code of Regulations, Title 24, Part 4, incorporating the Uniform Mechanical Code, 2018 Edition, published by the International Association of Plumbing and Mechanical Officials, is hereby adopted including all appendices, and without amendments.

Chapter 15.18
CALIFORNIA ENERGY CODE ADOPTED

Sections:

15.18.010 California Energy Code—Adopted.

15.18.010 California Energy Code — Adopted.

The 2019 Building Energy Efficiency Standards, comprising Title 24, Parts 1 and 6, of the California Code of Regulations, is mandatory statewide. Local government agencies may adopt and enforce energy efficiency standards for newly constructed buildings, additions, alterations, and repairs provided the California Energy Commission finds that the standards will require buildings to consume no more energy than permitted by Title 24, Part 6. Such local standards may include adopting the requirements of Title 24, Part 6 before their effective date, requiring additional energy conservation measures, or setting stricter energy budgets.

Chapter 15.20
CALIFORNIA PLUMBING CODE ADOPTED

Sections:

15.20.010 California Plumbing Code Adopted.

15.20.010 California Plumbing Code – Adopted.

The 2019 Edition of the California Building Standards Code, known as the California Code of Regulations, Title 24, Part 5, incorporating the Uniform Plumbing Code, 2018 Edition, published by the International Association of Plumbing and Mechanical Officials, with amendments set forth in section 15.20.020 including Appendices, (A),(B),(D), (G) and (L), is hereby adopted.

Chapter 15.24
CALIFORNIA ELECTRICAL CODE ADOPTED

Sections:

15.24.010 California Electrical Code - Adopted.
15.24.020 California Electrical Code - Amendments.

15.24.010 California Electrical Code – Adopted.

The 2019 Edition of the California Building Standards Code, known as the California Code of Regulations, Title 24, Part 3, incorporating the National Electrical Code, 2017 Edition, published by the National Fire Protection Association and Annex H of the Electrical Code, with amendments set forth in section 15.24.020 is hereby adopted.

15.24.020 California Electrical Code - Amendments.

A. Article 230 Services, Section 230.70(A)1 Readily Accessible Location, is amended to read as follows:
Electrical disconnecting equipment in structures served by a remote or detached electrical service shall be readily accessible to fire fighting personnel. The disconnecting equipment shall be installed on the exterior of the building and identified for fire fighting personnel.

Chapter 15.28
CALIFORNIA RESIDENTIAL CODE ADOPTED

Sections:

15.28.010 California Residential Code Adopted.
15.28.020 California Residential Code Adopted —Amendments.

The 2019 Edition of the California Building Standards Code, known as the California Code of Regulations, Title 24, Part 2.5, incorporating the International Residential Code, 2018 Edition, is hereby adopted including all appendices, and with amendments set forth in Section 15.28.020.

15.28.020 California Residential Code Adopted —Amendments.

Section R313.1 is amended by adding; “and qualified additions and remodels as prescribed in the amended section 903.2 of the 2013 CFC” and by repealing the exception.

Section R313.2 is amended by adding; “and qualified additions and remodels as prescribed in the amended section 903.2 of the 2013 CFC” and by repealing the exception.

Chapter 15.32
CALIFORNIA EXISTING BUILDING CODE

Sections:

15.32.010 California Existing Building Code—Adopted
15.32.020 California Existing Building Code—Amendments.

15.32.010 California Existing Building Code—Adopted

The 2019 edition of the California Existing Building Standards Code, known as the California Code of Regulations, Title 24, Part 10, incorporating the 2018 International Existing Building Code, published by the International Code Council, with amendments set forth in section 15.32.020 is adopted.

15.32.020 California Existing Building Code —Amendments.

Based upon the findings set forth in Section 15.04.130, Chapter A1, Seismic Strengthening Provisions for Unreinforced Masonry Bearing Wall Buildings, Section A106 Materials Requirements, A106.3.3.4. Number of tests, is amended to read as follows:

A. The minimum number of tests per class for brick or hollow clay tile masonry walls shall be as follows:

   1. At each of both the first and top stories, not less than two tests per wall or line of wall elements providing a common line of resistance to lateral forces.

   2. At each of all other stories, not less that one test per wall or line of wall elements providing a common line of resistance to lateral forces.

   3. In any case, not less that one test per 1,500 square feet of wall surface and not less than a total of eight tests.

B. The minimum number of tests for *stone masonry walls* shall be as follows:

   1. One test per wall per story, except that storefront walls not used to resist lateral forces, need not be tested.

   2. Not less than one test per 2,500 square feet (232.3m2) of wall surface.

Chapter 15.36
CALIFORNIA FIRE CODE ADOPTED

Sections:

15.36.010 General findings.
15.36.020 Codes adopted.
15.36.030 Specific findings for code amendments.
15.36.040 Administration.
15.36.050 Fire Service Features.
15.36.060 Fire Protection Systems.
15.36.070 Establishment of Limits
15.36.080 Requirements for Wildland-Urban Interface Areas
15.36.090 Fire Flow Requirements for Building
15.36.100 Fire Apparatus Access Roads
15.36.110 Modifications.
15.36.120 Appeals.

15.36.010 General findings.

A. The fire and hazardous materials section of the public health and safety element of the city general plan recommends that on-site fire mitigation should include use of fire-resistant materials, sprinklers, and early warning systems; and provides that factors which contribute to the potential for fire are vegetation and distance from fire stations;

B. Because response time of fire suppression units has a critical impact on the ability to protect life and property in case of fire or other emergencies, buildings must be provided with built-in fire protection systems to offset the negative impact of excessive response time;

C. The residential growth management system section of the land use element of the city general plan prescribes that density and population shall not exceed that which can be served by adequate public facilities and service;

D. The fire department has increasing incidence of simultaneous demands for service that completely deplete our resources; and provides that fire protection requirements for new construction and remodeled buildings shall be strengthened to reduce planned growth on fire department capabilities and to provide a reasonable degree of fire and life safety at minimum fire suppression cost; and

E. The City Council desires to enhance the adequate protection of buildings and structures by the adoption of this chapter.

15.36.020 Codes adopted.

The 2019 California Fire Code, known as the California Code of Regulations, Title 24 part 9, based on the International Fire Code, 2018 Edition, published by the International Code Council in its entirety, including Appendices: Appendix Chapter 4, Appendix B and Appendix BB (Fire Flow Requirements for Buildings),

Appendix C and Appendix CC (Fire Hydrant Locations and Distribution), Appendix D (Fire Apparatus Access Roads), Appendix E (Hazard Categories), Appendix F (Hazard Ranking), Appendix G (Cryogenic fluids-Weight and Volume Equivalents), Appendix H (Hazardous Materials Management Plans and Hazardous Inventory Statement), Appendix I (Fire Protection Systems Noncompliant Conditions), Appendix J (Building Signage), Appendix K (Temporary Haunted Houses, Ghost Walks and Similar Amusement Uses) and referred to as the "International Fire Code" or "IFC" is adopted as amended and made a part of this code by reference per findings as set forth in Section 15.36.030.

15.36.030 Specific findings for code amendments.

Each amendment to the California Fire Code adopted by this chapter, is reasonably necessary because of the following determinations due to local climatic, geological, or topographic conditions pursuant to Health and Safety Code, Section 17958.5:

A. The city is characterized by a narrow valley floor surrounded and intermingled with steep hill terrain, containing areas which are very susceptible to wildland fires. Wildland fires are considered a significant threat in St. Helena. Native vegetation of brush, woodland, grassland and forest become extremely flammable during summer and remain so if drought conditions prevail during the winter months. Drought cycles appear in this area every seven (7) through eleven (11) years.

B. Earthquake is considered to be one of the most potentially destructive threats to life and property in the city. A moderate to severe seismic incident on any of the several fault zones in relatively close proximity to St. Helena is expected to cause extensive property damage, disruptions to communications systems, and damage to public utility systems.

C. St. Helena is divided geographically into two parts by the north to south flow of the Napa River. Significant damaging flooding occurs in portions of the city approximately every five (5) to ten (10) years. Warnings are usually given several hours to a few days before such floods. This natural barrier can serve as a severe impediment to public safety services because of the severity of slopes, and the existence of natural barriers such as the Napa River, Sulphur Creek, and York Creek. (Prior code § 5A.12)

D. Some areas of the forested hillside terrain that border the city have been designated as a Woodlands and Watershed area. These are areas that are Local Responsibility areas (LRA) for fire response and as such fall under the Wildland Urban Interface (WUI) guidelines set forth in chapter 49 of the Fire Code and chapter 7A of the Building Code.

15.36.040 Administration

A. Section 105.4.4.1 Phased Approval, is repealed in its entirety

B. Section 109.3 Violation penalties, California Fire Code 2019, Chapter 1 is amended to read as follows:

Persons who shall violate a provision of this fire code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter, repair or do work in violation of the approved construction documents or directive of the Fire Code Official, or of a permit or certificate used under provisions of this fire code, shall be subject to penalties as prescribed by law. In addition to potential civil and/or criminal penalties, any person, individual, group of individuals, firm, trust, corporation, partnership association, or business concern responsible for an unauthorized release of hazardous material, a malicious false alarm, excessive unintentional false alarms, or igniting and/or maintaining an illegal fire, shall be liable for reimbursing the City of St. Helena for all costs incurred resulting from the City's emergency response and mitigation activities involving these incidents. Incurred costs may include such activities as firefighting, rescue, evacuation, hazardous material containment, control and/or disposal, incident investigation, report writing, administrative costs, and additional mitigation activities that may be contracted by the City.

C. 110.5 is added to Section 110 to read in full as follows:

Unsafe building. It shall be unlawful to leave or maintain any building in an unsafe condition or maintain any building in a manner that is a public nuisance, a threat to life, safety, or property, or a fire hazard. The Fire Code Official may order or cause the abatement of such nuisance, threat, or hazard as specified in Section 109 of the fire code.

D. Section 111.4, Failure to comply, California Fire Code 2019, Chapter 1 is amended to read as follows:

Any person who shall continue any work after having been served with a stop work, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to penalties as prescribed by law.

E. Section 307.1 is amended to read as follows:

307.1 General. A person shall not kindle or maintain or authorize to be kindled or maintained any open burning unless conducted for agricultural operations, approved in accordance with this section and a permit obtained from the Fire code official.

15.36.050 Fire Service Features
Chapter 5
Section 501 General is amended to read as follows:

A. Section 501.3 is amended to read as follows:
501.3 Construction documents. Construction documents for proposed fire apparatus access, security gates across fire apparatus access, location of fire lanes, construction documents, hydraulic calculations for fire hydrant systems and all fire protection system plans shall be submitted and approved prior to the issuance of a building permit.

Section 503 Fire Apparatus Access Roads is amended to read as follows:

Driveways and access roads shall be as defined in Municipal Code Sec. 17.124.070, Standards for driveways and access drives.

Section 503.4.1 Traffic calming devices, California Fire Code 2019, Chapter 503.4.1 is amended to read as follows:

Traffic calming devices including, but not limited to, speed bumps, speed humps, speed tables, speed depressions, shall not be allowed on public or private roadways, driveways or fire apparatus access routes.

Section 506.1 Where required, California Fire Code 2019, Chapter 5 is amended to read as follows:

Key boxes are required on all commercial buildings and multi-family residential housing units within the city limits. The key box shall be on an approved type and shall contain keys to gain necessary access and a building site plan as required by the Fire Code Official.

Chapter 6 Building services and systems

A. Section 603.8 is amended to read as follows:
603.8 Incinerators. Commercial, industrial and residential type incinerators and chimneys are prohibited within the City of St. Helena.

B. 609.2 Is amended to read as follows:
609.2 Where required. A Type 1 hood shall be installed at or above all commercial cooking appliances and domestic cooking appliances used for commercial purposes that produces grease laden vapors. Cooking facilities in assembly occupancies and congregate residences shall be considered commercial operations.

15.36.060 Fire Protection Systems

A. Chapter 9, subsection 901.1 is hereby amended to read. Approved automatic sprinkler systems in new buildings, structures and qualified

additions and remodels shall be provided in the locations described as follows.

903.2.1 Construction Documents. The Fire Code Official shall have the authority to require construction documents and calculations for all fire protection systems and to require permits be issued for the installation, rehabilitation or modification of any fire protection system. Construction documents for fire protection systems shall be submitted for review and approval prior to the issuance of a building permit.

B. Chapter 9, subsection 903.2 is amended by repealing the entire subsection 903.2 (with the exception of subsections 903.2.12, 903.2.17 and tables 903.2.11.6 and 903.2.5.2, which shall remain in effect), and replacing it with the following:

903.2 Where Required. Approved automatic sprinkler systems in new and existing buildings shall be provided in the locations described in this section.

903.2.1 Required installations. An automatic fire sprinkler system shall be installed and maintained in all newly constructed buildings or structures, fire sprinkler systems shall be installed in new manufactured homes and multifamily manufactured homes with two dwelling units in accordance with title 25 of the California Code of Regulations.

Exception:

1. When approved by the Fire Code Official spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided those spaces or areas are equipped throughout with an automatic fire alarm system and are separated from the remainder of the building by fire barriers consisting of no less than 1-hour fire-resistance-rated wall and 2-hour fire-resistance-rate floor/ceiling assemblies.
2. Automatic fire sprinkler protection for fixed guideway transit systems shall be as per Section 903.2.17.
3. Detached Group U private garages and carports accessory to a Group R-3 occupancy and less than 1,000 square feet, and more than 10 feet from adjacent structures, unless all exterior walls provide 2-hour fire protection.
4. Detached pool houses, workshops, barns and similar structures, built in conjunction with existing non-sprinkled single-family residences and provided the new structure is less than 1,000

square feet, is not intended for use as a dwelling unit and complies with the separation distances and exterior fire protection ratings of the Building Code.

5. Detached non-combustible, limited combustible materials or fire retarded treated wood canopies less than 3,000 square feet in roof area used exclusively for vehicle washing facilities or vehicle fuel dispensing stations.
6. Group B or M occupancies less than 500 square feet.
7. Detached, unenclosed gazebos or shade structures less than 1,000 square feet.
8. Detached restroom facilities associated with golf courses, parks and similar uses.
9. Shipping containers used for storage purpose and located not closer than 5 feet to a building, property line or other container.

903.2.2 Additions. An automatic sprinkler system shall be installed throughout any existing commercial or residential building when the floor area of the addition (including mezzanines) within any three year period exceeds 50% of the existing floor area of the building (excluding attached garages or unconditioned spaces in the floor area calculation of the addition) or when an additional story is added.

903.2.3 Alterations or Repairs. For alterations or repairs to existing buildings involving demolition of more than 50% of the existing floor area or removal of 50% or more of the existing ceiling covering (i.e. sheetrock, lath and plaster, suspended ceiling etc.), or removal of 50% or more of the existing roof structure or roof sub-structure (excluding roof covering material) the building shall meet the sprinkler requirements for a newly constructed building.

Exception: One-time alterations made solely for the purpose of complying with the Americans with Disabilities Act.

903.2.4 Change of Occupancy. Any change of occupancy when the proposed new occupancy classification is more hazardous based on a fire and life safety evaluation by the Fire Code Official and Building Code Official, including conversion of buildings to single-family residences, accessory dwelling units, bed and breakfast inns, lodging houses or congregate residences or other similar uses an automatic fire sprinkler system shall be installed throughout.

Section 907.1

Section 907.1.6 is added to read as follows:

907.1.6 False Alarms. A false alarm shall mean the receipt by the fire department an audio or visual alarm or signal from an automatic fire alarm device set off by causes other than the occurrence of a fire. Alarm users are allowed three (3) false alarms in a 365-day period. A service charge of $100 shall be imposed for the fourth false alarm, a $250 service charge shall be imposed for the fifth false alarm and a service charge of $500 for each subsequent false alarm shall be assessed.

Appendix C

Amend Appendix C Fire Hydrant Locations and Distribution.

Section C102 Location by adding the following:

C102.2 Fire Department Connections

A Fire Hydrant shall be located within 50 feet of all Fire Department connections (FDC), or approved by the Fire Code Official.

15.36.070 Establishment of Limits

A. Establishments of Limits of Districts in which Storage of Flammable or Combustible Liquids in Outside Aboveground Tanks is Prohibited: The limits referred to in Chapter 57 of the California Fire Code, in which the storage of flammable or combustible liquids is restricted, are hereby established as follows: Storage of 16 gallons or more is prohibited in all areas unless a permit is issued by the Fire Code Official.

B. Establishment of Districts of Limits in which Storage of Liquefied Petroleum Gasses is prohibited: The limits referred to in Chapter 57 of the California Fire Code, in which storage of liquefied petroleum gas is prohibited, are hereby established as follows: Storage is prohibited in all areas of the City unless a permit is issued by the Fire Code Official.

C. Establishment of Limits of Districts in which Storage of Explosives and Blasting Agents is Prohibited: The limits referred to in Chapter 56 of the California Fire Code, in which storage of explosives and blasting agents is prohibited, are hereby established as follows: Storage is prohibited in all areas of the City, unless a permit is issued by the Fire Code Official.

D. Establishment of Limits of Districts in which the Storage of Compressed Gases is Prohibited: The limits referred to in Chapter 53 of the California Fire Code in which the storage of compressed gases is prohibited, are hereby established as follows: Storage of 16 gallons or more is prohibited in all areas of the City unless a permit is issued by the Fire Code Official.

E. Establishment of Limits of Districts in which the Storage of Stationary Tanks of Flammable Cryogenic Fluids is Prohibited: The limits referred to in Chapter 58 of the California Fire Code in which the storage of flammable cryogenic fluids in stationary containers is prohibited, are hereby established as follows: Storage is prohibited in all areas of the City unless a permit is issued by the Fire Code Official.

F. Establishment of Limits of Districts in which the Storage of Hazardous Materials is prohibited: The limits referred to in Chapter 50 of the California Fire Code in which the storage of hazardous materials is prohibited, are hereby established as follows: Storage is prohibited in all areas of the City unless a permit is issued by the Fire Code Official.

15.36.080 Requirements for Wildland-Urban Interface Areas

Chapter 49, California Fire Code 2019, Requirements for Wildland-Urban Interface Areas, is amended by adding Section 4908 to read as follows:

Defensible Space for Structures and Roads

A. General. Persons owning, leasing, controlling, operating or maintaining buildings or structures in, upon or adjoining hazardous fire areas, and persons owning, leasing or controlling land adjacent to such buildings or structures, shall at all times:

1. Maintain an effective fuel break by removing and clearing away flammable vegetation and combustible material from areas within 100 feet of buildings and structures;

   Exception: Single specimen trees, ornamental shrubbery or similar plants used as ground covers, provided they do not form a means of rapidly transmitting fire from the native growth to any structure.

2. Remove portions of trees which extend within 10 feet of the outlet of a chimney;

3. Maintain trees adjacent to or overhanging a building free of deadwood; and

4. Maintain the roof of a structure free of leaves, needles or other dead vegetative growth.

B. Roadways. The Fire Code Official is authorized to cause areas within 10 feet on each side of portions of all roads, driveways and fire department access roads which are improved, designed or ordinarily used for vehicular traffic to be cleared of flammable vegetation and other combustible growth. The Fire Code Official is authorized to enter upon private property to do so.

Exception: Single specimens of trees, ornamental shrubbery or cultivated ground cover provided they do not form a means of readily transmitting fire.

C. Corrective Actions. The Fire Code Official is authorized to give notice to the owner of the property upon which conditions regulated by this section exist to correct such conditions. If the owner fails to correct such conditions, the Fire Code Official is authorized to cause the same to be done and make the expense of such correction a lien upon the property where such condition exists.

15.36.090 Fire Flow Requirements for Building

Section 507 Fire Protection Water Supplies

507.1 Required Water Supply. An approved water supply capable of supplying the required fire flow for fire protection of portions of buildings that are hereafter constructed or moved onto or within the jurisdiction. Such water supply shall be connected to the Municipal Water Supply if available within 1,000 ft. of the subject property.

A. Section B105.1 Fire-Flow Requirements for Buildings, California Fire Code 2019, Appendix B is amended to include to read as follows:

1. One and Two-Family Dwellings Under 2500 Square Feet and not served by a Public Water System, the minimum water storage shall be 5,000 gallons of capacity dedicated for fire protection.

Exception: A reduction in fire flow of 50% is allowed when the building is protected with an approved automatic fire sprinkler system.

2. One and Two-Family Dwellings Over 2500 Square Feet and Not Served by a Public Water System. The minimum water storage shall be in accordance with Table B105.1 of Appendix B.

Commented [U1]: This section was removed in 2016. Reinstated for 2019.

15.36.100 Fire Apparatus Access Roads

A. Section D103.2 Grade, California Fire Code 2019, Appendix D is amended to read as follows:

Fire apparatus access roads shall not exceed 16% in grade.

Exception: Lots of record established prior to January 1, 2014 the grade shall not exceed 20%. All grades exceeding 10% shall be AC pavement; all grades exceeding 16% shall be Portland cement scored concrete.

B. Section D103, Figure D103.1, California Fire Code 2019, Appendix D is amended to include the following drawings in the City of St. Helena Street, Storm Drain & Sidewalk Standards:

Drawings: 1, 1.1R, 1.2R, 2, 2R, 3, 3.1, 3.2, 3.3, 3.4, 4, 5, 6, 7, 8, & 9.

C. Section D103.5 Fire Apparatus access road gates, California Fire Code 2019 Appendix B is amended to read as follows:

Gates securing the fire apparatus access roads or private driveways shall comply with the following:

1. The minimum gate width shall be 16 feet for residential or 20 feet for commercial occupancies.

2. Gates shall be of the swinging or sliding type.

3. Construction of gates shall be of materials that allow manual operation by one person.

4. Gate components shall be maintained in an operative condition at all times and replaced or repaired when defective.

5. Electric gates shall be equipped with a means of opening the gate by fire personnel for emergency access. An approved key system will be installed approved by the Fire Code Official.

6. Manual opening gates shall not be locked with a padlock or chain unless they are capable of being opened by means of forcible entry tools or when the key box containing the key(s) to the lock is installed at the gate location.

7. All locking devices shall be approved by the Fire Code Official.

8. Electric gate operators, where provided, shall be listed in accordance with UL 325.

9. Gates intended for automatic operation shall be designed, constructed and installed to comply with requirements of ASTM F 2200.

10. Gates shall comply with Section 17.124.070 c. of the St. Helena Municipal Code To avoid congestion at the entrance of a property from the street or access drive, no on-site parking space or gate shall be allowed within the initial thirty (30) feet of the edge of pavement of the access drive, drive aisle or property line, including residential driveways or location as determined by the Public Works Director in conjunction with the Fire Code Official.

D. Section D107.1 One or two-family dwelling residential developments, California Fire Code 2019, Appendix B is amended to read as follows:

Developments of one, two-family or multi family dwellings where the number of dwelling units exceeds thirty (30) shall be provided with two separate and approved fire apparatus access roads, and shall meet the requirements of Section D104.3.

E. Gated entrances.

Gates on driveways.

Gates may be installed on driveways provided they comply with the following standards:

1. All gated entrances must be issued a building permit before construction begins, each gate entrance shall be at least two (2) feet wider than the width of the traveled way serving the gate and a minimum width of sixteen (16) feet unobstructed horizontal clearance and unobstructed vertical clearance of fourteen (14) feet.

2. All gates providing access from a road to a driveway shall be located at least thirty (30) feet from the roadway edge and shall open away from the roadway or be of the sliding type and shall meet all above operational requirements specified for apparatus access gates. (Ord.).

Final Inspection.

As a condition precedent to the granting of a Building Permit, the applicant must demonstrate that the Gate Entrance requirements as set forth in Chapter 17.124.070 of the Municipal Code, can be met and constructed to meet the requirements set forth herein. As a condition precedent to the granting of a "Final Inspection," the applicant must demonstrate that the gate entrance is constructed in a manner that meets these standards.

3. Existing Gates. In cases where a gated access is already existing and the alteration or removal of the existing gated entrance cannot be designed and installed to meet these requirements due to topographic or geologic conditions, upon request by the applicant or his/her authorized representative, exceptions to the standards within this subsection may be allowed by the authority having jurisdiction (AHJ), where the exception provides for the same overall practical effect as these regulations towards providing a safe area for occupants or users of the property and for emergency vehicles to park while trying to gain gate access to the applicants parcel.

4. Exceptions. Request for an exception shall be made in writing to the authority having Jurisdiction (AHJ) by the applicant or the applicant's authorized

representative. The request shall state the specific section(s) for which an exception is requested, material facts supporting the contention of the applicant, the details of the exception, and a map showing the proposed location and citing of the exception or alternative measures.

5. Historic or significant architectural existing gates, may be replaced with materials of like quality to restore these gated entrances to their original historic specifications. No modifications or upgrades to the original specifications will be allow for the Historic gated entrance to avoid compliance with Sec. 15.36.100 of the St. Helena Fire Code and Sec. 17.124.070 of the St. Helena Municipal Code.

15.36.110 Modifications.

The City Manager, the Fire Chief and the Fire Code Official shall act as a committee and shall have power to modify any of the provisions of the California Fire Code upon application in writing by the owner or lessee, or his or her duly authorized agent, when there are practical difficulties in the way of carrying out the strict letter of the fire code, provided that the spirit of the fire code shall be observed, public safety secured, and substantial justice done. The particulars of such modification when granted or allowed and the decision of the committee thereon shall be entered upon the records of the department and a signed copy shall be furnished the applicant. (Prior code § 5A.20)

15.36.120 Appeals.

Whenever the Chief of the Fire Department shall disapprove an application or refuse to grant a permit applied for, or when it is claimed that the provisions of this fire code do not apply or that the true intent and meaning of the fire code have been misconstrued or wrongly interpreted, the applicant may appeal from the decision of the Chief of the Fire Department to the board of appeals within thirty (30) days from the date of the decision appealed. (Prior code § 5A.21)

Chapter 15.40
RETROFITTING OF UNREINFORCED MASONRY BUILDINGS

Sections:

15.40.010 Short title.
15.40.020 Purpose.
15.40.030 Scope.
15.40.040 Authority.
15.40.050 Definitions.
15.40.060 Future retrofitting legislation.
15.40.070 Change of occupancy.
15.40.080 Addition, alteration or repair.
15.40.090 Penalties for noncompliance.
15.40.100 Appeals process.

15.40.110 Recovery of penalties.
15.40.120 Remedies.

15.40.010 Short title.

This chapter shall be known as the “unreinforced masonry building (URM) ordinance.” (Prior code § 4B.1)

15.40.020 Purpose.

It is generally acknowledged that the city will experience earthquakes in the future due to its proximity to the Rodgers Creek, Hayward and San Andreas faults, and may reasonably be expected to experience moderate to severe ground shaking during a significant earthquake. Such ground shaking may result in serious injury or death or impaired economic value due to damage or collapse of buildings in St. Helena. Buildings constructed of unreinforced masonry have been widely recognized for experiencing life safety hazardous damage including partial or total collapse during moderate to strong earthquakes. The purpose of this chapter is to provide alternative construction regulations designed to reduce the risk of death or injury resulting from earthquake hazards in existing unreinforced masonry buildings in a timely and economically feasible manner while preserving the historic character of the community. (Prior code § 4B.2)

15.40.030 Scope.

The provisions of this chapter contain procedures for the systematic review and reconstruction of all existing unreinforced masonry buildings within the city to improve their safety during an earthquake. This chapter does not require alteration of existing electrical, plumbing or mechanical systems unless the conditions or defects endanger the life, health, property or safety of the public or the building's occupants. Access for the physically disabled shall be provided to the extent required by the latest edition of the California Building Code and/or the State Historical Building Code. The requirements of this chapter shall apply to all buildings or portions of buildings constructed with unreinforced masonry walls with the following exceptions:

A. A building which has been seismically retrofitted since 1980, which complies with the strengthening standards in effect at the time as determined by the Building Official;

B. A detached group R division 3 occupancy or a detached group R division 1 occupancy having four living units or fewer;

C. Accessory buildings serving group R division 3 occupancies or accessory buildings serving group R division 1 occupancies having four living units or fewer;

D. Public schools;

E. Hospitals; or

F. State or federally owned buildings.

(Prior code § 4B.3)

15.40.040 Authority.

A. The Building Official or designee is authorized and directed to enforce all provisions of this chapter.

B. Unless otherwise noted, the provisions of the current code shall apply; however, this chapter shall not preclude the enforcement of any federal, state or other local codes, laws or ordinances.

C. The Building Official shall have the power to render interpretations of this chapter and to adopt and enforce rules and regulations supplemental to this chapter as he or she may deem necessary in order to clarify the application of the provisions of this chapter. Such interpretations, rules and regulations shall be in conformity with the intent and purpose of this chapter. (Prior code § 4B.4)

15.40.050 Definitions.

For the purposes of this chapter, certain words, phrases, terms and their derivatives shall be construed as specified in this section. Words, phrases, and terms that are used in this chapter, but not specifically defined, shall have the meanings set forth in the applicable local, state or federal code, if appropriate. Other such words, phrases and terms shall be accorded their ordinary meanings.

"Architect" means a person who is licensed to practice architecture in this state.

"Architectural and engineering fees" means all design and analysis costs, not repair costs.

"Building," for the purpose of determining occupant load, means any contiguous or interconnected structure; for purposes of engineering evaluation, shall mean the entire structure or portion thereof which will respond to seismic forces as a unit.

"Current code" or current "CBC" means the current edition of the California State Building Code, as amended from time to time and as amended by the city.

"Current California Existing Building Code" or "current CEBC" means the seismic provision for unreinforced masonry bearing wall buildings in the current edition of the International Existing Building Code as adopted and amended by the city.

"Engineer" means any professional, civil or structural engineer who is licensed to practice engineering in this state.

"Owner" means any individual or group of individuals or firm or any other entity holding legal or equitable title to the real property.

"Prevailing code" means the "regular building regulations" as that term is used in the California Health and Safety Code, which govern the design and construction of non-historical buildings within the city.

"Qualified historical building" means any building, structure or collection of structures deemed of importance to the history, architecture, or culture of an area by an appropriate local, state, or federal governmental jurisdiction. This shall include structures on existing or future national, state or local historical registers or official inventories of historical or architecturally significant sites, places, historic districts, or landmarks.

"Unreinforced masonry building" or "URM building" means any building or structure containing one or more walls constructed wholly or partly with unreinforced masonry walls.

"Unreinforced masonry wall" or "URM wall" means a masonry wall in which the area of reinforcing steel is less than twenty-five percent (25%) of the minimum steel ratios required by the current CEBC for reinforced masonry.

"Upgrading" means all work necessary to comply with the requirements of this chapter.

"Valuation" means the total value of all construction work determined in accordance with prevailing code, except structural and fire upgrading work required by this chapter, for which a building permit is issued as well as finish work, roofing, mechanical systems, elevators, disabled access, and any other permanent equipment. (Ord. 02-5 § 5 (part); prior code § 4B.5)

15.40.060 Future retrofitting legislation.

No URM building which has been seismically retrofitted to the standards required in this chapter shall, within a period of fifteen (15) years after completion of the work required for such retrofit, or such other period as the state may from time to time adopt, be identified as a "seismic hazard to life" pursuant to any other seismic mitigation building standard adopted by the city, unless: (a) such building no longer meets the structural upgrade standards under which it was retrofitted; or (b) the occupancy classification for such building is changed. (Prior code § 4B.7)

15.40.070 Change of occupancy.
A URM building shall be retrofitted to the applicable standard upon a change of occupancy as defined in the current CBC, if the Building Official determines that the change will create an increased occupancy load or a hazardous condition. (Prior code § 4B.8)

15.40.080 Addition, alteration or repair.

A. Whenever addition, alteration or repair work to a URM building involves any one of the following conditions, the building shall be upgraded to comply with the applicable retrofit standards prior to the approval of the addition, alteration, or repair work:
   1. The total cost for all addition, alteration and repair work exceeds fifty percent (50%) of the total replacement cost of the existing building. The valuation of the work and the replacement cost of the existing building shall be determined by the Building Official.
   2. Dead and live vertical or horizontal loading is increased by five percent on the affected supporting elements of the roof or floor of a building.
   3. More than fifty percent (50%) of the total floor areas of the building is involved in substantial structural alteration as determined by the Building Official.
   4. The cumulative area of additions, excluding basement additions, exceeds thirty percent (30%) of the existing total floor area of the building excluding basement.

B. Addition, alteration or repair work shall mean the cumulative addition, alteration or repair work performed on the building within any four year period.

C. When the owner believes the Building Official has made an error in his or her application of this section, the owner may appeal the determination to the building conservation appeals board in accordance with Section 15.40.110 of this chapter. (Prior code § 4B.9)

15.40.090 Penalties for noncompliance.

A. It is unlawful for the owner of a potentially hazardous URM building subject to this chapter to fail to comply with the provisions of this chapter. After written notification thereof from the city to the owner, each owner who fails to complete the building upgrades required by this chapter r, for such building shall, in addition to any other penalty or remedy which may be assessed pursuant to this chapter or other applicable law, be guilty of an infraction. Each day or portion thereof during which any violation of any of the provisions of this chapter is committed, continued, or permitted shall be a separate offense. This penalty shall attach the day following the last day of the period during which the owner is to complete the upgrades. The maximum penalty under this subsection shall be ten thousand dollars ($10,000.00) per building.

B. In addition to the penalty authorized by subsection (A) of this section, the Building Official may take the following actions in the event of any failure to comply with the requirements of this chapter within the specified time period:

1. Notify all parties with a financial interest in the property (such as mortgage lenders, lienholders, insurance bearers) and the tenants that the building is a hazardous URM building and is in violation of this chapter;
2. File a statement with the county recorder's office describing the potential hazards of the building and the violations of this chapter. Upon correction of the violation of this chapter the Building Official will file a release of any order of unreinforced masonry building hazard mitigation that may have been recorded;
3. Post a sign on the building to designate it as a hazardous URM building. The signs shall be located at well-lighted locations, readily visible by the occupants and public when entering the building and shall be protected from damage. Location, form and content of the sign is subject to the Building Official's approval. The building owner shall be responsible for installing and maintaining the signs and immediately replacing them, at the owner's expense, as necessary. When the owner corrects all violations of this chapter to the satisfaction of the Building Official, the posting of the building required by this section shall be removed. However, if the owner violates any aspect of this chapter after the posting has been removed, the Building Official will repost the building immediately;
4. The city council may cause any building not abated within the time limits set forth herein, to be vacated, strengthened, repaired, rehabilitated, remodeled, demolished or upgraded in accordance with the provisions of this chapter and place a lien on the property for all costs incurred.

C. The owner may appeal any action or penalty for noncompliance in accordance with Section 15.40.110 of this chapter. (Ord. 02-5 § 5 (part); prior code § 4B.10)

15.40.100 Appeals process.

A. Exemption from URM Program. If the owner believes that his or her building is not a potentially hazardous URM building or is otherwise exempted from the provisions of this chapter, the owner shall submit evidence, such as original drawings or test results, to substantiate the claim. The Building Official will review the evidence submitted by the owner and will remove the building from the city's list of potentially hazardous URM buildings if the Building Official determines that the building is exempted or in compliance with this chapter. Any decision of the Building Official pursuant to this subsection may be appealed first to the building conservation appeals board and finally to the city council, in accordance with the procedures set forth in this section.

B. Appeal of Addition, Alterations, or Repair. When the owner believes the Building Official made an error in his or her determination regarding additions, alterations or repairs, the owner may appeal the determination to the building conservation appeals board. Such appeal shall be made within thirty (30) days after the date of the Building Official's written decision.

1. Such appeal shall be made in the form specified by this section and be filed with the Building Official. The appeal shall state specifically the alleged error or abuse of discretion by the Building Official. The appeal will be heard by the building conservation appeals board within thirty (30) days of the date of receipt of the appeal by the city. Not less than seven days prior to the hearing date, the Building Official shall give notice to the appellant of the date, time and place of the hearing. The board shall be authorized to continue the hearing from time to time.

In considering the appeal, the board shall determine whether, based upon the record, the Building Official erred or abused his or her discretion. Error or abuse of discretion is shown if it is established that the Building Official failed to follow the provisions of this chapter.

2. The decision of the board shall be in writing and a copy of the board's decision shall be mailed or otherwise delivered to the appellant by the Building Official within seven days of the date of the board's decision. The applicant may appeal the board's decision to the city council in the form specified by this section. The appeal shall be made to the city clerk within thirty (30) days of the date of receipt of the board's final action notice.

C. Appeal of Noncompliance Penalties and Actions. Any decision by the Building Official to impose penalties or take actions in the event of any failure to comply with the requirements of this chapter may be appealed by the owner or the owner's agent to the city council. Any such appeal shall be made within thirty (30) days of the date of the Building Official's mailing of notification. The appeal shall be made on a form approved by the Building Official and shall state specifically how the Building Official has

either committed an error or has abused his or her discretion. In considering the appeal, the council shall determine whether, based upon the record, the Building Official erred or abused his or her discretion. The decision of the council shall be in writing and shall be final. Revocation of a certificate of occupancy, if appealed, will not become effective until the decision of the council is final and in writing.

D. Written Appeal Required. The written appeal and filing fee shall be submitted to the city clerk. The written appeal shall contain the following:
   1. The names of the appellants;
   2. A brief statement setting forth the legal interest of each of the appellants in the land and/or building involved;
   3. A brief statement in ordinary and concise language of the specific order or action protested, together with any material facts claimed to support the contentions of the appellants;
   4. A brief statement in ordinary and concise language of the relief sought and the reasons why it is claimed the protested order or action should be reversed, modified or otherwise set aside;
   5. The submittal of any documents, sworn statements or other written material claimed to have value on the contentions made in support of the appeal;
   6. The signatures of all parties named as appellants and their mailing addresses;
   7. The verification (by declaration under penalty of perjury) of at least one appellant as to the truth of the matters stated in the appeal. (Prior code § 4B.11)

15.40.110 Recovery of penalties.

A. The penalties imposed on the building owner shall be assessed against the real property subject to this chapter and shall, in addition, be an obligation of the owner of the subject property. If the owner of a building is a group of individuals, firms, or other entities or any combination thereof, the obligation imposed by this section shall be joint and several. The Building Official shall give the owner of the building a written notice showing the amount of the penalty and requesting payment thereof. If the amount of such penalty is not paid to city within thirty (30) days after the date of such notice, the Building Official shall forward a report of the penalties to the city council for confirmation.

B. The property owner shall be given at least fifteen (15) days' written notice of the confirmation hearing before the city council. The amount of the penalties shall be confirmed by the city council, unless the city council finds, based upon evidence in the record, that the Building Official erred in imposing or in computing the amount of the penalty. If such error is found, the city council may modify the amount of the penalty, as warranted.

C. Upon confirmation of the penalty, the city council shall direct the Building Official to record in the office of the county recorder, a certificate substantially in the following form:

NOTICE OF SPECIAL ASSESSMENT LIEN

Pursuant to Section 15.40.100, of the St. Helena Municipal Code, the penalty of $ _____ was assessed by the Building Official, and confirmed by the St. Helena City Council, against the described real property and such amount has not been paid, in full, and the City of St. Helena does hereby claim a special assessment lien upon the hereinafter described real property in said amount; the same shall be a lien upon the real property until such sum has been paid in full. The real property herein above mentioned and upon which a lien is claimed is that certain parcel of land lying and being in the City of St. Helena, County of Napa, State of California and particularly described as follows, to wit:
(Insert description of property)
Dated _____

_____
Building Official

Such lien attaches upon recordation of the notice of special assessment lien. The description of the parcel in the notice of lien shall be that used for the same parcel as the county assessor's map book for the current year. The county assessor shall enter each assessment on the county tax roll opposite the affected parcel of land. The amount of the assessment shall be collected and shall be subject to the same penalties and the same procedures for foreclosure and sale, in case of delinquencies, as provided for ordinary municipal taxes. (Prior code § 4B.12)

15.40.120 Remedies.

In addition to the penalties in Section 15.40.100 of this chapter, the following remedies are available to the city and may be imposed independently or in combination with each other at the sole discretion of the Building Official, unless otherwise noted herein:

A. Maintenance of a URM building beyond the time specified in Section 15.40.060(E) of this chapter for completion of upgrades to such building is declared a public nuisance.

B. The city may seek injunctive relief on behalf of the public to enjoin a building owner's violation of this chapter.

C. The city may withhold the issuance of any building permit and/or may suspend the existing building permits on the subject building unless otherwise authorized by the Building Official for emergency repairs.

D. The Building Official, after written notice to the owner, may revoke or suspend the occupancy permit for any structure for which the owner violates any of the provisions of this chapter. The notice of revocation or suspension shall provide the owner the right to provide the Building Official with evidence that the occupancy permit should not be revoked or

suspended either because the structure is not subject to the provisions of this chapter or because the Building Official did not follow the provisions of this chapter.

E. Any person violating any provision of this chapter shall be guilty of an infraction.

F. These remedies are not exclusive and the city may utilize any other remedies available at law or equity. (Prior code § 4B.13)

Chapter 15.44
BUILDING NUMBERING SYSTEM

Sections:

15.44.010 Plan generally—Odd and even numbers.
15.44.020 Method of assignment of numbers.
15.44.030 Use of numbers consecutively.
15.44.040 Record of numbers assigned.
15.44.050 Duty of property owners to provide and affix numbers.
15.44.060 Size of number—Where numbers are to be placed.

15.44.010 Plan generally—Odd and even numbers.

All buildings fronting on streets in the city shall be numbered in accordance with the following system:

A. The base or initial point on all streets running in a northwesterly and southeasterly course shall be the southeastern boundary line of the city running from Napa River to Crane Avenue, and the line projected northeasterly and southwesterly, and all such streets which run in a northwesterly direction from such base or initial point, shall be numbered from such base or initial point, and all streets which run in a northwesterly direction, but do not run from such base or initial point shall be theoretically projected southeasterly to such base or initial point and shall be numbered as if the same actually ran from such base, and in all such streets the odd numbers shall be placed on the southerly side of the street, and even numbers on the northerly side, opposite the next preceding odd numbers.

B. The base or initial point on all streets running in a northeasterly and southwesterly course shall be a line drawn at right angles to the aforesaid southeasterly boundary line of the city and intersecting the last-mentioned line at a point where it intersects the southern bank of Napa River, and all streets running in a southwesterly direction shall be theoretically projected northeasterly to such base or initial point and shall be numbered as if the same actually ran from such base or initial point, and on all such streets, the odd numbers shall be placed on the westerly side of the street and the even numbers on the easterly side, opposite the next preceding odd number. (Prior code § 13.36)

15.44.020 Method of assignment of numbers.

The lots shall be numbered starting from the southeasterly or northeasterly end of the block and the numbers shall be computed in the following manner: The number of lineal feet of property line in each block shall be divided by six and one

number shall be appropriated to the space resulting from such division as the case may be. (Prior code § 13.37)

15.44.030 Use of numbers consecutively.

Numbering of buildings shall be consecutively in the following manner:

Beginning the numbering for each street with the first block, at such base or initial point, allotting one hundred (100) numbers, or as many to each block as shall be required and using the numbers from one to one hundred (100), inclusive, in the first block, the numbers one hundred (100) and one to two hundred (200), inclusive, in the next block, and so on consecutively from such base or initial point the whole length of the street. (Prior code § 13.38)

15.44.040 Record of numbers assigned.

The superintendent of streets shall number the streets and shall keep complete records, plots and diagrams thereof, in his or her office, and shall inform, on request, the owners or occupants of each house to be numbered, of the numbers to be placed on the house by the owner or occupant. (Prior code § 13.39)

15.44.050 Duty of property owners to provide and affix numbers.

It shall be the duty of every person owning, occupying or controlling any building or store fronting on a public street or avenue in the city to number the same, or cause the same to be numbered correctly and in accordance with this chapter, and it shall be the duty of any person owning, occupying or controlling any building hereafter erected within the city to do so number the same within one month after its completion or occupancy, and it is unlawful for such owner or occupant to fail, neglect or refuse to do so. (Prior code § 13.40)

15.44.060 Size of number—Where numbers are to be placed.

The regulation number to be used in numbering buildings in the city shall be consistent with section 15.12.020 A. Numbers shall be placed upon some conspicuous place on the front of such building. (Prior code § 13.41)

Chapter 15.48
TRAILERS AND TRAILER CAMPS

Sections:

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15.48.010 Definitions.

For the purposes of this chapter, the following words and phrases shall have the meanings respectively ascribed to them by this section:

"Approved trailer camps or farm labor camps" means any places, areas or tracts offered to the public for accommodation of any trailer and approved by the city health inspector as conforming to state and county law.

"Trailer" means any unit designed to be used for living or sleeping purposes, or both, and which is or was at some time equipped with wheels or similar devices for the purpose of transporting such unit from place to place, whether by motive power or other means. (Prior code § 16.1)

15.48.020 State law as to trailer camps adopted.

All of the provisions of the state law applicable to health, sanitation and safety of trailer camps or farm labor camps are adopted and made a part of this chapter as though fully set forth herein. (Prior code § 16.2)

15.48.030 Trailers to be kept in approved camps—Exceptions when temporary permits are issued.

All trailers when occupied or used for living or sleeping purposes shall be kept within approved trailer camps or farm labor camps, except when a temporary permit is issued as provided for in Section 17.136.090(C). (Prior code § 16.3)

15.48.040 Application for temporary permits.

Application for a temporary permit shall be made within forty-eight (48) hours from the time such trailer is located upon the property. (Prior code § 16.4)

15.48.050 Temporary permit fees.

Every person holding a temporary permit shall pay to the city building inspector the fee set forth by city council resolution. (Ord. 02-5 § 15 (part): prior code § 16.5)

15.48.060 When trailers to be parked in parking spaces.

All trailers when parked for more than twenty-four (24) continuous hours shall be parked in a parking space. (Prior code § 16.6)

15.48.070 Unlawful locations.

No person shall establish, maintain or locate any trailer in the city, except in conformance with the provisions of this chapter. (Ord. 02-5 § 15 (part): prior code § 16.7)

Chapter 15.52
FLOOD DAMAGE PREVENTION

Sections:

15.52.010 Statutory authorization.
15.52.020 Findings of fact.
15.52.030 Statement of purpose.
15.52.040 Methods of reducing flood losses.
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15.52.150 Standards of construction.
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15.52.200 Appeal board.
15.52.210 Variances.

* Editor's Note: The sections in this chapter have been renumbered from the designations given in Ord. 06-8 starting with Section 15.52.120.

15.52.010 Statutory authorization.

The Legislature of the State of California has, in Government Code Sections 65302, 65560, and 65800, conferred upon local government units authority to adopt regulations designed to promote the public health, safety and general welfare of its citizenry. Therefore, the city council does ordain as set forth in this chapter. (Ord. 06-8 § 3 (part); Ord. 02-5 § 8: prior code § 5B.1)

15.52.020 Findings of fact.

A. The flood hazard areas of the city are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.
B. These flood losses are caused by uses that are inadequately elevated, floodproofed or protected from flood damage. The cumulative effect of obstructions in areas of special flood hazards which increase flood heights

and velocities also contributes to flood losses. (Ord. 06-8 § 3 (part): prior code § 5B.2)

15.52.030 Statement of purpose.

It is the purpose of this chapter to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

A. Protect human life and health;
B. Minimize expenditure of public money for costly flood-control projects;
C. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
D. Minimize prolonged business interruptions;
E. Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in areas of special flood hazard;
F. Help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future blighted areas caused by flood damage;
G. Ensure that potential buyers are notified that property is in an area of special flood hazard; and
H. Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions. (Ord. 06-8 § 3 (part): prior code § 5B.3)

15.52.040 Methods of reducing flood losses.

In order to accomplish its purposes, this chapter includes regulations to:

A. Restrict or prohibit uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;
B. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
C. Control the alteration of natural floodplains, stream channels and natural protective barriers, which help accommodate or channel floodwaters;
D. Control filling, grading, dredging and other development which may increase flood damage;
E. Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas; and
F. These regulations take precedence over any less restrictive conflicting local laws, ordinances and codes. (Ord. 06-8 § 3 (part): prior code § 5B.4)

15.52.050 Definitions.

Unless specifically defined below, words or phrases used in this chapter shall be so interpreted so as to give them the meaning they have in common usage and to give this chapter its most reasonable application.

“A Zone.” See “Special flood hazard area.”

“Accessory structure, low-cost and small” means a structure that is solely for the parking of not more than two cars; or limited storage (small, low cost sheds).

“Accessory use” means a use which is incidental and subordinate to the principal use of the parcel of land on which it is located;

“Alluvial fan” means a geomorphologic feature characterized by a cone or fan shaped deposit of boulders, gravel, and fine sediments that have been eroded from mountain slopes, transported by flood flows, and then deposited on the valley floors, and which is subject to flash flooding, high velocity flows, debris flows, erosion, sediment movement and deposition, and channel migration.

“Apex” means a point on an alluvial fan or similar landform below which the flow path of the major stream that formed the fan becomes unpredictable and alluvial fan flooding can occur.

“Appeal” means a request for a review of the floodplain administrator's interpretation of any provision of this chapter or a request for a variance.

“Area of shallow flooding” means a designated AO or AH Zone on the Flood Insurance Rate Map (FIRM). The base flood depths range from one to three feet; a clearly defined channel does not exist; the path of flooding is unpredictable and indeterminate; and velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

“Area of special flood hazard.” See “Special flood hazard area.”

“Area of special flood-related erosion hazard” is the land within a community which is most likely to be subject to severe flood-related erosion losses. The area may be designated as Zone E on the Flood Insurance Rate Map (FIRM).

“Base flood” means the flood having a one-percent chance of being equaled or exceeded in any given year (also called the “100 year flood”). Base flood is the term used throughout this chapter.

“Base flood elevation (BFE)” means the elevation shown on the Flood Insurance Rate Map for Zones AE, AH, A1-A30, VE and V1-V30 that indicates the water surface elevation resulting from a flood that has a one-percent or greater chance of being equaled or exceeded in any given year.

“Basement” means any area of the building having its floor subgrade — i.e., below ground level— on all sides.

“Building.” See “Structure.”

“Crawl space” is an enclosed area below the BFE. Crawl space construction is subject to specific materials requirements and other constraints as described in Section 15.52.150(C)(2) of this chapter.

“Development” means any man-made change to improved or unimproved real estate including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

“Development permit” means the document issued by the city to confirm approval of the development proposed by the submittals required under Section 15.52.120 of this chapter.

"Encroachment" means the advance or infringement of uses, plant growth, fill, excavation, buildings, permanent structures or development into a floodplain which may impede or alter the flow capacity of a floodplain.

"Existing manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) was completed before May 27, 1980.

"Expansion to an existing manufactured home park or subdivision" means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

"Flood, flooding, or flood water" means:

1. A general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters; the unusual and rapid accumulation or runoff of surface waters from any source; and/or mudslides (i.e., mudflows); and
2. The condition resulting from flood related erosion.

"Flood Boundary and Floodway Map (FBFM)" means the official map on which the Federal Emergency Management Agency or Federal Insurance Administration has delineated both the areas of special flood hazard and the floodway.

"Flood Insurance Rate Map (FIRM)" means the official map on which the Federal Emergency Management Agency or Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

"Flood Insurance Study" means the official report provided by the Federal Insurance Administration that includes flood profiles, the FIRM, the Flood Boundary and Floodway Map, and the water surface elevation of the base flood.

"Floodplain or flood-prone area" means any land area susceptible to being inundated by water from any source - see "Flooding."

"Floodplain administrator" is the community official designated by title to administer and enforce the floodplain management regulations.

"Floodplain management" means the operation of an overall program of corrective and preventive measures for reducing flood damage, including, but not limited to, emergency preparedness plans, flood control works, floodplain management regulations, and open space plans.

"Floodplain management regulations" means this and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as grading and erosion control) and other applications of police power which control development in flood prone areas. This term describes federal, state or local regulations in any combination thereof which provide standards for preventing and reducing flood loss and damage.

“Flood proofing” means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures, and their contents. For guidelines on dry and wet flood proofing, see FEMA Technical Bulletins TB 1-93, TB 3-93, and TB 7-93.

“Flood-related erosion” means the collapse or subsidence of land along the shore of a lake or other body of water as a result of undermining caused by waves or currents of water exceeding anticipated cyclical level or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as a flash flood or an abnormal tidal surge, or by some similarly unusually and unforeseeable event which results in flooding.

“Flood-related erosion area” or “flood-related erosion prone area” means a land area adjoining the shore of a lake or other body of water, which due to the composition of the shoreline or bank and high water levels or wind-driven currents, is likely to suffer flood-related erosion damage.

“Flood-related erosion area management” means the operation of an overall program of corrective and preventive measures for reducing flood-related erosion damage, including but not limited to emergency preparedness plans, flood-related erosion control works, and floodplain management regulations.

“Floodway” means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot. Also referred to as “regulatory floodway.”

“Floodway fringe” is that area of the floodplain on either side of the “regulatory floodway” where encroachment may be permitted.

“Fraud and victimization” as related to Section 15.52.210 of this chapter, means that the variance granted must not cause fraud on or victimization of the public. In examining this requirement, the city will consider the fact that every newly constructed building adds to government responsibilities and remains a part of the community for fifty (50) to one hundred (100) years. Buildings that are permitted to be constructed below the base flood elevation are subject during all those years to increased risk of damage from floods, while future owners of the property and the community as a whole are subject to all the costs, inconvenience, danger, and suffering that those increased flood damages bring. In addition, future owners may purchase the property, unaware that it is subject to potential flood damage, and can be insured only at very high flood insurance rates.

“Functionally dependent use” means a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers,

and ship building and ship repair facilities, and does not include long term storage or related manufacturing facilities.

"Governing body" is the city, empowered to adopt and implement regulations to provide for the public health, safety and general welfare of its citizenry.

"Hardship" as related to Section 15.52.210 of this chapter means the exceptional hardship that would result from a failure to grant the requested variance. The city requires that the variance be exceptional, unusual, and peculiar to the property involved. Mere economic or financial hardship alone is not exceptional. Inconvenience, aesthetic considerations, physical handicaps, personal preferences, or the disapproval of one's neighbors likewise cannot, as a rule, qualify as an exceptional hardship. All of these problems can be resolved through other means without granting a variance, even if the alternative is more expensive, or requires the property owner to build elsewhere or put the parcel to a different use than originally intended.

"Highest adjacent grade" means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

"Historic structure" means any structure that is:

1. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
2. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
3. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior; or
4. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either by an approved state program as determined by the Secretary of the Interior or directly by the Secretary of the Interior in states without approved programs.

"Levee" means a man made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control or divert the flow of water so as to provide protection from temporary flooding.

"Levee system" means a flood protection system which consists of a levee, or levees, and associated structures, such as closure and drainage devices, which are constructed and operated in accord with sound engineering practices.

"Lowest floor" means the lowest floor of the lowest enclosed area, including basement (see "Basement" definition).

1. An unfinished or flood-resistant enclosure below the lowest floor that is usable solely for parking of vehicles, building access or storage in an area other than a basement area, is not considered a building's lowest floor provided it conforms to applicable non-elevation design requirements, including, but not limited to:
    a. The flood openings standard in Section 15.52.150(C)(4) of this chapter;
    b. The anchoring standards in Section 15.52.150(A) of this chapter;
    c. The construction materials and methods standards in Section 15.52.150(B) of this chapter; and
    d. The standards for utilities in Section 15.52.160 of this chapter.

"Manufactured home" means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes, the term "manufactured home" also includes "recreational vehicles," park trailers, travel trailers and other similar vehicles placed on a site for greater than one hundred eighty (180) consecutive days.

"Market value" shall be determined by estimating the cost to replace the structure in new condition and adjusting that cost figure by the amount of depreciation which has accrued since the structure was constructed.

1. The cost of replacement of the structure shall be based on a square foot cost factor determined by reference to a building cost estimating guide recognized by the building construction industry.
2. The amount of depreciation shall be determined by taking into account the age and physical deterioration of the structure and functional obsolescence as approved by the floodplain administrator, but shall not include economic or other forms of external obsolescence.
3. Use of replacement costs or accrued depreciation factors different from those contained in recognized building cost estimating guides may be considered only if such factors are included in a report prepared by an independent professional appraiser and supported by a written explanation of the differences.

"Manufactured home park or subdivision" means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for sale or rent.

"Mean sea level (MSL)" means, for purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929, North American Vertical Datum (NAVD) of 1988, or other datum, to which base flood elevations shown on a community's Flood Insurance Rate Map are referenced.

"New construction", for floodplain management purposes, means structures for which the "start of construction" commenced on or after May 27, 1980, and includes any subsequent improvements to such structures.

"New manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including

at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after May 27, 1980.

“Obstruction” includes, but is not limited to, any dam, wall, wharf, embankment, levee, dike, pile, abutment, protection, excavation, channelization, bridge, conduit, culvert, building, wire, fence, rock, gravel, refuse, fill, structure, vegetation or other material in, along, across or projecting into any watercourse which may alter, impede, retard or change the direction and/or velocity of the flow of water, or due to its location, its propensity to snare or collect debris carried by the flow of water, or its likelihood of being carried downstream.

“One hundred year flood” or “100 year flood” - see “Base flood.”

“Person” means an individual or his or her agent, firm, partnership, association or corporation, or agent of the aforementioned groups, or this state or its agencies or political subdivisions.

“Program deficiency” means a defect in a community’s floodplain management regulations or administrative procedures that impairs effective implementation of those floodplain management regulations.

“Public safety and nuisance” as related to Section 15.52.210 of this chapter, means that the granting of a variance must not result in anything which is injurious to safety or health of an entire community or neighborhood, or any considerable number of persons, or unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, river, bay, stream, canal, or basin.

“Recreational vehicle” means a vehicle which is:

1. Built on a single chassis;
2. 400 square feet or less when measured at the largest horizontal projection;
3. Designed to be self propelled or permanently towable by a light duty truck; and
4. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

“Regulatory floodway” means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

“Remedy a violation” means to bring the structure or other development into compliance with state or local floodplain management regulations, or, if this is not possible, to reduce the impacts of its noncompliance. Ways that impacts may be reduced include protecting the structure or other affected development from flood damages, implementing the enforcement provisions of this chapter or otherwise deterring future similar violations, or reducing state or federal financial exposure with regard to the structure or other development.

“Riverine” means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

“Sheet flow area.” See “Area of shallow flooding.”

"Special flood hazard area (SFHA)" means an area in the floodplain subject to a one percent or greater chance of flooding in any given year. It is shown on an FHBM or FIRM as Zone A, AO, A1-A30, AE, A99, or AH.

"Start of construction" includes substantial improvement and other proposed new development and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within one hundred eighty (180) days from the date of the permit. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufacture home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

"Structure" means a walled and roofed building that is principally aboveground; this includes a gas or liquid storage tank, or a manufactured home.

"Substantial damage" means:

1. Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed fifty percent (50%) of the market value of the structure before the damage occurred; or
2. Flood-related damages sustained by a structure on two separate occasions during a ten (10)-year period for which the cost of repairs at the time of each such event, on the average, equals or exceeds twenty-five percent (25%) of the market value of the structure before the damage occurred. This is also known as "repetitive loss."

"Substantial improvement" means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds thirty percent (30%) of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage", regardless of the actual repair work performed. The term does not, however, include either:

1. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code

enforcement official and which are the minimum necessary to assure safe living conditions; or

2. Any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure."

"Variance" means a grant of relief from the requirements of this chapter which permits construction in a manner that would otherwise be prohibited by this chapter.

"Violation" means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in this chapter is presumed to be in violation until such time as that documentation is provided.

"Water surface elevation" means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, North American Vertical Datum (NAVD) of 1988, or other datum, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

"Watercourse" means a lake, river, creek, stream, wash, arroyo, channel or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur. (Ord. 06-8 § 3 (part): prior code § 5B.5)

15.52.060 Lands to which this chapter applies.

This chapter shall apply to all areas of special flood hazards within the jurisdiction of the city. (Ord. 06-8 § 3 (part): prior code § 5B.6)

15.52.070 Basis for establishing the areas of special flood hazard.

The areas of special flood hazard identified by the Federal Emergency Management Agency (FEMA) in the "Flood Insurance Study (FIS) City of St. Helena, California, Napa County" dated January 7, 1998, with accompanying Flood Insurance Rate Maps (FIRMs) and Flood Boundary and Floodway Maps (FBFMs), dated January 7, 1998, and all subsequent amendments and/or revisions, are hereby adopted by reference and declared to be a part of this chapter. This FIS and attendant mapping is the minimum area of applicability of this chapter and may be supplemented by studies for other areas which allow implementation of this chapter and which are recommended to the city by the floodplain administrator. The study, FIRMs and FBFMs are on file at City Hall, 1480 Main Street, St. Helena. (Ord. 06-8 § 3 (part): prior code § 5B.7)

15.52.080 Compliance.

No structure or land shall hereafter be constructed, located, extended, converted or altered without full compliance with the terms of this chapter and other applicable regulations. Violation of the requirements (including violations of conditions and safeguards) shall constitute a misdemeanor. Nothing herein shall

prevent the city from taking such lawful action as is necessary to prevent or remedy any violation. (Ord. 06-8 § 3 (part): prior code § 5B.8)

15.52.090 Abrogation and greater restrictions.

This chapter is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this chapter and another ordinance, easement, covenant or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail. (Ord. 06-8 § 3 (part): prior code § 5B.9)

15.52.100 Interpretation.

In the interpretation and application of this chapter, all provisions shall be:

A. Considered as minimum requirements;
B. Liberally construed in favor of the city; and
C. Deemed neither to limit nor repeal any other powers granted under state statutes. (Ord. 06-8 § 3 (part): prior code § 5B.10)

15.52.110 Warning and disclaimer of liability.

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This chapter does not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of the city, any officer or employee thereof, the state of California or the Federal Emergency Management Agency for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder. (Ord. 06-8 § 3 (part): prior code § 5B.11)

15.52.120 Development permit.

A development permit shall be obtained before construction or other development, including manufactured homes, within any area of special flood hazard established in Section 15.52.070 of this chapter. Applications for a development permit shall be made on forms furnished by the city. The applicant shall provide the following minimum information:

A. Plans in duplicate, drawn to scale, showing:
    1. Location, dimensions, and elevation of the area in question, existing or proposed structures, storage of materials and equipment and their location;
    2. Proposed locations of water supply, sanitary sewer, and other utilities;
    3. Grading information showing existing and proposed contours, any proposed fill, and drainage facilities;
    4. Location of the regulatory floodway when applicable;
    5. Base flood elevation information as specified in Section 15.52.070 or Section 15.52.150(C) of this chapter;
    6. Proposed elevation in relation to mean sea level of the lowest floor (including basement) of all structures; and

7. Proposed elevation in relation to mean sea level to which any nonresidential structure will be flood proofed, as required in Section 15.52.150(C)(3) of this chapter and detailed in FEMA Technical Bulletin TB 3-93.

B. Certification from a registered civil engineer or architect that the nonresidential flood proofed building meets the flood proofing criteria in Section 15.52.150(C)(3) of this chapter.

C. For a crawl space foundation, location and total net area of foundation openings as required in Section 15.52.150(C)(2) of this chapter and detailed in FEMA Technical Bulletins 1-93 and 7-93.

D. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development and evidence that any required state or federal permits for such alteration or relocation have been obtained.

E. All appropriate certifications listed in Section 15.52.150 of this chapter. (Ord. 06-8 § 3 (part): prior code § 5B.13)

15.52.130 Designation of floodplain administrator.

The city engineer is appointed to administer, implement and enforce this chapter by granting or denying development permits in accord with its provisions. (Ord. 06-8 § 3 (part): prior code § 5B.14)

15.52.140 Duties and responsibilities of the floodplain administrator.

The duties and responsibilities of the floodplain administrator shall include, but not be limited to:

A. Permit Review.

1. Review all development permit applications to determine that the permit requirements of this chapter have been satisfied, including determination of substantial improvement and substantial damage of existing structures;
2. All other required state and federal permits have been obtained;
3. The site is reasonably safe from flooding;
4. The proposed development does not adversely affect the carrying capacity of areas where base flood elevations have been determined but a floodway has not been designated. This means that the cumulative effect of the proposed development when combined with all other existing and anticipated development will not increase the water surface elevation of the base flood more than one foot at any point within the city; and
5. All letters of map revision (LOMRs) for flood control projects are approved prior to the issuance of building permits. Building permits must not be issued based on conditional letters of map revision (CLOMRs). Approved CLOMRs allow construction of the proposed flood control project and land preparation as specified in the “Start of Construction” definition.

B. Development of Substantial Improvement and Substantial Damage Procedures.

1. Using FEMA publication FEMA 213, “Answers to Questions About Substantially Damaged Buildings,” develop detailed procedures for identifying and administering requirements for substantial improvement and substantial damage, to include defining “market value.”
2. Assure procedures are coordinated with other departments/divisions and implemented by community staff.

C. Review Use and Development of Other Base Flood Data. When base flood elevation data has not been provided in accordance with Section 15.52.070 of this chapter, the floodplain administrator shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source, in order to administer Sections 15.52.150 through 15.52.190 of this chapter. Any such information shall be submitted to the city council for adoption. NOTE: A base flood elevation may be obtained using one of two methods from the FEMA publication, FEMA 265, “Managing Floodplain Development in Approximate Zone A Areas – A Guide for Obtaining and Developing Base (100-year) Flood Elevations” dated July 1995.

D. Notification of Other Agencies.
1. Alteration or relocation of a watercourse.
   a. Notify adjacent communities and the California Department of Water Resources prior to the alteration or relocation;
   b. Submit evidence of such notification to the Federal Emergency Management Agency; and
   c. Assure that the flood-carrying capacity of the altered or relocated portion of such watercourse is maintained.
2. Base flood elevation changes due to physical alterations:
   a. Within six months of information becoming available or project completion, whichever comes first, the floodplain administrator shall submit or assure that the permit applicant submits technical or scientific data to FEMA for a letter of map revision (LOMR).
   b. All LOMR’s for flood control projects are approved prior to the issuance of building permits. Building permits must not be issued based on conditional letters of map revision (CLOMR’s). Approved CLOMR’s allow construction of the proposed flood control project and land preparation as specified in the “Start of Construction” definition.
   c. Such submissions are necessary so that upon confirmation of those physical changes affecting flooding conditions, risk premium rates and floodplain management requirements are based on current data.
3. Changes in corporate boundaries:
   Notify FEMA in writing whenever the corporate boundaries have been modified by annexation or other means and include a copy of a map of the community clearly delineating the new corporate limits.

E. Documentation of Floodplain Development.
Obtain and maintain for public inspection and make available as needed the following:

1. Certification required by Section 15.52.150(C)(1) of this chapter (lowest floor elevations);
2. Certification required in Section 15.52.150(C)(3) of this chapter (elevation or flood proofing of nonresidential structures);
3. Certification required in Section 15.52.150(C)(4) of this chapter (wet flood proofing standard);
4. Certification required in Section 15.52.170 of this chapter (subdivisions and other proposed development standards);
5. The certification required in Section 15.52.190(A) of this chapter (floodway encroachments); and
6. Maintain a record of all variance actions, including justification for their issuance, and report such variances issued in its biennial report submitted to the Federal Emergency Management Agency.

F. Map Determination. Make interpretations where needed, as to the exact location of the boundaries of the areas of special flood hazard, where there appears to be a conflict between a mapped boundary and actual field conditions. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in Section 15.52.200 of this chapter.

G. Remedial Action. Take action to remedy violations of this chapter as specified in Section 15.52.080 herein.

H. Biennial Report. Complete and submit biennial report to FEMA.

I. Planning. Assure community's general plan is consistent with floodplain management objectives herein. (Ord. 06-8 § 3 (part): prior code § 5B.15)

15.52.150 Standards of construction.

In all areas of special flood hazards the following standards are required:

A. Anchoring.
   1. All new construction and substantial improvements, including manufactured homes, shall be adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.

B. Construction Materials and Methods.
   1. All new construction and substantial improvements to structures, including manufactured homes, shall be constructed:
      a. With flood-resistant materials, and utility equipment resistant to flood damage for areas below the base flood elevation;
      b. Using methods and practices that minimize flood damage;
      c. With electrical, heating, ventilation, plumbing and air-conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding; and
      d. Within Zone AH or AO, so that there are adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures.

C. Elevation and Flood proofing.

1. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement:
   a. In AE, AH and A1-A30 Zones, elevated to eighteen (18) inches above the base flood elevation.
   b. In an AO Zone, elevated above the highest adjacent grade to a height equal to or exceeding the depth number specified in feet on the FIRM, or elevated at least two feet above the highest adjacent grade if no depth number is specified.
   c. Upon completion of the structure, the elevation of the lowest floor including basement shall be certified by a registered civil engineer or land surveyor to be properly elevated. Such certification shall be provided to the floodplain administrator.
2. Crawl Space Construction. Below-grade crawl space construction in accordance with the requirements listed below will not be considered basements.
   a. The building must be designed and adequately anchored to resist flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy. Crawl space construction is not allowed in areas with flood velocities greater than five feet per second unless the design is reviewed by a qualified design professional, such as a registered architect or professional engineer;
   b. The crawl space is an enclosed area below the BFE and, as such, must have openings that equalize hydrostatic pressures by allowing for the automatic entry and exit of floodwaters. For guidance on flood openings, see FEMA Technical Bulletin 1-93;
   c. Crawl space construction is not permitted in V zones. Open pile or column foundations that withstand storm surge and wave forces are required in V zones;
   d. Portions of the building below the BFE must be constructed with materials resistant to flood damage. This includes not only the foundation walls of the crawl space used to elevate the building, but also any joists, insulation, or other materials that extend below the BFE; and
   e. Any building utility systems within the crawl space must be elevated above BFE or designed so that floodwaters cannot enter or accumulate within the system components during flood conditions.
   f. Requirements for all below-grade crawl space construction, in addition to the above requirements, to include the following:
      i. The interior grade of a crawl space below the BFE must not be more than two feet below the Lowest Adjacent Exterior Grade (LAG), shown as D in figure 3 of Technical Bulletin 11-01;
      ii. The height of the below-grade crawl space, measured from the interior grade of the crawl space to the top of the crawl space foundation wall must not exceed 4 feet (shown as L in figure 3 of Technical Bulletin 11-01) at any point;

iii. There must be an adequate drainage system that removes floodwaters from the interior area of the crawl space within a reasonable period of time after a flood event, not to exceed seventy-two (72) hours; and

iv. The velocity of floodwaters at the site should not exceed five feet per second for any crawl space. For velocities in excess of five feet per second, other foundation types should be used.

3. For any new construction or substantial improvement of a nonresidential structure, the entire structure shall either be elevated in conformance with subsection (C)(1) of this section or together with attendant utility and sanitary facilities:
   a. Be flood proofed so that below the level required under subsection (C)(1) of this section the structure is watertight with walls substantially impermeable to the passage of water;
   b. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
   c. Be certified by a registered civil engineer that the standards of this subsection are satisfied. Such certification shall be provided to the floodplain administrator.
4. Require, for all new construction and substantial improvements, that fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of flood waters. Designs for meeting this requirement must either be certified by a registered civil engineer or meet or exceed the following minimum criteria:
   a. Either a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, valves or other coverings or devices; provided, that they permit the automatic entry and exit of flood waters; or
   b. Be certified to comply with a local flood proofin standard approved by the Federal Insurance Administration.
5. Manufactured homes shall also meet the standards in Section 15.52.180.

D. Non-conversion of Enclosed Areas Below the Lowest Floor. To ensure that the areas below the BFE shall be used solely for parking vehicles, limited storage, or access to the building and not be finished for use as human habitation without first becoming fully compliant with the floodplain management ordinance in effect at the time of conversion, the floodplain administrator shall:
   1. Determine which applicants for new construction and/or substantial improvements have fully enclosed areas below the lowest floor that are five feet or higher;

2. Require that such applicants enter into a “NON-CONVERSION AGREEMENT FOR CONSTRUCTION WITHIN FLOOD HAZARD AREAS” or equivalent with the city. The agreement shall be recorded by the floodplain administrator with the Napa County Recorder as a deed restriction. The non-conversion agreement shall be in a form acceptable to the floodplain administrator and city attorney; and
3. Have the authority to inspect any area of a structure below the base flood elevation to ensure compliance upon prior notice of at least seventy-two (72) hours.

E. The floodplain administrator shall require permits for proposed construction and other development within all flood-related erosion-prone areas known to the community.
   1. Permit applications shall be reviewed to determine whether the proposed site alterations and improvements will be reasonably safe from flood-related erosion, and will not cause flood-related erosion hazards or otherwise aggravate the existing hazard.
   2. If a proposed improvement is found to be in the path of flood-related erosion or would increase the erosion hazard, such improvement shall be relocated or adequate protective measures shall be taken to avoid aggravating the existing erosion hazard.
   3. Within Zone E on the Flood Insurance Rate Map, a setback is required for all new development from the ocean, lake, bay, riverfront or other body of water to create a safety buffer consisting of a natural vegetative or contour strip. This buffer shall be designated according to the flood-related erosion hazard and erosion rate, in relation to the anticipated “useful life” of structures, and depending upon the geologic, hydrologic, topographic, and climatic characteristics of the land. The buffer may be used for suitable open space purposes, such as for agricultural, forestry, outdoor recreation and wildlife habitat areas, and for other activities using temporary and portable structures only. (Ord. 06-8 § 3 (part): prior code § 5B.16)

15.52.160 Standards for utilities.

A. All new and replacement water supply and sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharge from systems into flood waters.
B. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding. (Ord. 06-8 § 3 (part): prior code § 5B.17)

15.52.170 Standards for subdivisions.

A. All preliminary subdivision proposals shall identify the flood hazard area and the elevation of the base flood.
B. All final subdivision plans will provide the elevation of proposed structure(s) and pads. If the site is filled above the base flood, the final pad elevation shall be certified by a registered civil engineer or land surveyor and provided to the floodplain administrator.

C. All subdivision proposals shall be consistent with the need to minimize flood damage.
D. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.
E. All subdivisions shall provide adequate drainage to reduce exposure to flood hazards. (Ord. 06-8 § 3 (part): prior code § 5B.18)

15.52.180 Standards for manufactured homes.

All new and replacement manufactured homes and additions to manufactured homes shall:

A. Be elevated on a permanent foundation so that the lowest floor is at least eighteen (18) inches above the base flood elevation; and
B. Be securely anchored to a permanent foundation system designed to resist flotation, collapse and lateral movement and approved by the Building Official.
C. All recreational vehicles placed in Zones A1-30, AH, and AE will either:
    1. Be on the site for fewer than one hundred eight (180) consecutive days; or
    2. Be fully licensed and ready for highway use. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions; or
    3. Meet the permit requirements of Section 15.52.120 of this chapter and the elevation and anchoring requirements for manufactured homes in Section 15.52.180. (Ord. 06-8 § 3 (part): prior code § 5B.19)

15.52.190 Floodways.

Located within areas of special flood hazard established in Section 15.52.070 of this chapter are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles, and erosion potential, the following provisions apply:

A. Prohibit encroachments, including fill, new construction, substantial improvements and other development unless certification by a registered civil engineer is provided demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
B. If subsection A of this section is satisfied, all new construction and substantial improvements shall comply with all other applicable flood hazard reduction provisions of Sections 15.52.140 through 15.52.180. (Ord. 06-8 § 3 (part))

15.52.200 Appeal board.

A. The planning commission, and on appeal, the city council shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the floodplain administrator in the enforcement or administration of this chapter.

B. The city council shall hear and decide requests for variance in the enforcement or administration of this chapter.
   1. In passing upon requests for variances, the city council shall consider all technical evaluations, all relevant factors, standards specified in other sections of this chapter, and the:
      a. Danger that materials may be swept onto other lands to the injury of others;
      b. Danger of life and property due to flooding or erosion damage;
      c. Susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the existing individual owner and future owners of the property;
      d. Importance of the services provided by the proposed facility to the community;
      e. Necessity to the facility of a waterfront location, where applicable;
      f. Availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;
      g. Compatibility of the proposed use with existing and anticipated development;
      h. Relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
      i. Safety of access to the property in time of flood for ordinary and emergency vehicles;
      j. Expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters expected at the site; and
      k. Costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water system, and streets and bridges.
   2. Variances shall only be issued upon a:
      a. Showing of good and sufficient cause;
      b. Determination that failure to grant the variance would result in exceptional “hardship” to the applicant; and
      c. Determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, or extraordinary public expense, create a nuisance (see “public safety and nuisance”*), cause “fraud and victimization”* of the public, or conflict with existing local laws or ordinances.
   3. Variances may be issued for new construction, substantial improvement, and other proposed new development necessary for the conduct of a functionally dependent use provided that the provisions of subsections (B)(1) through (B)(2) of this section are satisfied and that the structure or other development is protected by methods that minimize flood damages during the base flood and does not result in additional threats to public safety and does not create a public nuisance.
   4. Upon consideration of the factors of subsection B of this section and the purposes of this chapter, the city council may attach such conditions to the granting of variances as it deems necessary to

further the purposes of this chapter. (Ord. 06-8 § 3 (part): prior code § 5B.21)

* Editor's Note: See Section 15.52.050 for definition of this term.

15.52.210 Variances.

A. The issuance of a variance is for floodplain management purposes only. Insurance premium rates are determined by statute according to actuarial risk and will not be modified by the granting of a variance.

B. The variance criteria set forth in this section are based on the general principle of zoning law that variances pertain to a piece of property and are not personal in nature. A variance may be granted for a parcel of property with physical characteristics so unusual that complying with the requirements of this chapter would create an exceptional hardship to the applicant or the surrounding property owners. The characteristics must be unique to the property and not be shared by adjacent parcels. The unique characteristic must pertain to the land itself, not to the structure, its inhabitants, or the property owners.

C. It is the duty of the city to help protect its citizens from flooding. This need is so compelling and the implications of the cost of insuring a structure built below flood level are so serious that variances from the flood elevation or from other requirements in this chapter are quite rare. The long term goal of preventing and reducing flood loss and damage can only be met if variances are strictly limited. Therefore, the variance guidelines provided in this section are more detailed and contain multiple provisions that must be met before a variance can be properly granted. The criteria are designed to screen out those situations in which alternatives other than a variance are more appropriate.

D. Generally, variances may be issued for new construction, substantial improvement, and other proposed new development to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood elevation, providing that the procedures of Sections 15.52.150 through 15.52.190 of this chapter have been fully considered. As the lot size increases beyond one-half acre, the technical justification required for issuing the variance increases.

E. Variances may be issued for the repair or rehabilitation of "Historic Structures" (as defined in Section 15.52.050 of this chapter) upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as an historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.

F. Variances shall not be issued within any mapped regulatory floodway if any increase in flood levels during the base flood discharge would result.

G. Variances shall only be issued upon a determination that the variance is the “minimum necessary” considering the flood hazard, to afford relief. “Minimum necessary” means to afford relief with a minimum of deviation from the requirements of this chapter. For example, in the case of variances to an elevation requirement, this means the city need not grant permission for the applicant to build at grade, or even to whatever elevation the applicant proposes, but only to that elevation which the city believes will both provide relief and preserve the integrity of the local ordinance.

H. Any applicant to whom a variance is granted shall be given written notice over the signature of a city official that:
   1. The issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as twenty-five dollars ($25.00) for one hundred dollars ($100.00) of insurance coverage; and
   2. Such construction below the base flood level increases risks to life and property. A copy of the notice shall be recorded by the floodplain administrator in the office of the Napa County recorder and shall be recorded in a manner so that it appears in the chain of title of the affected parcel of land.

I. The floodplain administrator will maintain a record of all variance actions, including justification for their issuance, and report such variances issued in its biennial report submitted to the Federal Emergency Management Agency. (Ord. 06-8 § 3 (part): prior code § 5B.22)

Chapter 15.53
CALIFORNIA GREEN BUILDING STANDARDS CODE

Sections:

15.53.010 California Green Building Standards Code – Adopted.
15.53.020 California Green Building Standards Code – Amendments
15.53.030 California Green Building Standards Code – Voluntary Measures Made Mandatory,

15.53.010 California Green Building Standards Code – Adopted.

The 2019 Edition of the California Green Building Standards Code, known as the California Code of Regulations, Title 24, Part 11, with amendments set forth in section 15.53.020 is hereby adopted.

15.53.020 California Green Building Standards Code – Amendments.

A. Section 101.3 Scope, The provisions of this code shall apply to the planning, design, operation, construction, use and occupancy of every newly constructed building or structure, or an addition of 400 sq. ft. or more, or a remodel encompassing a bathroom or kitchen in an existing structure, unless otherwise indicated in this code, throughout the State of California.

B. Section 4.303.1, Indoor Water Use, Twenty percent savings.
2. In additions or remodels of existing structures, all new indoor plumbing fixtures shall meet the 20% reduction in use illustrated by Table 4.303.2.

C. Section 4.503, Fireplaces, Pursuant to Bay Area Air Quality Management District, Regulation 8, Particulate Matter and Visible Emissions, Rule 3, Wood-Burning Devices, the City of St. Helena hereby enforces the following:

1. Definitions:

"APCO" The Air Pollution Control Officer of the Bay Area Air Quality Management District or designee thereof.

"Fireplaces": Any installed masonry or factory-built wood-burning device designed to operate with an air-to-fuel ratio greater than or equal to 35-to-1m a burn rate over 11 pounds per hour, or a weight over 1760 pounds.

"Gas-fueled Heating Device": Any device that utilizes natural gas as a fuel source supplied by a natural gas service utility, including, but not limited to, gas-fueled fireplaces, gas-fueled room heaters, gas-fueled inserts, or gas-fueled log sets.

"Masonry Heater": Any site-build or site-assembled, solid-fueled heating device constructed mainly of masonry materials in which the heat from intermittent fires burned rapidly in its firebox is stored in its structural mass for slow release to the site. Such solid-fueled heating devices must meet the design and construction specifications set forth in ASTM E 1602-03, "Guide for Construction of Solid Fuel Burning Masonry Heaters."

"Pellet-fueled Device": Any solid-fueled burning device which is operated on pellet-fuel and is either U.S. EPA Phase II certified or exempted under U.S. EPA requirements set forth in Title 40 Code of Federal Regulation (CFR), Part 60, Subpart AAA. Pellet fuel may be composed of compressed wood, corn or other biomass.

"Wood-burning Device": Any wood-burning stove or heater, pellet-fueled device, fireplace, or any indoor permanently installed device used to burn any solid fuel for space-heating or aesthetic purposes. This definition does not include wood-burning devices intended exclusively for cooking food, such as wood-fired ovens or barbecues.

2. Criteria for Installation of Wood-burning Devices: No person shall install a new or used wood-burning device intended for use in the City of St. Helena unless it is one of the following:
   1. A U.S. EPA Phase II certified wood-burning device;
   2. A pellet-fueled device;
   3. A low mass fireplace, masonry heater or other wood-burning device of a make and model that meets EPA emission targets and has been approved in writing by the APCO.

   This requirement does not apply if a wood-burning device is an installed fixture included in the sale or transfer of any real property. Any gas-fueled heating device or electric-powered heating device is allowed under this standard.

3. Criteria for Wood-burning Devices in New Building Construction: No person or builder shall commence construction of a new building or structure permitted to contain or containing a wood-burning device, or install a new wood-burning device resulting from a remodel, or construct a free-standing outdoor fireplace that is not intended exclusively for cooking food, unless the device meets the requirements above. Any gas-fueled heating device or electric-powered heating device is allowed under this standard.

15.53.030 California Green Building Standards Code – Voluntary Measures Made Mandatory,

A. Section A4.403.2 Reduction in cement use. As allowed by the enforcing agency, cement used in foundation mix design shall be reduced to not less than a 20 percent reduction in cement use.

B. Note: Products commonly used to replace cement in concrete mix designs include, but are not limited to:
    1. Fly ash
    2. Slag
    3. Silica fume
    4. Rice hull ash

C. Section A4.404.3 Building Systems. All wood roof, wall and subfloor sheet goods shall be engineered, oriented strand board. Alternate equivalent materials maybe allowed by authority having jurisdiction.

Chapter 15.54
CALIFORNIA ADMINISTRATIVE CODE ADOPTED

Sections:

15.54.010 California Administrative Code Adopted.

The 2019 Edition of the California Administrative Code, known as the California Code of Regulations, Title 24, Part 1, published by the California Building Standards Commission, is hereby adopted including all appendices, and without amendments.

Chapter 15.55
CALIFORNIA REFERENCED STANDARDS CODE ADOPTED

Sections:

15.55.010 California Referenced Standards Code Adopted.

The 2019 Edition of the California Building Standards Code, known as the California Code of Regulations, Title 24, Part 12, published by the California Building Standards Commission, is hereby adopted including all appendices, and without amendments.

Report to the City Council
Regular City Council - 26 Nov 2019

Agenda Section: **OLD BUSINESS**

Subject: **Annual Elm Tree Tunnel Update and Presentation of Tree Risk Assessment and Review of existing Elm Tree Management Plan by consultant HortScience, a division of Bartlett Consulting**

CEQA Determination: **Exempt**

Prepared By: Carlos Uribe, Maintenance Manager

Reviewed By: Erica Ahmann Smithies, Public Works Director and City Engineer

Approved By: Mark T. Prestwich, City Manager

BACKGROUND

The City and Caltrans have been adhering to the 2011 St. Helena Elm Tunnel Management Plan since it was originally introduced and approved in 2011. The Plan was drafted with the intent to facilitate communication and partnership between the State and City to provide maintenance, preservation, and restoration of the historic elms in a way that meets current safety requirements. The Management Plan consists of a set of coordinated protocols with identified functional areas within the State and the City to address short-term as well as longer-term work on the Elm Tunnel as the original trees near the end of their natural lifespan.

At the request of the Beautification Foundation and further direction provided by City Council, City staff procured the services of a consulting arborist to assess the 2011 Elm Tunnel Management Plan as well as perform a Tree Risk Assessment of 144 elm trees in the tunnel. This would assist staff in either ratifying and/or modifying standing practices from the 2011 Elm Management Plan to ensure the preservation and restoration of both mature trees and the replacements.

On January 8, 2019, HortScience, a division of Bartlett Consulting, was selected and scheduled to commence the work. On February 5, 2019, the consultant and City staff

met on site to review the scope of work and initiate the tree assessment by tagging all trees and providing City staff with direction on pruning 55 young elm trees. On May 29, 2019, the consultant made a second inspection to address the health of the mature trees. The consultant compiled all the information and observations gathered from the two visits and provided a draft report to staff on September 11, 2019. Staff reviewed the report and provided comments to the consultant.

DISCUSSION

Hortscience has completed the Tree Risk Assessment of 144 elms and the assessment of the 2011 St. Helena Elm Tunnel Management Plan for City Council review. The plan includes recommendations related to pruning, maintenance practices, and removal of some trees.

In addition to this report to City Council on November 26, 2019, the consultant will be providing a similar presentation to the St. Helena Beautification Foundation.

Both the 2011 Elm Tree Tunnel Management Plan and the Hortscience Tree Risk Assessment reports are attached.

FISCAL IMPACT

Not applicable.

RECOMMENDED ACTION

Review and provide direction to staff.

ATTACHMENTS

2011 St. Helena Elm Tunnel Management Plan
DRAFT Elm Tunnel Risk Assessment Rpt

ST. HELENA ELM TUNNEL MANAGEMENT PLAN

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APPENDIX B: 2007 ARBORIST REPORT
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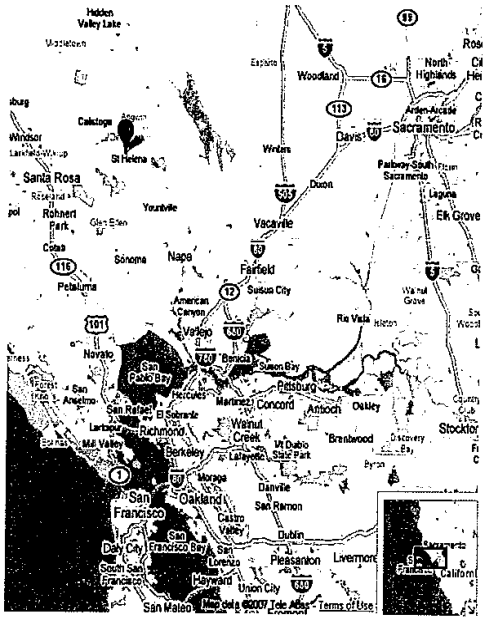
EXHIBITS:

1. ELM TUNNEL MAP – BERINGER WINERY HISTORIC DISTRICT
2. 2011 PLANTING
3. 2011 PLANTING (10 YEARS GROWTH)
4. 2011 PLANTING (20 YEARS GROWTH)

INTRODUCTION



In 1885, the Beringer brothers planted approximately 75 elm trees on each side of the highway fronting their Saint Helena winery property. The Saint Helena Elm Tunnel is now a historic resource for the purposes of the California Environmental Quality Act as well as a contributor to the Beringer Winery Historic District, which was listed on the National Register of Historic Places in 2001. The two rows of American elm trees that compose the "tunnel" of tree canopy over State Highway 29 on the northwest boundary of the district are owned by the State of California, Department of Transportation (State). Located within the limits of the City of Saint Helena in Napa County, California, the Elm Tunnel is of great interest to the local community.

The Elm Tunnel has been affected by age, Dutch elm disease, and an infestation of bark beetle. At an age of nearly 130 years, the Elm Tunnel now flanks a busy two-lane state highway. It is the goal of the State to partner with the City of St. Helena (City) to provide maintenance of the historic elms to preserve the Elm Tunnel experience for future generations.

This Management Plan is intended to facilitate communication and partnership between the State and City to provide maintenance, preservation and restoration of the historic elms in a way that meets current safety requirements. The Management Plan consists of a set of coordinated protocols with identified functional areas within the State and the City to address short-term as well as longer-term work on the Elm Tunnel as the original trees near the end of their natural lifespan.

MAINTENANCE

Caltrans Maintenance currently performs routine trimming and pruning for safety and winter preparation. Typically, this involves trimming off any dead limbs in order to provide horizontal and vertical clearances for vehicular traffic. In addition to the normal maintenance work, stumps from diseased trees that were previously removed have been ground to prevent sucker growth and to provide a place to plant replacement trees. During these maintenance activities, the Caltrans Maintenance Tree Crews and the City Arborist complete an inspection of all the trees.

Continued Elm Tunnel maintenance will focus on sustaining the health of the existing two tree rows for as long as possible. Partnership in the maintenance of the Elm Tunnel has been on-going between the City and State for years. Currently, the State reimburses the City to perform routine maintenance involving litter, drainage and electrical. This continued partnership is integral to Elm Tunnel longevity. The City crews have been essential to a quick response to remove unexpected limb drop to protect the safety of the traveling public.

Annual fungicide injections and spraying of insecticides have been implemented over the past several years to control the bark beetle population and hedge back the damaging effects of the fungi *Ophiostoma novoulmi* and *O. ulmi* pathogen vectored by the bark beetles. This effort has been a partnership between the State and City. The State has purchased fungicide. The City has performed the inoculation with the fungicide as well as purchased and applied insecticide. This continued partnership, subject to the allocation of resources from the legislature and the City, is essential to the preservation of the elm trees. Continued regular communication about the health, vigor and routine maintenance of the tunnel is needed to preserve this living resource (see Communication Plan below).

Maintenance Task	Schedule	Responsibility
Routine Pruning	Annual, Jan. – Feb.	Caltrans
Tree Removal	Annual, as needed	Caltrans
Emergency Pruning or Removal	Variable; Emergency Response	Caltrans/City
Insecticide application	Annual	City
Preventive inoculation	Annual	City/Caltrans

TREATMENT/PLANTING

St. Helena community members have proposed that elm trees be planted in order to rehabilitate the Elm Tunnel for future generations. The primary goal of this rehabilitation treatment is the replacement of an extensively deteriorated historic feature with compatible material that conveys the appearance of the original. The City of St. Helena is partnering with the State in this effort.

According to State policies, new planting along conventional highways such as Route 29 is typically the responsibility of local entities through encroachment permit and maintenance agreement. It should be noted that the location of the historic Elm Tunnel is not suitable, pursuant to current policy, for new planting because of the close proximity to the traveled way. An advisory standard exception for nearby planting thus will have to be prepared and approved. The advisory exception would be for planting new trees at 8' from the edge of traveled way to the expected face of the mature tree.

In this case, the offset to the new trees would be approximately 9'6" to the young tree. This allows the mature tree caliper to achieve up to 36" caliper. Although the existing trees lend the appearance of symmetry about the roadway, they vary in offset from 4'6" to 8'6" when measured from the edge of traveled way. It is expected that the visual change from the offset would be minimal when the trees mature. Over the years, as more trees are replaced, the variance would decrease.

It is anticipated that planting and establishment of new trees will be conducted by the City utilizing their own forces or a community work day. The State will participate through the purchase of plant material, with a $2,000 maximum investment (see Appendix D). The State's participation is anticipated for the fall of 2011. Future planting efforts are subject to further discussion.

Replacement trees are intended to reach a similar mature height, provide a similar leaf size and branching pattern, and similar form, scale, color and texture. Two elm tree cultivars have been selected for replacement planting within the Elm Tunnel. Both trees are elm hybrids that have shown tolerance for resistance to Dutch elm disease when tested in Northern California in high stress disease conditions. All elm trees are susceptible to disease. Several cultivars have shown higher tolerance and are considered more likely to be successful. The selection team included Jim Haller, City of St. Helena Arborist, Jeanne Gorham, Caltrans District Landscape Architect and Don Rivers, Caltrans Regional Maintenance Manager. Dr. Larry Costello, from the UC Davis Department of Plant Sciences, was consulted as a technical expert in elm tree research. Dr. Costello has been studying and conducting research on Dutch elm resistance in California for over 20 years. Dr. Costello shared his research findings through correspondence and a phone

conference. A field meeting with Dr. Costello at a test plot in Atherton, CA was held to visually confirm desired habit and branching structure.

Fiscal considerations limit the State's ability to currently commit to a planting plan beyond the above proposal. The historic Elm Tunnel is approximately 1400 feet long currently consisting of approximately 120 trees. Originally, there were approximately 75 trees reportedly planted on each side of the highway for a total of 150 trees. There are presently 51 blank spots where trees were removed over the years, but some of these locations are where trees may not have been planted. Seven of these blank spots are the location of tree removal operations necessary for the protection of the health and safety of the public and conducted in consultation with the State Historic Preservation Officer (SHPO) and the City in recent years. The present proposal is for the City and the State to select locations within the blank spots to re-plant 35 to 40 new trees. The implementation of the proposed plantings will afford the City, the State and the SHPO an opportunity to assess the success of restoration efforts through this partnership and enable a dialogue among the parties to discuss criteria for further plantings and parameters for integrity of this contributor to the National Register-listed Beringer Historic District.

COMMUNICATION PLAN AND DOCUMENTATION

The State and City are the primary parties involved in preserving, maintaining, and potentially rehabilitating the Elm Tunnel. The State and the City will continue to partner in this effort as resources allow. Other stakeholders, such as the Tree Committee and the St. Helena Beautification Foundation will be essential to supporting this effort.

COMMUNICATION PLAN FOR MAINTENANCE

Caltrans Responsibilities:

Caltrans Maintenance Tree Crews will inspect the trees on an annual and as-needed or emergency basis in consultation with the City Arborist, Jim Haller. Caltrans Maintenance will continue to coordinate with the City on the inoculation/fungicide treatments. If it is determined that tree removal or trimming is required, the Caltrans Maintenance Supervisor will notify the following parties by email:

Caltrans Maintenance Region Manager: Don Rivers

Caltrans Project Management: Doanh Nguyen, Ahmad Rahimi, Kelly Hirschberg

Caltrans Landscape Architect: Jeanne Gorham

Caltrans Office of Cultural Resource Studies: Jennifer Darcangelo

Caltrans Public Information Office: RocQuel Johnson

Caltrans Office or Permits: Michael Condie

City of St. Helena Arborist: Jim Haller

City of St. Helena Public Works Director: John Ferons

City of St. Helena City Manager: Mary Neilan

City Responsibilities:

When it is determined that routine maintenance, trimming, or tree removal will be required, the City will notify the following parties of the planned work and communicate with Caltrans on any questions or concerns that come up:

St. Helena Beautification Foundation: Ms. Beatty

City of St. Helena Tree Committee

Senator Noreen Evans representative:

Congressman Mike Thompson representative: Brad Onorato

After the initial contacts listed above are made in response to the planned or emergency work, additional communications will be made as necessary:

Caltrans Office of Cultural Resource Studies: State Historic Preservation Officer

Caltrans Public Information Office: St. Helena Star and other media releases

City of St. Helena Public Works Director: City Council or other City communications

COMMUNICATION PLAN FOR TREATMENT/PLANTING

It is anticipated that planting and establishment of new trees will be conducted by the City utilizing their own forces or a community work day. The State will participate through the purchase of plant material, with a $2,000 maximum investment. The target for planting the trees is fall of 2011. The plant establishment period will be defined by the ability of the trees to sustain without supplemental water. The City will provide supplemental water for plant establishment and pruning for training until the trees are able to self-sustain.

Caltrans Responsibilities:

Utility Location Verification: Caltrans Maintenance Supervisor

Proposed Planting Locations: Don Rivers

Encroachment Permit: Michael Condie

Provide Selected Trees (not to exceed $2,000): Caltrans Maintenance Supervisor

Monitoring Plant Establishment: Maintenance Supervisor, Tree Crew, Landscape Architect

City Responsibilities:

Proposed Planting Locations: Jim Haller

Encroachment Permit Application: John Ferons, Jim Haller

Tree Planting: Jim Haller

Supplemental Tree Watering: Jim Haller

Monitoring Plant Establishment: Jim Haller

DOCUMENTATION

Caltrans Office of Cultural Resource Studies (OCRS) will document current conditions of the Elm Tunnel, noting further removals and replanting efforts for reporting to the SHPO. Thereafter, OCRS will document and report on an annual basis to SHPO and the City.

REGULATORY COMPLIANCE

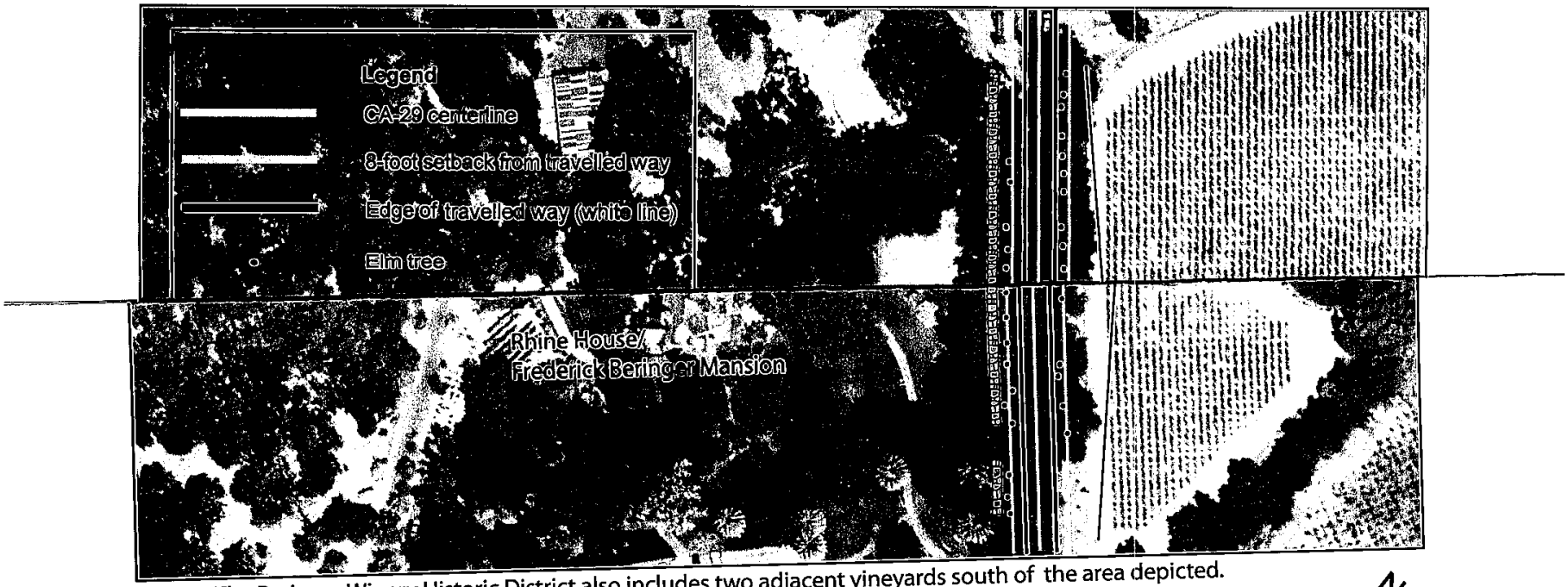
All work planned for the Elm Tunnel will require consultation with the State Historic Preservation Officer. The Elm Tunnel is a character-defining feature of the Beringer Winery Historic District, which was listed on the National Register of Historic Places in 2001. In this context, the winery as a whole property is considered a cultural landscape (See Appendix A). Altering character-defining features of the cultural landscape constitutes an effect to the historical integrity of the whole property. As the owner of the Elm Tunnel, Caltrans is subject to CEQA (Public Resources Code §21000 et seq.) as well as other sections of the Public Resources Code. These codes establish the California Register of Historical Resources, a state listing of significant historical resources (PRC §5024.1), require state agencies to inventory state-owned resources and to formulate policies to preserve and maintain state-owned historical resources under their jurisdiction (PRC §5024) and require state agencies to consult with SHPO on projects affecting state-owned historical resources (PRC §5024(f) and §5024.5). The CEQA Guidelines (14 CCR §15000 et seq) provide guidance on implementing CEQA and the California Register regulations (14 CCR §4850 et seq.) provide further guidance on using the California Register

eligibility and integrity criteria and special considerations. Executive Order W-26-92 reinforces the requirements of PRC §5024 and §5024.5.

This Management Plan is intended to facilitate communication and partnership between the State and City to provide maintenance, preservation and restoration of the historic elms in a way that meets current safety requirements. In addition, this document serves to document the commitment of Caltrans and the City to comply with PRC § 5024 in preserving and maintaining this significant historical resource to the extent possible given that trees are a living resource, subject to disease and the natural aging process.

Elm Tunnel Map

Beringer Winery Historic District



Note: The Beringer Winery Historic District also includes two adjacent vineyards south of the area depicted.
Post mile marker numbers 29.3 through 29.6

0 50 100 200 300 400 Feet

N

Tremaine, Kim J. "Rock Fences of Napa County: A Pilot Study." Prepared for Napa County, Conservation, Development, and Planning Department, August 1998.

Webber, Lin. *Old Napa Valley: The History to 1900.* St. Helena, California: Wine Ventures Publishing, 1998.

APPENDIX B:
ARBORIST REPORT

ARBORIST REPORT

For:

Elm Tunnel
St. Helena CA 94574

Prepared for

City of St. Helena
Mr. Jim Haller
1480 Main Street
St. Helena CA 94574

Prepared by

Joseph T. Borden
Certified Arborist WC# 0227

BRITTON
TREE SERVICES, INC.

P.O. Box 424
St. Helena, CA 94574
(707) 963-7578
(707) 963-7599 FAX

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ARBORIST REPORT

SUMMARY

There are 123 elms remaining in the Elm Tunnel, all are included in this report. As a forest these trees are in relatively good condition.

Only three trees are recommended for removal, one due to the severity of decay in the trunk the other two from probable Dutch Elm Disease.

Nine of the trees were found to have structural weaknesses significant enough to warrant the installation of cable systems to reduce the failure potential.

Costs are not quoted in this report, nor are priorities assigned for the work.
I estimate, approximately four to six man hours will be needed per tree to carry out the recommended work. This does not include road control.

For budgetary reasons, obviously those trees recommended for removal, for cabling and as having been noted to have large dead branches over the highway or the pathway would be of greater priority than those that just need routine maintenance.

In today's dollars, I estimate the cost of doing all the recommended work would be between $39,360.00 to $59,040.00.
These costs do not include road control, or the soil injection and trunk injections that are ongoing.

The trees were examined to existing map, tree #1 being at the Beringer entrance on the west side of Highway 29 and ending with tree #67. Tree #68 is located across the street from tree #1. on the east side of Highway 29 going north and ending with tree#123

All trees have root collars that are buried. These should be excavated back to natural grade.

SCOPE OF WORK AND LIMITATIONS

All observations were made visually, by me from the ground. No samples were taken for lab analysis. Conclusions are based upon personal knowledge of the species, and over 22 years experience in the field of commercial arboriculture.

SUMMARY OF RECOMMENDED WORK

Tree#	Species	Recommendation
1.	American Elm	Prune to clean, thin, elevate
2.	American Elm	Prune to clean, thin
3.	American Elm	Prune to clean, thin
4.	American Elm	Prune to clean, thin; Cable
5.	American Elm	Prune to clean, thin
6.	American Elm	Prune to clean, thin
7.	American Elm	Prune to clean, thin
8.	American Elm	Prune to clean, thin
9.	American Elm	Prune to clean, thin
10.	American Elm	Prune to clean, thin
11.	American Elm	Prune to clean, thin
12.	American Elm	Prune to clean, thin
13.	American Elm	Prune to clean, thin
14.	American Elm	Prune to clean, thin
15.	American Elm	Prune to clean, thin
16.	American Elm	Prune to clean
17.	American Elm	Prune to clean
18.	American Elm	Prune to clean, thin
19.	American Elm	Prune to clean
20.	American Elm	Prune to clean
21.	American Elm	Prune to clean
22.	American Elm	Prune to clean

23.	American Elm	Prune to clean
24.	American Elm	Prune to clean
25.	American Elm	Prune to clean
26.	American Elm	Prune to reduce crown
27.	American Elm	Prune to clean
28.	American Elm	Prune to clean, thin; Cable
29.	American Elm	Prune to reduce crown
30.	American Elm	Prune to clean, thin
31.	American Elm	Prune to clean
32.	American Elm	Prune to clean, restoration
33.	American Elm	Prune to clean, thin
34.	American Elm	Prune to clean, thin; Cable
35.	American Elm	Prune to clean
36.	American Elm	Prune to clean
37.	American Elm	Prune to clean
38.	American Elm	Prune to clean; Cable
39.	American Elm	Prune to clean
40.	American Elm	Prune to clean, thin
41.	American Elm	Prune to clean
42.	American Elm	Prune to clean, thin
43.	American Elm	Prune to clean, thin; Cable
44.	American Elm	Prune to clean, restoration
45.	American Elm	Prune to clean, thin; Cable
46.	American Elm	Prune to clean, restoration
47.	American Elm	Prune to clean, restoration

48.	American Elm	Prune to clean
49.	American Elm	Prune to clean, thin
50.	American Elm	Prune to clean, thin
51.	American Elm	Prune to clean, thin
52.	American Elm	Prune to clean, thin
53.	American Elm	Prune to clean
54.	American Elm	Prune to clean
55.	American Elm	Prune to clean
56.	American Elm	Prune to clean
57.	American Elm	Prune to clean
58.	American Elm	Prune to clean
59.	American Elm	Prune to clean
60.	American Elm	Prune to clean
61.	American Elm	Prune to clean
62.	American Elm	Prune to clean
63.	American Elm	Prune to clean
64.	American Elm	Prune to clean
65.	American Elm	Prune to clean
66.	American Elm	Take down suspected Dutch Elm Disease
67.	American Elm	Take down suspected Dutch Elm Disease
68.	American Elm	Prune to clean
69.	American Elm	Prune to clean
70.	American Elm	Prune to clean
71.	American Elm	Prune to clean
72.	American Elm	Prune to clean
73.	American Elm	Prune to clean

74.	American Elm	Prune to clean
75.	American Elm	Prune to clean, thin
76.	American Elm	Prune to clean
77.	American Elm	Prune to clean
78.	American Elm	Prune to clean
79.	American Elm	Prune to clean
80.	American Elm	Prune to clean
81.	American Elm	Prune to clean
82.	American Elm	Prune to clean
83.	American Elm	Prune to clean, thin; Cable
84.	American Elm	Prune to clean
85.	American Elm	Prune to clean
86.	American Elm	Prune to clean
87.	American Elm	Prune to clean
88.	American Elm	Prune to clean
89.	American Elm	Prune to clean
90	American Elm	Prune to clean
91.	American Elm	Prune to clean
92.	American Elm	Prune to clean
93.	American Elm	Prune to clean
94.	American Elm	Prune to clean
95.	American Elm	Prune to clean, thin
96.	American Elm	Prune to clean, thin
97.	American Elm	Prune to clean, thin; Cable
98.	American Elm	Take down severe decay

99.	American Elm	Prune to clean
100.	American Elm	Prune to clean
101.	American Elm	Prune to clean
102.	American Elm	Prune to clean
103.	American Elm	Prune to clean
104.	American Elm	Prune to clean
105.	American Elm	Prune to clean
106.	American Elm	Prune to clean, thin
107.	American Elm	Prune to clean
108.	American Elm	Prune to clean
109.	American Elm	Prune to clean
110.	American Elm	Prune to clean
111.	American Elm	Prune to clean
112.	American Elm	Prune to clean
113.	American Elm	Prune to clean
114.	American Elm	Prune to clean
115.	American Elm	Prune to clean, thin
116.	American Elm	Prune to clean
117.	American Elm	Prune to clean
118.	American Elm	Prune to clean
119.	American Elm	Prune to clean
120.	American Elm	Prune to clean
121.	American Elm	Prune to clean, thin, restoration
122.	American Elm	Prune to clean
123.	American Elm	Prune to clean, thin

OBSERVATIONS

1. 28" DBH American elm showing good vigor. The tree has multiple vehicle injuries at the base of the tree showing good callus with no decay.
Recommendation: Prune for crown cleaning and crown thinning. Prune to elevate over the winery entrance.

2. 31" DBH American elm showing good vigor. There is a vehicle injury at the base with moderate decay. There is a pruning wound on the east side of the trunk with moderate decay.
Recommendation: Prune for crown cleaning and crown thinning

3. 33" DBH American elm showing good vigor. There is a vehicle injury on at the base with significant decay. There is a history of limb failure probably due to excess weight.
Recommendation: Prune for crown cleaning and crown thinning by removing branches up to 6" in diameter to reduce strain at the decayed area of the trunk.

4. 35" DBH American elm showing good vigor. There are scattered dead branches. Decay exists on the second limb up to the north, which may leave it susceptible to failure.
Recommendation: Prune for crown cleaning and crown thinning. Install one cable to reduce the failure potential.

5. 32" DBH American elm showing good vigor. There is a vehicle injury at the base with moderate decay. There are large dead branches over the highway. Decay exists in the south side of the trunk at approximately 10'. It is not significant in terms of failure potential.
Recommendation: Prune for crown cleaning and crown thinning

6. 31" DBH American elm showing good vigor. There are large dead branches.
Recommendation: Prune for crown cleaning and crown thinning.

7. 27" DBH American elm showing good vigor. There are scattered dead branches. Significant decay exists on the west side of the main stem, it is on the non-tension side of the limb and does not appear significant in terms of failure potential.

Recommendation: Prune for crown cleaning and crown thinning.
8. 26" DBH American elm showing good vigor. There are scattered dead branches.
Recommendation: Prune for crown cleaning and crown thinning.

9. 24" DBH American elm showing good vigor.
Recommendation: Prune for crown cleaning and crown thinning

10. 31" DBH American elm showing good vigor. There is a large wound on the north side of the trunk that is showing good callus and not yet decaying.
Recommendation: Prune for crown cleaning and crown thinning

11. 24" DBH American elm showing good vigor. There is a large wound on the west side of the trunk from a limb failure. Decay in the wound is minor.
Recommendation: Prune for crown cleaning and crown thinning.

12. 23" DBH American elm showing good vigor. There is a stem gall on the east side of the trunk. It is not a factor in structural strength.
Recommendation: Prune for crown cleaning and crown thinning

13. 23" DBH American elm showing good vigor. There is a wound approximately 15' up the trunk from an old limb failure. It shows moderate decay with good callus.
Recommendation: Prune for crown cleaning and crown thinning.

14. 27" DBH American elm showing good vigor. This tree has a history of limb failure.
Recommendation: Prune for crown cleaning and crown thinning
15. 24" DBH American elm showing good vigor. A target canker is evident on the site of an old pruning wound.
Recommendation: Prune for crown cleaning and crown thinning.

16. 25" DBH American elm showing good vigor. There is a small area of fluxing evident on the north side of the trunk at the base. This would indicate some sort of wound, probably the result of a vehicle. There are scattered dead branches. Branches to the southwest are heavy with foliage and wood weight.
Recommendation: Prune for crown cleaning.

17. 24" DBH American elm showing good vigor. Significant decay exists in the trunk. There is a large dead branch over the highway.
Recommendation: Prune for crown cleaning. Prune to remove dead limb over the highway back to upright limb to reduce the strain on the trunk.

18. 29" DBH American elm showing good vigor. There are scattered dead branches. There has been recent limb failure, probably due to excess weight.
Recommendation: Prune for crown cleaning and crown thinning.

19. 25" DBH American elm showing good vigor. There are scattered dead branches.
Recommendation: Prune for crown cleaning.

20. 22" DBH American elm showing good vigor.
Recommendation: Prune for crown cleaning.

21. 23" DBH American elm showing good vigor. There are scattered dead branches.
Recommendation: Prune for crown cleaning.

22. 21" DBH American elm showing good vigor. There is significant decay on the west side of the trunk. The failure potential is low due to the severity of pruning for line clearance that has been done.
Recommendation: Prune for crown cleaning.

23. 21" DBH American elm showing good to fair vigor.
Recommendation: Prune for crown cleaning

24. 19" DBH American elm showing good to fair vigor. There are scattered dead branches.
Recommendation: Prune for crown cleaning.

25. 19" DBH American elm showing good vigor.
Recommendation: Prune for crown cleaning

26. 22" DBH American elm showing good to fair vigor. Significant decay exists in the trunk on the west side.

Recommendation: Prune for crown reduction by cutting back limbs up to 8" diameter wood to reduce the failure potential.
27. 25" DBH American elm showing good vigor.

Recommendation: Prune for crown cleaning
28. 32" DBH American elm showing good vigor. There are scattered dead branches. Decay exists in a scaffold limb over the highway where the tree has been cut severely for high voltage clearance. There is one 6" diameter broken limb hanging in the canopy.
Recommendation: Prune for crown cleaning and crown thinning. Install two cables to reduce the decayed limb to reduce the failure potential.

29. 33" DBH American elm showing good vigor. There is severe decay in the trunk.
Recommendation: Prune for crown reduction by pruning back into 8"-10" diameter wood to reduce the failure potential.

30. 31" DBH American elm showing good to fair vigor. There is moderate to severe decay in the trunk with a moderate failure potential.
Recommendation: Prune for crown cleaning. Prune for crown thinning to reduce strain on the trunk.

31. 28" DBH American elm showing fair vigor. There is a vehicle injury on the trunk with moderate decay. There is large branch dieback.
Recommendation: Prune for crown cleaning. Prune to remove the low horizontal limb to the southwest and another above it to achieve a more upright growth habit and reduce the failure potential.

32. 29" DBH American elm showing good to fair vigor. It has been topped severely for high voltage clearance.
Recommendation: Prune for crown cleaning and to begin crown restoration

33. 29" DBH American elm showing good to fair vigor. The main center stem has died, probably due to repeated topping. There is a vehicle injury at the base of the tree with moderate decay. Decay from an old pruning wound, southwest of the center stem, appears to be moderate.
Recommendation: Prune for crown cleaning. Prune for crown thinning to reduce the failure potential.

34. 27" DBH American elm showing good vigor. There is an area of decay on the south side of the trunk at the base of the branch attachment. There are scattered dead branches.
Recommendation: Prune for crown cleaning and crown thinning. Install two cables to reduce the failure potential.

35. 31" DBH American elm showing good vigor. There are scattered dead branches.
Recommendation: Prune for crown cleaning.
36. 25" DBH American elm showing good vigor. There is moderate to severe decay in the trunk.

Recommendation: Prune for crown cleaning. Prune to remove 12" diameter limb to the southwest to reduce the failure potential.

37. 32" DBH American elm showing good vigor. There are scattered dead branches.
Recommendation: Prune for crown cleaning.

38. 30" DBH American elm showing good to fair vigor. Decay exists on the tension side of a low limb to the west. The failure potential is high. There are scattered dead branches.
Recommendation: Prune for crown cleaning. Install a single cable to reduce the failure potential of the decayed low limb to the west.

39. 26" DBH American elm showing good vigor. Minor decay exists at the base of an east limb.
Recommendation: Prune for crown cleaning

40. 30" DBH American elm showing good to fair vigor. Moderate decay exists in the main stem. There is small branch dieback.
Recommendation: Prune for crown cleaning. Prune for crown thinning to reduce strain on decayed area of trunk

41. 30" DBH American elm showing good to fair vigor. There is moderate decay in the trunk. There is small branch dieback.
Recommendation: Prune for crown cleaning.

42. 31" DBH American elm showing good vigor. There is a vehicle injury at the base with minor to moderate decay. There is an area of moderate decay on the east side of the trunk.
Recommendation: Prune for crown cleaning and crown thinning to reduce strain on decayed trunk.

43. 30" DBH American elm showing good vigor. There is a vehicle injury at the base of the tree with moderate decay and good callus growth. There is a large target canker on the north side of the trunk. It is not significant in terms of structural weakness. There is significant weakness in a limb over the highway where another limb has been broken off by a vehicle. The injury entered all the way into the branch trace. There is an area of dead bark on tension side of the center limb growing to the west. The failure potential of this limb is low.
Recommendation: Prune for crown cleaning and crown thinning. Install two cables to reduce the failure potential of weak limb over highway.

44. 29" DBH American elm showing good vigor. This tree has been topped, resulting in sunburn on the main upright limb. There is some decay in the trunk on the south side.
Recommendation: Prune for crown cleaning and crown restoration

45. 30" DBH American elm showing good vigor. Significant decay exists in a low limb to the west with the failure potential high.
Recommendation: Prune for crown cleaning and crown thinning. Install a three piece box cable system to reduce the failure potential

46. 31' DBH American elm showing good vigor. Decay exists in the trunk but does not appear extensive at this time. This tree has been topped severely for high voltage clearance. The resultant sprouts are crowded and weakly attached.
Recommendation: Prune for crown cleaning and crown restoration.

47. 27" DBH American elm showing good vigor. There is significant decay in the trunk with the failure potential high.

Recommendation: Prune for crown cleaning and crown thinning. Install a single cable to reduce the failure potential.

48. 32" DBH American elm showing good vigor. There is a vehicle injury on the trunk. Significant decay exists in a limb to the west. This limb has been headed back so failure potential is low.
Recommendation: Prune for crown cleaning

49. 26" DBH American elm showing good to fair vigor. There is significant decay in the trunk. There are large dead branches.
Recommendation: Prune for crown cleaning and crown thinning

50. 29" American elm showing good vigor. One main limb has failed presumably due to excess weight.
Recommendation: Prune for crown cleaning. Prune for crown thinning to reduce weight on heavy branches.

51. 26" DBH American elm showing good vigor. Decay exists on the tension side of the main limb to the west. There are scattered dead branches.
Recommendation: Prune for crown cleaning. Prune decayed main limb to the west for crown thinning to reduce the failure potential.

52. 33" DBH American elm showing good vigor. There are scattered dead branches. Decay is entering the tension side of the main limb to the west.
Recommendation: Prune for crown cleaning. Prune limb to the west for crown thinning to reduce the failure potential.

53. 30" DBH American elm showing good to fair vigor. A vehicle injury on the trunk shows good callus. There are scattered dead branches.
Recommendation: Prune for crown cleaning

54. 33" DBH American elm showing good to fair vigor. An old vehicle injury on the trunk shows significant decay. A more recent vehicle injury shows good callus. There is a column of decay exists in the main upright limb on the non-tension side. It is not significant in terms of failure potential.
Recommendation: Prune for crown cleaning.

55. 18" DBH American elm showing fair vigor. There is a vehicle injury on the trunk that shows good callus. There is small branch dieback.
Recommendation: Prune for crown cleaning

56. 25" DBH American elm showing fair vigor. There is a vehicle injury at the base on the north side. This injury shows good callus.
Recommendation: Prune for crown cleaning

57. 26" DBH American elm showing poor to fair vigor. The lack of vigor is probably a result of an infection of Dutch Elm Disease.
Recommendation: Prune for crown cleaning.

58. 24" DBH American elm showing good to fair vigor. There are scattered dead branches.
Recommendation: Prune for crown cleaning.

59. 26" DBH American elm showing fair vigor. There is small branch tip dieback.
Recommendation: Prune for crown cleaning.

60. 25" DBH American elm showing good to fair vigor. There are scattered dead branches.
Recommendation: Prune for crown cleaning.

61. 23" DBH American elm showing good vigor. This tree has been severely topped.
Recommendation: Prune for crown cleaning.

62. 25" DBH American elm showing fair to good vigor. There are scattered dead branches.
Recommendation: Prune for crown cleaning.

63. 25" DBH American elm showing fair to good vigor. There are scattered dead branches.
Recommendation: Prune for crown cleaning
64. 26" DBH American elm showing fair to good vigor. There are scattered dead branches.
Recommendation: Prune for crown cleaning.

65. 26" DBH American elm showing fair vigor. There is small branch dieback.
Recommendation: Prune for crown cleaning.

66. 24" DBH American elm showing poor vigor. The lack of vigor is most likely due to an infection of Dutch Elm Disease.
Recommendation: Take down to the ground

67. 28" DBH American elm showing poor vigor. The lack of vigor is most likely due to an infection of Dutch Elm Disease.
Recommendation: Take down to the ground.

68. 32" D**65.** 26" DBH American elm showing fair vigor. There is small branch dieback.
Recommendation: Prune for crown cleaning.
BH[1] American elm *(Ulmus americana)*. This tree shows good vigor[2]. There are accumulated dead branches up to 6" in diameter. A 10" diameter branch over the highway is severely decayed. Decay also exists in the trunk.
Recommendation: Prune for crown cleaning: the removal of dead branches ½" in diameter and larger. Prune for crown thinning to reduce weight, wind sail, and improve overall structure. Remove 10" diameter limb over the highway back to the trunk.

69. 25.5" DBH American elm showing good vigor. There are scattered dead branches.
Recommendation: Prune for crown cleaning.

70. 25" DBH American elm showing good to fair vigor. Decay exists in the trunk and in a main limb to the north.

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[1] DBH, Diameter at Breast Height – 4.5' above ground level or below first main branch attachment.

[2] Vigor is a measure of a tree's overall growth rate and its inherent ability to withstand insect and disease infestations. It is not a measure of structural strength or stability. Vigor ranges from Excellent to Good, Fair, Poor to Dying and Dead.

Recommendation: Prune for crown cleaning.

71. 30.5" DBH American elm showing good to fair vigor. There are scattered dead branches. A large area of bark was removed in a vehicle accident. Approximately ¼ of the trunk circumference has been killed. There is some decay in the lower trunk however it is not extensive. Extensive decay exists in the main branch to the north.
Recommendation: Prune for crown cleaning.

72. 26.5" DBH American elm showing fair vigor. A large area of bark has been removed by a vehicle accident, approximately ½ of the tree's circumference.
Recommendation: Prune for crown cleaning.

73. 22" DBH American elm showing fair vigor. Two large limbs have died. The death was probably not cause from Dutch Elm Disease. The trunk has approximately 20% of the bark killed by a vehicular accident.
Recommendation: Prune for crown cleaning.

74. 22.5" DBH American elm showing good to fair vigor. Significant decay exists in the lower trunk however failure is unlikely because the tree has been topped severely.
Recommendation: Prune for crown cleaning.

75. 28" DBH American elm showing fair to good vigor. There is one large dead branch over the walking path. Significant decay exists in the trunk.
Recommendation: Prune for crown cleaning. Prune for crown thinning to achieve a more upright growth habit to reduce the failure potential by removing horizontal limb to the northeast back to the parent limb.

76. 28.5" DBH American elm showing fair vigor. There are large dead branches up to 6" in diameter over the walking path. A small area of bark was removed due to a vehicular accident, less than 5% of the trunk circumference.
Recommendation: Prune for crown cleaning.

77. 27" DBH American elm showing good to fair vigor. A beehive exists in the trunk of this tree. There are scattered dead branches.
Recommendation: Prune for crown cleaning.

78. 27" DBH American elm showing good vigor. Significant decay exists in the trunk however failure potential is low because the tree has been topped severely.
Recommendation: Prune for crown cleaning.

79. 26.5" DBH American elm showing fair vigor. Extensive decay exists in the trunk however the failure potential is low because the tree has been topped severely.
Recommendation: Prune for crown cleaning.

80. 26.5" DBH American elm showing good vigor. Decay exists in the main trunk at the first branch attachment in a limb over the walking path and another limb over the highway. Failure potential is low for both branches as the limbs have been headed back severely.
Recommendation: Prune for crown cleaning.

81. 25.5" DBH American elm showing good vigor. Decay exists at the root collar on the west side. It does not appear extensive at this time.

Recommendation: Prune for crown cleaning.

82. 21" DBH American elm showing good vigor. There are scattered dead branches.
Recommendation: Prune for crown cleaning.

83. 27" DBH American elm showing good vigor. There are scattered dead branches. Decay exists in the main stem at the first branch attachment. The decay appears to be extensive. Decay also exists in the tension side of a limb over the highway.
Recommendation: Prune for crown cleaning and crown thinning. Install two cables to reduce the failure potential of the decayed limb.

84. 19.5" DBH American elm showing good to fair vigor. There is evidence of Dutch Elm Disease in sprouts along the trunk, less that 1% of the foliage.
Recommendation: Prune for crown cleaning.

85. 20" DBH American elm showing good vigor. There is evidence of Dutch Elm Disease in sprouts along the trunk, less than 5% of the foliage.
Recommendation: Prune for crown cleaning.

86. 24" DBH American elm showing good vigor.
Recommendation: Prune for crown cleaning.

87. 21" DBH American elm showing good vigor. There is an area of decay on the root collar, east side. It does not appear to be extensive.
Recommendation: Prune for crown cleaning.

88. 19" DBH American elm showing good vigor.
Recommendation: Prune for crown cleaning.

89. 22" DBH American elm showing good to fair vigor. There are scattered dead branches over the walking path. An old vehicle injury on the lower trunk shows good callus growth.
Recommendation: Prune for crown cleaning.

90. 21" DBH American elm showing good vigor. A vehicle injury on the lower trunk is almost sealed with wound wood.
Recommendation: Prune for crown cleaning.

91. 21" DBH American elm showing fair to good vigor. Decay exists at the main branch attachment and appears extensive. The failure potential is moderate due to the fact that the branches are not heavy.
Recommendation: Prune for crown cleaning.

92. 22" DBH American elm showing good to fair vigor.
Recommendation: Prune for crown cleaning.

93. 23" DBH American elm showing good vigor. There are small dead branches.
Recommendation: Prune for crown cleaning.

94. 21" DBH American elm showing fair to good vigor. There are small dead branches.
Recommendation: Prune for crown cleaning.

95. 24" DBH American elm showing good to fair vigor. A bacterial gall is growing on the south side of the trunk. This gall should not affect health or structural strength of the tree. Decay exists at the base of both main branch attachments. It is most extensive in the north limb.
Recommendation: Prune for crown cleaning. Prune for crown thinning to reduce strain on decayed areas by removing live branches up to 3" in diameter.

96. 24" DBH American elm showing good to fair vigor. Decay exists at the root collar on the north side. It does not appear extensive. Decay exists in the trunk below the main branch attachment. It does appear to be extensive.
Recommendation: Prune for crown cleaning. Prune for crown thinning to reduce strain on decayed trunk by removing branches up to 6" in diameter.

97. 25.5" DBH American elm showing good to fair vigor. There are scattered dead branches. There is an area of decay in the lower trunk. It is moderate to severe. Decay exists at the base of the main limb to the east and is moderate to severe.
Recommendation: Prune for crown cleaning. Prune for crown thinning to reduce strain on main stem by removing branches up to 4" in diameter. Install a cable to reduce the failure potential of the main limb to the east.

98. 25" DBH American elm showing good vigor. Decay exists in the lower trunk. The failure potential is high.
Recommendation: Take down to the ground.

99. 23" DBH American elm showing good vigor. There are small dead branches.
Recommendation: Prune for crown cleaning.

100. 22.5" DBH American elm showing good vigor. There is one large dead branch over the walking path.
Recommendation: Prune for crown cleaning.

101. 24" DBH American elm showing good to fair vigor. There is moderate decay in the trunk. A wound on the trunk shows good callus.
Recommendation: Prune for crown cleaning.

102. 25" DBH American elm showing fair vigor. There are large dead branches over the highway up to 8" in diameter. There are accumulated dead branches over the walking path up to 4" in diameter. Decay exists in the lower trunk on the east side and in the main stem on the west side. Neither area appears to be extensive at this time.
Recommendation: Prune for crown cleaning.

103. 21.5" DBH American elm showing good to fair vigor. Decay exists in the lower trunk and appears to be moderate with good callus development around the wound. There is decay at the base of a 10" diameter limb to the west over the highway.
Recommendation: Prune for crown cleaning. Prune to remove 10" diameter limb over the highway back to the trunk.

104. 23" DBH American elm showing good to fair vigor. There are scattered dead branches. There is a vehicle injury on the trunk which occupies approximately 10% of the circumference.
Recommendation: Prune for crown cleaning.

105. 26" DBH American elm showing good vigor. There is a small vehicle injury on the trunk. There are scattered dead branches.
Recommendation: Prune for crown cleaning.

106. 23.5" DBH American elm showing good vigor. There is moderate decay in the trunk.
Recommendation: Prune for crown cleaning. Prune for crown thinning to achieve a more upright growth habit to reduce strain on trunk.

107. 20.5" DBH American elm showing good vigor. There is a small vehicle injury on the trunk. It shows good callus. One 8" diameter limb failed recently, within the last two years, presumably due to weight and wind.
Recommendation: Prune for crown cleaning. Prune to remove broken branch stub back to tight cambium to promote re-sprouting.

108. 25" DBH American elm showing fair vigor. There is a small vehicle injury on the trunk.
Recommendation: Prune for crown cleaning.

109. 21.5" DBH American elm showing fair vigor. There is a large injury on the south side of the trunk. It appears to have happened decades ago. The trunk is probably hollow with a column of sound wood up to 10" in thickness. The failure probability is low.
Recommendation: Prune for crown cleaning.

110. 21.5" DBH American elm showing fair vigor. Decay exists in the trunk and is moderate to severe. The failure potential is low.
Recommendation: Prune for crown cleaning.

111. 22.5" DBH American elm showing fair vigor. There are large dead branches over the highway. A significant injury on the trunk is almost completely sealed. The failure potential is low.
Recommendation: Prune for crown cleaning.

112. 20" DBH American elm showing fair to good vigor. There is a significant injury on the trunk that is completely sealed. There are scattered dead branches.
Recommendation: Prune for crown cleaning.

113. 23" DBH American elm showing good vigor. There is a small injury on the trunk that is completely sealed. There are scattered dead branches.
Recommendation: Prune for crown cleaning.

114. 21.5" DBH American elm showing good to fair vigor. There is a significant injury on the trunk that has completely sealed. There are scattered dead branches.
Recommendation: Prune for crown cleaning.

115. 23" DBH American elm showing good vigor. There are scattered dead branches. A low limb over the walking path is heavy with foliage and wood weight. There is a vehicle injury on the trunk that has almost completely sealed.
Recommendation: Prune for crown cleaning and crown thinning.

116. 20.5" DBH American elm showing good vigor. There are scattered dead branches.
Recommendation: Prune for crown cleaning.

117. 20" DBH American elm showing good vigor. There are scattered dead branches.
Recommendation: Prune for crown cleaning.

118. 21" DBH American elm showing good to fair vigor. There is a significant injury to the trunk that has almost completely sealed. The failure potential is low.
Recommendation: Prune for crown cleaning.

119. 19.5" DBH American elm showing good to fair vigor. There is a large injury on the trunk that has almost completely sealed. The failure potential is low.
Recommendation: Prune for crown cleaning.

120. 22.5" DBH American elm showing good vigor. There is an old injury on the trunk that has almost completely sealed. The failure potential is low. There is a newer injury on the trunk that shows good callus and has not developed any decay.
Recommendation: Prune for crown cleaning.

121. 19" DBH American elm showing good vigor. The top has been removed.
Recommendation: Prune for crown cleaning and crown thinning to begin crown restoration.

122. 19.5" DBH American elm showing good vigor. Moderate decay exists in the trunk. There are scattered dead branches.
Recommendation: Prune for crown cleaning.

123. 29" DBH American elm showing good to fair vigor. There is significant decay below the main branch attachment. There are scattered dead branches and indications of Dutch Elm Disease in one small limb over the highway.
Recommendation: Prune for crown cleaning. Prune for crown thinning to reduce strain on the decayed trunk.

GLOSSARY OF TERMS

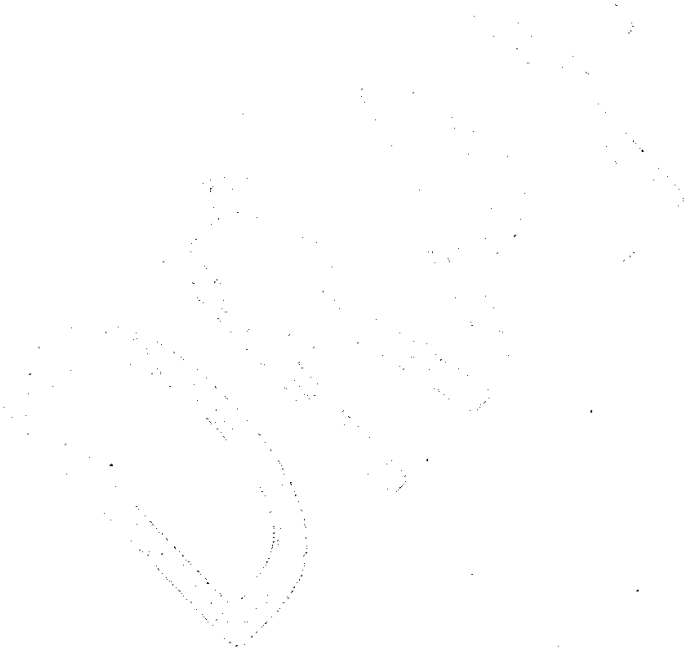
Crown cleaning – The removal of dead, dying, diseased, weakly attached and low vigor branches from the canopy or crown of a tree.

Crown restoration or restructuring – A pruning process whereby selected sprouts are removed leaving the more dominant, strongly attached sprouts to remaining and become permanent branches. This process generally takes several prunings over a period of up to 10 years.

Crown thinning – A pruning process whereby live foliage is removed from the tree. ANSI A-300 Standards call for crown thinning when limbs are heavy, dense or crowded.

DBH – A standard measurement of the Diameter of the trunk measured at Breast Height (an old forestry term), or 54" above the ground. Multiple trunked trees are usually measured below the first main crotch.

Vigor – Based on the recent growth rate of the tree, vigor is an indicator of the tree's inherent ability to withstand disease and insect attack.



BRITTON TREE SERVICES, INC. CONDITIONS

Britton Tree Services, Inc. is an established tree care company serving the Napa Valley and surrounding areas since 1976. All crew leaders are experienced climbers who are ISA Certified Arborists and/or Tree Workers. No hooks, or gaffs, are used in climbing trees to be saved. Work is performed to current American National Standards Institute pruning standards (ANSI A-300). Britton Tree Services guarantees customer satisfaction with our work. However, because trees are biological organisms that are subject to environmental forces beyond our control, we cannot predict with absolute certainty the safety or structural integrity of any tree, nor can we guarantee it.

All tree work described herein includes chipping of brush and debris, unless otherwise specified. Wood is left stacked in fireplace lengths on site, near the tree. Payment for extra labor required to move wood to another site on the property, which has not been previously agreed to and written on the work order, will be the responsibility of the client. Any and all dump fees for removing wood or debris from the site shall be charged to the client. Local fees for encroachment and other permits required for the work are charged to the client. Prices quoted for tree work are valid for 6 months from the date of the report or work order.

Extra labor or material costs resulting from unforeseeable circumstances, such as metal or concrete embedded in a tree or underground pipes or irrigation lines that have not been disclosed by the client, shall be charged to the client.

Estimates for root collar examinations include a complete excavation and examination of the tissue for disease or decay. If extensive surgery is required, costs may exceed the estimate given. Expected additional costs will be discussed with the client prior to proceeding with the additional work.

Britton Tree Services, Inc. is fully insured for $2,000,000 General Liability, Auto and Property Damage, and Worker's Compensation for all employees. Britton Tree Services, Inc. General Liability carrier is Hartford Insurance Company, they can be reached at 800-447-7649. A certificate of insurance will be supplied upon request. Britton Tree Services, Inc. is a licensed contractor, with a C61/D49 Specialty License for Tree Services, #693647.

Any questions concerning a Contractor may be referred to the Registrar of the Board, whose address is: Contractors' State License Board
P.O. Box 26000
Sacramento, CA 95826

Local references available upon request.

Arborist Disclosure Statement

Arborists are tree specialists who use their education, knowledge, training and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed.

Treatment, pruning and removal of trees may involve considerations beyond the scope of the arborist's services such as property boundaries, property ownership, site lines, disputes between neighbors, and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist should then be expected to reasonably rely upon the completeness and accuracy of the information you provide.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

Name of client: City of St. Helena

Address: _____

Telephone number: _____

City of St. Helena accepts the proposal and have received and read a copy of this Disclosure Statement:

Client Signature: _____

Date: _____

APPENDIX C:
THE SECRETARY OF THE INTERIOR'S STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES

Stemming from over 100 years of preservation ethics in both the United States and Europe, The Secretary of the Interior's Standards for the Treatment of Historic Properties are easily understood principles developed to aid in the protection of our nation's irreplaceable cultural resources. These standards may be applied to buildings, sites, structures, and objects.

These Standards provide concepts about maintaining, repairing, and replacing historic materials, as well as designing new additions or making alterations, but cannot be used solely to make essential decisions about which features of a historic property should be saved and those that might be changed. Once an appropriate treatment is selected, however, the Standards can provide a philosophical consistency to the work.

The Standards consist of four distinct but interrelated approaches to the treatment of historic properties – Preservation, Restoration, Rehabilitation, and Reconstruction. Choosing the appropriate treatment for a historic building or landscape is critical. This choice will always depend on multiple factors, including historical significance, physical condition, proposed use, and intended interpretation. However, since Sheldon Jackson College is a significant resource in American history and has been designated as a National Historic Landmark, the approaches of Preservation or Restoration will most likely be called for. Buildings that contribute to the significance of a collection of historic resources, but are not individually listed in the National Register or as a National Historic Landmark, more frequently will undergo Rehabilitation for a compatible new use. The Reconstruction approach is not a recommended treatment unless there are no other viable options available, and even in this case, great care should be taken when reconstructing a resource.

Regardless of the treatment, code requirements will need to be taken into consideration, but if hastily or poorly designed, code-required work may jeopardize a building's materials as well as its historic character. Therefore, if a building needs to undergo a seismic retrofit for example, modifications to the historic appearance should be minimal. Abatement of lead paint and asbestos within historic buildings requires particular care in order to keep important historic finishes from being adversely affected. Additionally, alterations and new construction needed to meet accessibility requirements under the Americans with Disabilities Act of 1990 should be designed to minimize material loss and visual change to a historic building.

The approaches of Preservation and Rehabilitation, as defined by the Secretary of the Interior, are described below:

Preservation
Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of a historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, plumbing systems, and other code-required work to make properties functional is appropriate within a preservation project.

1. A property will be used as it was historically, or be given a new use that maximizes the retention of distinctive materials, features, spaces, and spatial relationships. Where treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken.
2. The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate, and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color, and texture.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

When to use Preservation as an approach:

When the property's distinctive materials, features, and spaces are essentially intact and thus convey the historic significance without extensive repair or replacement; when depiction at a particular period of time is not appropriate; and when a continuing or new use does not require additions or extensive alterations, Preservation may be considered as a treatment.

Rehabilitation

Rehabilitation is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features that convey its historical, cultural, or architectural values.

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the

old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

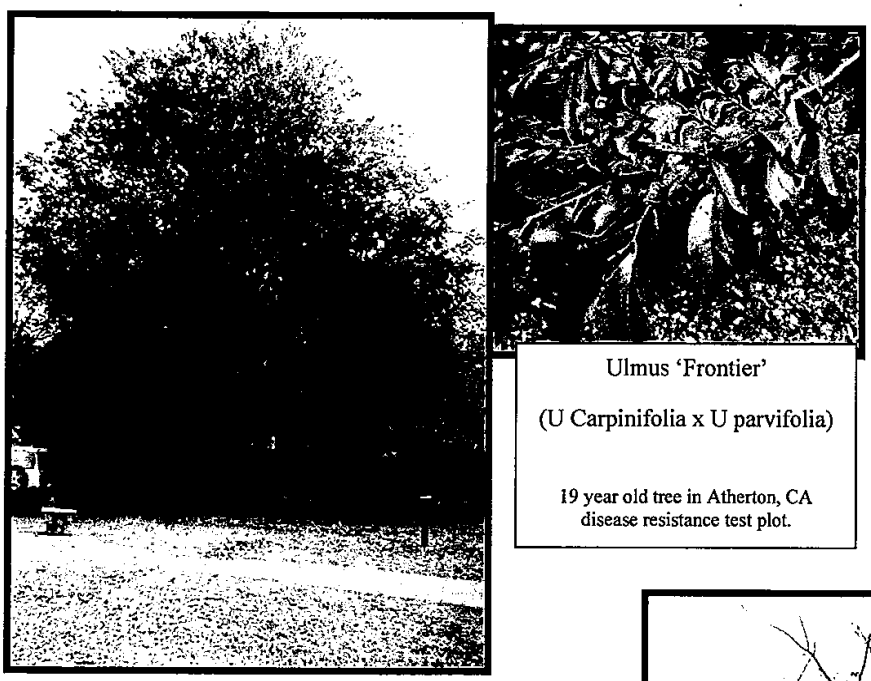
When to use Rehabilitation as an approach:

When repair and replacement of deteriorated features are necessary; when alterations or additions to the property are planned for a new or continued use; and when depiction at a particular period of time is not appropriate, Rehabilitation may be considered as a treatment.

APPENDIX D:
ELM TREE SELECTION

ST. HELENA ELM TUNNEL TREE SELECTION

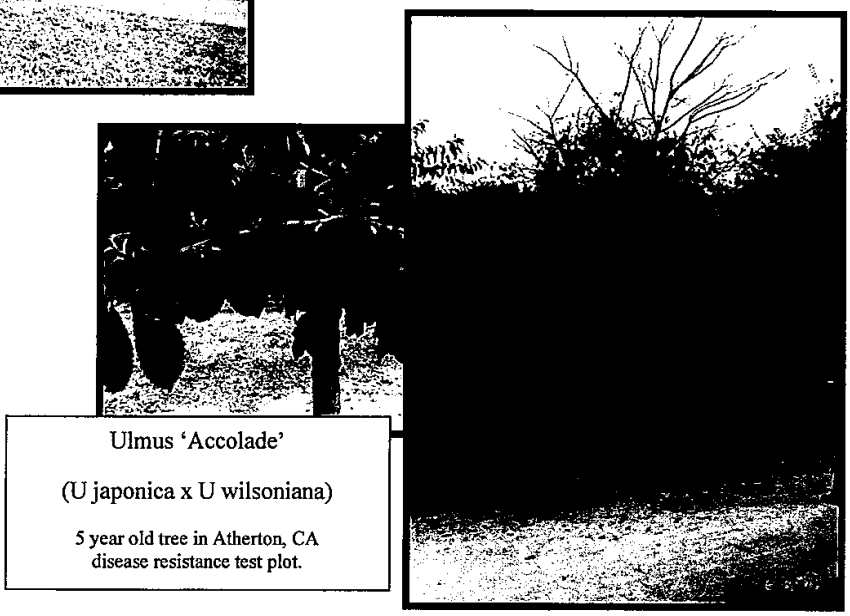
Two elm tree cultivars have been selected for replacement planting within the elm tunnel. Both trees are elm hybrids that have shown tolerance for resistance to Dutch elm disease when tested in Northern California in high stress disease conditions. All elm trees are susceptible to disease. Several cultivars have shown higher tolerance and are considered more likely to be successful. The selection team included Jim Haller, City of St. Helena Arborist, Jeanne Gorham, Caltrans District Landscape Architect and Don Rivers, Caltrans Regional Maintenance Manager. Dr. Larry Costello, UC Davis was consulted as a technical expert in elm tree research. Dr. Costello has been studying and conducting research on Dutch elm resistance in California for over 20 years. Dr. Costello shared his research findings through correspondence and a phone conference. A field meeting with Dr. Costello at a test plot in Atherton, CA was held to visually confirm desired habit and branching structure.



Ulmus 'Frontier'

(U Carpinifolia x U parvifolia)

19 year old tree in Atherton, CA
disease resistance test plot.



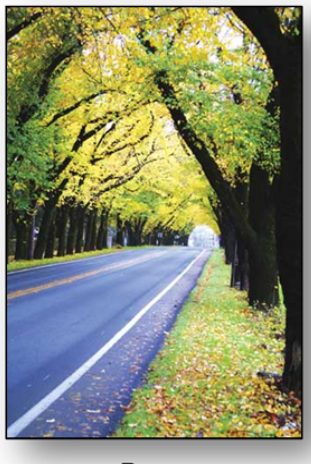
Ulmus 'Accolade'

(U japonica x U wilsoniana)

5 year old tree in Atherton, CA
disease resistance test plot.

DRAFT Tree Risk Assessment

Beringer Elm Tunnel
Saint Helena, CA



PREPARED FOR:
City of St. Helena
Public Works Department
1480 Main St.
St. Helena CA 94575

PREPARED BY:
HortScience | Bartlett Consulting
325 Ray St.
Pleasanton, CA 94566

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HORT SCIENCE
BARTLETT CONSULTING
A Division of The I.A. Bartlett Tree Expert Company

DRAFT Tree Risk Assessment
Beringer Elm Tunnel
Saint Helena, CA

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DRAFT Tree Risk Assessment
Beringer Elm Tunnel
Saint Helena, CA

Introduction and Overview

The City of St. Helena manages a stand of mature elm trees. Over the years, trees in the stand have died due to Dutch elm disease (DED). The disease has been actively managed through removal of diseased trees and treatment of others to increase resistance to the disease. HortScience | Bartlett Consulting, Divisions of The F. A. Bartlett Tree Expert Company (H|BC) was asked to prepare a **Tree Risk Assessment Report** to help guide tree management. In addition, HBC was asked to comment on the existing management plan, maintenance practices employed on the young trees and options for DED management.

This report provides the following information:

1. Results of the visual assessment of the health and structural condition of the trees.
2. Risk rating for each of the mature trees, using the techniques and methodology described in *Tree Risk Assessment* Best Management Practices (International Society of Arboriculture, 2nd edition, 2017).
3. Management recommendations to minimize risks associated with trees.
4. A review of the current Elm Tunnel Management Plan provided by the City.
5. A review of the current maintenance practices for young trees.
6. A review of the current DED management and options for future management.
7. A discussion of long-range management considerations, including plant procurement and successional planning.

Background

This group of American elms (*Ulmus americana*) was planted by the Beringer Brothers in 1885 and originally contained approximately 75 trees on either side of Highway 29 in front of their winery, located just north of downtown St. Helena.

The two rows of elms create a tunnel of canopy over Highway 29 and are recognized components of the Beringer Winery Historic District. They contribute to the National Historic Landmark designation of the site. As such, any replacement trees must reach a similar mature height, provide a similar leaf size and branching pattern, and have similar form, scale, color and texture as the original American elms.

In addition, the trees are growing on California Department of Transportation (Caltrans) property but located within the City of St. Helena. The Beringer Winery and local community also have a clear interest in maintaining the trees and perpetuating the elm tunnel experience. Maintenance responsibilities for pruning, DED treatments and planting of new trees are shared by the State and City. This unique dynamic requires a partnership between all of the vested parties to develop and implement a strategic plan for preserving the functional and aesthetic beauty of the trees into the future.

Tree Assessment Methods

Trees were assessed in February, May and June of 2019. The assessment included all of the elm trees within the elm tunnel. The assessment procedure consisted of the following steps:

1. Tagging each tree with an identifying number and recording its location on a map;
2. Measuring the trunk diameter at a point 54" above grade;
3. Evaluating the health and structural condition using a scale of 0 – 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.
   - ***0*** – Dead.
4. Rating the amount of flagging present in the crown as "significant", "moderate" or "minor". Flagging, or dieback of branches in the crown, is a visual indicator of the presence of Dutch elm disease.
6. Sounding the lower trunk (below ~7') of the mature elms with a rubber mallet to identify areas of decay, especially for those trees with visible cavities and/or trunk wounds. Where possible, open cavities were probed with a 36" long metal rod to try to determine the extent of the cavity.
7. Assign a risk rating to each tree, using the techniques and methodology described in *Tree Risk Assessment* Best Management Practices (International Society of Arboriculture, 2011). Components of the risk rating are described in detail below.
8. Prepare ***Tree Assessment Maps*** showing location of tree tag numbers, tree condition and management recommendation.

Evaluating structural condition

Examination of the entire tree structure for weaknesses or possible points of failure begins with an assessment of overall vigor and health, then focuses on an examination of root crown, trunk, scaffold limbs and branches. The entire inspection was performed visually from the ground.

The following are examples of structural defects we looked for:

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. We inspected 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 decay or severed roots (construction, sidewalk repair) may be more 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, especially 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 more likely to fail.

Trunk/branch wounds - Bark loss and tissue damage can lead to development of decay over time.

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 and stem 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.

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 and 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.

Tree risk evaluation procedures

The goal of the risk assessment process is to enhance public safety. This is accomplished by assessing the risk of damage to people or property if a tree or one of its parts fails and taking action to reduce that risk. The risk rating considers the likelihood of the tree or one of its parts failing within the following one (1) year, the frequency of use and occupancy below it and the consequences should the target be struck.

To assess and rank the risk associated with each tree, I employed the terminology and methods described in *Best Management Practices: Tree Risk Assessment* (E. T. Smiley, N. Matheny and S. Lilly. 2017. Companion publication to the American National Standards Institute A300 Part 9. International Society of Arboriculture. Champaign IL).

Risk is described in the *Best Management Practices* publication as the combination of likelihood of a tree failure striking people or property, and the consequences of that failure. Those assessments are then combined into a risk rating. For each of the mature elm trees we performed the following:

1. **Identify possible targets.**
2. **Identify tree part(s) that could strike one or more target(s).**
3. **Evaluate the likelihood for each part to fail.**

Rate Likelihood for Failure

Improbable	the tree is **not** likely to fail even in severe weather conditions
Possible	failure could occur, but it is unlikely during normal weather
Probable	failure is expected under normal weather conditions
Imminent	failure has started or is most likely to occur in the near future, even if there is no wind or increased load

4. **Evaluate the likelihood of tree or tree part impacting the target(s).**

Rate Likelihood of Impact

Very Low	the chance of impacting a target is remote
Low	it is not likely that the target will be impacted
Medium	the target may or may not be impacted.
High	the target is likely to be impacted

5. For each failure mode (stem, branch or whole tree), identify likelihood for a failure to impact a specified target (Table 1).

Table 1. The matrix used to estimate the likelihood of a tree failure impacting a specified target.

Likelihood of Failure	**Likelihood of Impacting Target**			
	Very Low	*Low*	*Medium*	*High*
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

6. For each failure mode (stem, branch or whole tree), estimate consequences of the failure.

Rate Consequences

Negligible – low value property damage; Personal injury is unlikely
Minor – low to moderate value property damage; Personal injury is unlikely
Significant – moderate to high value property damage; people could be injured
Severe – high value property damage; one or more people could be injured or killed

7. For each failure mode (stem, branch or whole tree), designate the risk (Table 2).

Table 2. Risk rating matrix.

Likelihood of Failure and Impact	**Consequences**			
	Negligible	*Minor*	*Significant*	*Severe*
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Results of Tree Assessment

Results of the assessment are divided into two sections: tree condition and tree risk assessment.

Tree Condition

Descriptions of each tree are provided in the ***Tree Assessment Form*** and locations are shown on the ***Tree Inventory Map***.

A total of 144 trees were assessed, including 88 mature trees and 56 young trees. Mature trees were part of the original Beringer Brother plantings and young trees included 3 generations of replacement trees planted by the City between 2011 and 2019.

Seventy (71) of the trees were on the east side of Highway 29 and the remaining 73 were on the west side. Those growing on the west side were beneath overhead utility lines and all of the mature trees on that side of the road had been topped for utility line clearance.

In addition, trees on the east side of Highway 29 were adjacent to an improved pedestrian/bike path located immediately east of the trees, with vineyards beyond. Trees on the west side of Highway 29 were located between the road and the retaining wall that is the limit of the Beringer Winery, with roads, parking lots and landscaping beyond.

Mature trees

All of the mature trees were American elms. Four of the mature elms that were tagged and measured on our first field day in February had been removed by the time we visited the site again in May, including #12, 33, 34 and 49. Thus, 84 mature American elm trees remain and are the subject of the following discussion.

Trunk diameters ranged from 20” to 36”, with an average of 27”, surprisingly low for trees of their age. Fifty-seven (57) trees were in fair condition (65%), 24 (27%) were in poor, 3 were in good and 4 were dead (see ***Tree Condition Map***).

The trees had originally been planted at approximately 18’ on center, which is relatively close spacing for the species, especially for a species known to achieve a mature height of 60 to 80’ and a canopy spread of 40’ to 70’. The close proximity of the trees resulted in most having an asymmetric form, with the majority of branches extending to the east and west. While this does help create the tunnel effect, it also concentrated branches over Highway 29.

In addition to the close spacing between trees, they were all located from 4.5’ to 9.5’ from the edge of Highway 29. With no protection between the trees and the road, many had been struck by cars over the years, producing large trunk wounds (Photo 1). Fifteen of the trees had trunk wounds (Table 3, following page).

Photo 1: Showing the base of American elm #7. The tree had been struck by a car at some point, producing a large trunk wound near the base. In this case, the exposed wood had not yet decayed.

Over time, some of the trees have developed cavities of various sizes as the result of the degradation of wood by decay organisms. Twenty-nine (29) of the trees had visible cavities present (Table 3). Where large cavities were present on the lower trunk, I probed them with a 36" long metal rod. Five (5) of the trees had cavities that I was able to probe to a depth of 20" and 36".

Decay had developed in several of the cavities, as well as in wounds created by pruning for overhead utility lines or where branches had failed (Photo 2). Nine (9) of the trees had decay present in the upper crowns and 8 had decay present on the lower trunk (Table 3).

Where cavities were present but probing was not an option or where decay was suspected but not visible, sounding with a rubber mallet can help identify the presence of decay and the approximate extent of the decay. Ten (10) of the trees had hollow sounding areas on the lower trunks (Table 3).

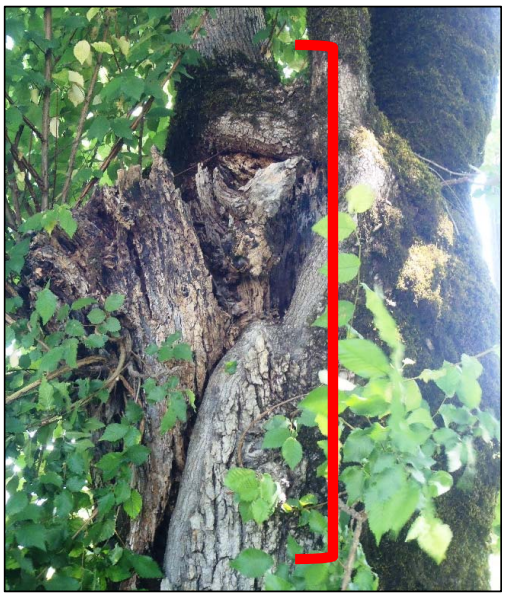


Photo 2: The upper trunk of American elm #99. A large decay column had developed on the west side of the tree, just below the attachment point of the main stems at 10'.

Table 3. Trees with specific visible structural concerns.
Beringer Elms, St. Helena, CA

Condition	Tree Tag Number
Trunk wounds present:	#2, 4, 7, 50, 54, 64, 67, 68, 70, 105, 107, 110, 112, 141 and 143
Cavities present:	#1, 3, 8, 13, 14, 16, 35, 36, 37, 39, 42, 43, 45, 54, 60, 61, 63, 64, 66, 69, 92, 93, 104, 106, 109, 111, 126, 131, 141 and 143
Decay visible in upper crown	: #3, 4, 7, 41, 95, 100, 111 and 134
Decay visible on lower trunk:	#93, 99, 100, 103, 104, 109, 112 and 131
Sounded hollow when struck with mallet:	#3, 13, 16, 37, 43, 54, 60, 61, 64 and 69

Trees growing on the west side of Highway 29 were beneath the overhead utility lines. All of the mature trees on that side of the road had been topped for utility line clearance. As a result of the repeated toppings, tree form and structure had been compromised. Topping had produced wounds where branches/stems had been remove, some of which had been colonized by decay organisms. In addition, topping removed upright branches, promoting the growth and development of lateral branches. As lateral branches get larger in diameter and longer in extension, they are more prone to failure. This is especially true where decay is present in the main stem, weakening the wood the lateral branches are attached to.

Finally, I rated the amount of flagging present in the crown of the mature elms. Flagging, or dieback of branches in the crown, is a visual indicator of the presence and development of Dutch elm disease. Sixty-one (61) of the trees had minor branch dieback consistent with DED, 18 had moderate flagging and 5 trees had significant flagging, including elms #16, 17, 35, 112 and 113.

Overall, 24 mature elms were in poor condition (rated a 1 or 2 on a scale of 0-5, where 0 is dead and 5 is excellent condition). Fifty-seven (57) were in fair condition and 3 were in good.

Young trees
A total of 56 young trees were assessed within the elm tunnel. Tree #5, one of the young trees that was tagged and measured on our first field day in February had been hit by a car and snapped off at the base when we visited the site again in May. Thus, 55 young American elm trees remain and are the subject of the following discussion.

Young trees had been planted in 2 phases, with the first generation planted in 2011 and the second and third generations planted between 2016 and 2019. Thirteen (13) of the first generation trees remained, 19 of the second generation and 24 third generation. Based on discussions with City staff, all of the first and second generation trees were the Accolade variety and all of the third generation trees were the Frontier variety.

First generation trees had trunk diameters between 2" and 5", with second generation trees having trunk diameters between 1" and 3" and all of the third generation trees measured 1" or less in diameter.

Fifty (50) of the young trees were in excellent condition (rated a 5), with 4 in good condition (rated a 4) and #56 in fair condition (see ***Tree Condition Map***). For the most part, all of the young trees had good form and structure. However, several had multiple stems arising from one point on the trunk, had branches emerging low on the trunk and/or had close vertical spacing between branches (photos 3 and 4). These are common growth patterns for young trees that should be managed at the time of planting and during the first years of establishment in order to promote development of good form and structure.

Photo 3 (L): Showing the base of tree #22, which had several branches emerging low on the stem. This is a candidate for pruning to remove low branches to improve vertical spacing.
Photo 4 (R): Showing the codominant trunks emerging from the base (red lines). This tree is a candidate for pruning to select a central leader by removing the less vigorous and upright stem.

Although few defects were noted on the young trees, #28 and 29 both had portions of old stake ties embedded between stems. Five of the third generation trees had been planted in wire baskets, which have the potential to girdle roots as they grow in diameter. Finally, 11 of the trees from both the second and third generations, were still staked.

Risk Assessment

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. The degree of risk will vary with the size of the tree, type and location of the defect, tree species and the occupancy rate and nature of the target. HortScience | Bartlett Consulting used the terminology found in the 2017 *Best Management Practices: Tree Risk Assessment*.

Risk is an assessment of the combination of likelihood of a tree failure striking people or property, and the consequences of that failure. Risk is categorized in four ways: low, moderate, high and extreme. Trees rated as low may still benefit from mitigation and monitoring, especially for trees in poor health. Immediate action is not normally required for trees with low risk. In contrast, a rating of extreme involves a tree in imminent danger of failing, where the likelihood of impacting a target is high and the consequences would be severe. In general, the rating defines a priority for action.

Working with City of St. Helena staff, target occupancy was defined as follows:

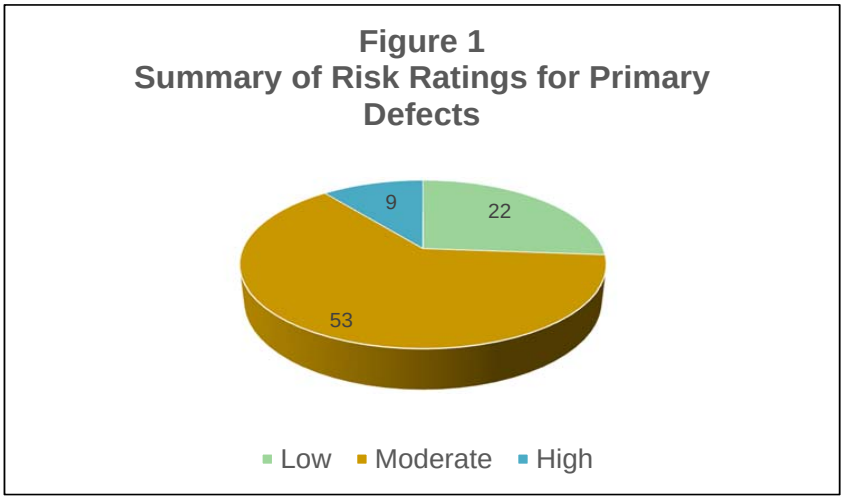
- Highway 29 Constant
- High voltage power lines Constant
- Primary road/driveway (Beringer Winery) Constant
- Pedestrian/bike trail Frequent
- Parking (Beringer Winery) Frequent
- Secondary road/driveway (Beringer Winery) Intermittent
- Landscape/lawn (Berniger Winery) Occasional
- Orchard (Beringer Winery) Occasional

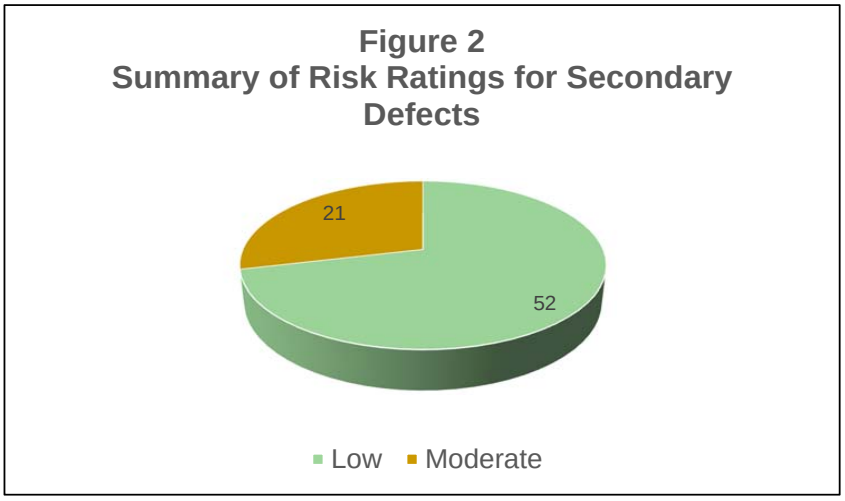
Where appropriate, the risk associated with more than one failure mode (branch, stem or whole tree) for each tree was rated. All 84 of the mature elm trees were rated for a primary defect and 73 were rated for secondary defects. **Figure 1** and **Figure 2** (following page) provide a summary of the risk ratings for each of the defects identified. Risk ratings for individual trees are found in the attached **Appendix A –Summary of *Tree Risk Ratings***.

Primary defects included 38 stems, 33 scaffold branches, 9 dead branches/hangers and 9 whole trees. Risk ratings for the primary defects identified were low for 22 trees, moderate for 53 trees and high for 9 trees. The 9 trees rated as high included 5 scaffold branch failures (trees #84, 133, 136, 138 and 144), 3 stem failure (#99, 103 and 126), and a dead branch in tree #113.

Secondary defects included 55 stems, 28 scaffold branches, 5 whole trees and 5 dead branches. Risk ratings for the secondary defects identified were low for 52 trees and moderate for 21 trees. The 21 trees rated as moderate included 10 stem failures (trees #2, 4, 7, 16, 43, 52, 92, 104, 107 and 108), 5 scaffold branches (#1, 38, 50, 143 and 144), 4 dead branches (#64, 67, 106 and 136) and 2 whole tree failures (#59 and 131).

Once management recommendations are carried out (pruning, removal, etc.) residual risk would be low for 67 of the primary defects and moderate for 7 of the primary defects (9 trees would be removed and have no residual risk). Residual risk would be low for 67 of the secondary defects and moderate for 3 of the secondary defects (3 trees would be removed and have no residual risk).





In some cases, residual risk would remain moderate despite action being taken to reduce risk associated with specific defects identified. This is a reflection of both the constant occupancy rate of Highway 29, the primary target, and the fact that management actions short of tree removal will not mitigate the risk associated with the specific defect.

The majority of trees posed a low or moderate risk of injury or damage, should they fail, which can be further reduced through pruning. Trees that posed a high risk involved an elevated likelihood of failure, a high-occupancy target and significant or severe consequences should they fail.

Two trees, #140 and 144 were identified as having imminent likelihood of failure associated with a broken branch/hanger in the crown which would strike Highway 29. I called the City during the June 2019 field work to alert them to the risk associated with these trees and recommended immediate action be taken to prune the branches in question.

Management Recommendations

As requested, management recommendations are provided for the following:

- Risk abatement treatments
- Maintenance practices for young trees
- Elm Tunnel Management Plan recommendations
- Dutch elm disease management

Risk Abatement Recommendations

Abatement treatments to reduce risk associated with trees need to be specific to the particular defects in the tree. Risk which results from dead branches, heavy branches, or branches growing on wood weakened by decay can in many cases be abated by crown cleaning (removal of dead and weak branches), end weight reduction and crown reduction pruning (small branch removal and reduction cuts to reduce height and weight). Reduction pruning can be applied to horizontally oriented branches (end weight reduction) or vertically oriented branches (height reduction). Where tree lean, cracked stems or decay cannot be abated through pruning or cabling/bracing, tree removal may be the only option to minimize risk.

The primary use of risk ratings is to help prioritize abatement treatments. In general, trees with high risk ratings should be treated before trees with lower ratings. However, risk ratings cannot strictly define a threshold for action, between either removal and retention, or treatment and no treatment. Risk ratings do not define "danger". A tree does not become dangerous at a given rating.

Rather, use of the rating is framed by the goals of the tree manager, maintenance program and policy of acceptable risk. The line for action, between either removal and retention or treatment and no treatment, is one set by City of St. Helena staff. Budgets, labor force, time and other considerations such as historical, biological and ecological impacts affect those decisions.

Recommendations to abate risk for the mature elm trees included primary and secondary management actions, as well as advanced assessments. Primary management recommendations will have the greatest impact on reducing risk and are the starting point for the City's management of the mature Beringer elms. Since primary recommendations include the suggestion that the City 'consider the removal' of 20 trees, secondary recommendations and recommendations for advanced assessments for some of those trees are provided, in case these trees are not removed.

Primary recommendations included the following and are listed in Table 4 and in **Appendix A – Summary of *Tree Risk Ratings***. Management recommendations are also provided on the attached ***Mature Tree Management Map***.

- Prune 29 trees to reduce branch weight and extension, primarily over Highway 29.
- Prune 7 trees to reduce tree height and branch extension.
- Prune 3 trees to clean the crowns of dead, broken and diseased branches.
- Remove 7 trees, primarily due to poor health, although 3 were rated as having high risk.
- Remove stems in 4 trees.
- Have decay detection performed at the stem attachments in tree #41.
- Consider removal for 20 trees. These were primarily in poor condition or where form and structure had been compromised due to close spacing between trees and/or topping for overhead utility lines.
- 16 trees had no action recommended and trees #41 and 59 had more than one management recommendation.

Table 4: Primary management recommendations
Beringer Elms, St. Helena, CA

Tag #	Species	Diameter	Condition	Primary Management recommendation
1	American elm	34	3	Prune to reduce weight/ext.
2	American elm	26	3	Consider for removal
3	American elm	28	2	Consider for removal
4	American elm	32	3	Prune to reduce weight/ext.
7	American elm	29	4	Prune to remove 16” stem
8	American elm	25	2	Consider for removal
12	American elm	31	0	Removed as of 6/19
13	American elm	28	3	None
14	American elm	29	3	None
16	American elm	28	2	**Remove tree**
17	American elm	28	2	**Remove tree**
33	American elm	21	0	Removed as of 6/19
34	American elm	24	0	Removed as of 6/19
35	American elm	24	2	Consider for removal
36	American elm	22	3	Prune to reduce weight/ext.
37	American elm	24	3	Prune to crown clean
38	American elm	24	3	None
39	American elm	23	3	Prune to reduce height/extension
40	American elm	26	4	Prune to reduce height/extension
41	American elm	27	3	Test decay in attachment & prune to reduce weight/ext.
42	American elm	27	2	Prune to remove 8” stem
43	American elm	28	3	Prune to reduce height/extension
45	American elm	26	3	Prune to reduce weight/ext.
46	American elm	24	3	Prune to reduce weight/ext.
49	American elm	24	0	Removed as of 6/19
50	American elm	28	2	Consider for removal
52	American elm	22	2	Consider for removal
54	American elm	27	2	Consider for removal
59	American elm	23	3	Prune to crown clean & reduce weight/ext.
60	American elm	24	2	None
61	American elm	21	3	None
62	American elm	25	3	None
63	American elm	23	3	None
64	American elm	25	3	Prune to reduce height/extension
65	American elm	22	3	Prune to reduce height/extension
66	American elm	22	3	Prune to crown clean
67	American elm	22	2	Consider for removal
68	American elm	20	2	Consider for removal
69	American elm	24	2	Consider for removal
70	American elm	21	2	Consider for removal
71	American elm	22	2	Consider for removal
80	American elm	28	3	Prune to reduce height/extension
81	American elm	28	3	Prune to reduce weight/ext.
82	American elm	27	3	None
84	American elm	26	3	None
85	American elm	28	2	Consider for removal
92	American elm	31	3	Prune to reduce weight/ext.
93	American elm	34	3	Remove 10" stem
94	American elm	28	3	Prune to reduce weight/ext.
95	American elm	30	3	Prune to reduce weight/ext.
99	American elm	33	2	**Remove tree**
100	American elm	32	3	Consider for removal

Table 4: Primary management recommendations
Beringer Elms, St. Helena, CA, continued

Tag #	Species	Diameter	Condition	Primary Management recommendation
101	American elm	30	3	Prune to reduce weight/ext.
103	American elm	33	2	**Remove tree**
104	American elm	31	2	Consider for removal
105	American elm	31	3	None
106	American elm	27	3	Prune to reduce weight/ext.
107	American elm	31	3	Prune to reduce weight/ext.
108	American elm	34	3	None
109	American elm	26	2	Consider for removal
110	American elm	33	3	Prune to reduce weight/ext.
111	American elm	28	3	None
112	American elm	30	2	**Remove tree**
113	American elm	30	1	**Remove tree**
121	American elm	27	4	Prune to reduce weight/ext.
122	American elm	23	3	Prune to reduce weight/ext.
123	American elm	20	3	None
124	American elm	20	3	Prune to reduce weight/ext.
125	American elm	22	3	Prune to reduce weight/ext.
126	American elm	22	3	Remove 10" stem
127	American elm	24	3	Prune to reduce weight/ext.
128	American elm	24	3	Prune to reduce weight/ext.
129	American elm	27	3	Prune to reduce weight/ext.
130	American elm	31	3	Prune to reduce weight/ext.
131	American elm	25	2	Consider for removal
132	American elm	27	3	Prune to reduce weight/ext.
133	American elm	26	3	Prune to reduce weight/ext.
134	American elm	29	3	Prune to reduce weight/ext.
135	American elm	26	3	Consider for removal
136	American elm	25	3	None
137	American elm	25	3	None
138	American elm	33	3	Prune to reduce weight/ext.
139	American elm	25	3	Consider for removal
140	American elm	28	3	Prune to reduce weight/ext.
141	American elm	29	3	Consider for removal
142	American elm	34	3	None
143	American elm	35	2	**Remove tree**
144	American elm	36	3	Prune to reduce weight/ext.

Secondary management recommendation are provided for 9 of the trees listed in Table 4 for the City to 'consider for removal', in case these trees are not removed.

Secondary management recommendations included the following and are listed in Table 5:

- Prune 4 trees to reduce branch weight and extension, primarily over Highway 29.
- Prune 3 trees to clean the crowns of dead, broken and diseased branches.
- Prune 2 trees to reduce tree height and branch extension.

Table 5: Secondary management recommendations
Beringer Elms, St. Helena, CA

Tag #	Species	Diameter	Condition	Primary Management recommendation
35	American elm	24	2	Prune to crown clean
52	American elm	22	2	Prune to crown clean
54	American elm	27	2	Prune to crown clean
71	American elm	22	2	Prune to reduce height/extension
85	American elm	28	2	Prune to reduce height/extension
100	American elm	32	3	Prune to reduce weight/ext.
104	American elm	31	2	Prune to reduce weight/ext.
131	American elm	25	2	Prune to reduce weight/ext.
135	American elm	26	3	Prune to reduce weight/ext.

Advanced assessments were recommended for those trees where defects were identified that could not be adequately assessed either from the ground or from an examination of the external condition of the trees. These were primarily trees where decay was identified through sounding with the mallet and/or probing with the metal rod. Recommendations for advanced assessments are provided in Table 6 (following page) and on the attached ***Advanced Assessment Recommendations Map***.

Advanced assessments were recommended for 30 trees as follows:

- The City should consider having decay detection performed on 10 trees that are recommended for preservation. These were trees where decay was identified through sounding the trunk with the mallet and/or probing open cavities with the metal rod.

- Perform an aerial inspection and possible decay detection on 5 trees where decay was visible in the main trunk, stems and/or stem attachments above where we could probe with the metal rod and/or sound with the mallet.

An addition 15 trees were recommended for decay detection if the City chooses not to remove them. These were trees with a primary management recommendation for removal, however, they may not be removed all at once for a variety of reasons, in which case we recommend decay detection be performed.

Table 6: Recommendations for advanced assessments
Beringer Elms, St. Helena, CA

Tag #	Species	Diameter	Condition	Primary Management recommendation
1	American elm	34	3	Aerial insp. & decay detect.
1	American elm	34	3	Aerial insp. & decay detect.
2	American elm	26	3	Decay detect. If not removed
3	American elm	28	2	Aerial insp. & decay detect. If not removed
3	American elm	28	2	Aerial insp. & decay detect. If not removed
8	American elm	25	2	Decay detect. If not removed
13	American elm	28	3	Consider decay detection
14	American elm	29	3	Consider decay detection
16	American elm	28	2	Decay detect. If not removed
41	American elm	27	3	Aerial insp. & decay detect.
41	American elm	27	3	Aerial insp. & decay detect.
42	American elm	27	2	Consider decay detection
43	American elm	28	3	Consider decay detection
59	American elm	23	3	Consider decay detection
60	American elm	24	2	Consider decay detection
61	American elm	21	3	Consider decay detection

Tag #	Species	Diameter	Condition	Primary Management recommendation
64	American elm	25	3	Consider decay detection
67	American elm	22	2	Decay detect. If not removed
68	American elm	20	2	Decay detect. If not removed
69	American elm	24	2	Decay detect. If not removed
92	American elm	31	3	Consider decay detection
95	American elm	30	3	Aerial insp. & decay detect.
99	American elm	33	2	Decay detect. If not removed
100	American elm	32	3	Decay detect. If not removed
101	American elm	30	3	Aerial insp. & decay detect.
101	American elm	30	3	Aerial insp. & decay detect.
103	American elm	33	2	Decay detect. If not removed
104	American elm	31	2	Decay detect. If not removed
109	American elm	26	2	Decay detect. If not removed
111	American elm	28	3	Aerial insp. & decay detect.
111	American elm	28	3	Aerial insp. & decay detect.
126	American elm	22	3	Consider decay detection
131	American elm	25	2	Decay detect. If not removed
135	American elm	26	3	Aerial insp. & decay detect. If not removed
135	American elm	26	3	Aerial insp. & decay detect. If not removed
143	American elm	35	2	Decay detect. If not removed

Our risk assessment procedures focused on trees with observable defects. This is not to say that trees without significant defects will not fail. Failure of apparently defect-free trees does occur, especially during storm events. Wind forces, for example, can exceed the strength of defect-free wood causing branches and trunks to break. Wind forces coupled with rain can saturate soils, reducing their ability to hold roots, and blow over defect-free trees. Although we cannot predict all failures, identifying those trees with observable defects is a critical component of enhancing public safety.

Furthermore, trees change over time. Our inspections represent the condition of the tree at the time of inspection. Annual tree inspections are recommended to identify changes to tree health and structure. In addition, trees should be inspected after storms of unusual severity to evaluate damage and structural changes. Initiating these inspections is the responsibility of the City and/or tree owner.

Maintenance practices for young trees

We were asked to review and comment on the current maintenance practices employed by the City for the young elm trees. We based our recommendations on our field investigation as well as communications with the City.

Planting

Although not technically maintenance, planting sets the stage for tree establishment and growth. We recommend the following when planting new elm trees:

- Excavate a planting pit 2 to 3 times the width and twice the depth of the container size to be planted.
- Amend the backfill with 1/3 to 1/2 (by volume) high organic matter compost.
- Create a temporary earthen berm around each tree to retain and concentrate as much of the supplemental irrigation water at the base of the tree as possible.
- Stake young trees with 3 lodge poles (or similar) placed in a triangular formation and attached loosely to the tree trunk.

Several of the young trees we assessed in the field had been planted in wire baskets. We strongly recommend the City avoid the use of wire baskets. While the wire will break-down in time, wire baskets have the potential to girdle roots and slow tree growth, establishment and anchoring.

Irrigation

We expect supplemental irrigation to be required during the first 2-3 years of establishment for the dry months of the year (typically May-October). The City has been watering the trees with a combination of watering trailer on the east side and quick coupler hose on the west side at a rate of 10 gallons per tree, per week. We consider this volume adequate for the all but the hottest months of the year (typically July-September) or during periods of extended drought.

Our recommended irrigation approach would be as follows:

- In the first year after planting, irrigate at a volume of 5 gallons per application, ideally applied twice a week during the summer months. Irrigation rates can be tapered in the spring and fall by 25 to 50% depending on temperature, day length, and rainfall.

- In the second year after planting, irrigations volumes should be increased to 8 gallons per application, but frequency should be decreased to once a week (again for the summer months).

- In the third year after planting, irrigation at a volume of 10 gallons every 10 days to 2 weeks (again, during the summer months).

- After 3 years, they should be fairly well established and irrigation can be on an "as needed" basis. For example, if we experience a drought after 3 years, continue with the third year regime.

The above assumes a sufficient soil quality such that roots can get established. If this does not happen, irrigation will be needed over a longer period of time. This is another reason to do as much soil cultivation as possible before planting and to use basins and mulch around each tree.

One alternative irrigation practice for the City to consider would be the use of Gator bags® or doughnuts. These systems allow the City to fill it with water, which is applied slowly over a period of time.

During periods of extreme heat, where average daily temperatures exceed 90°, we would recommend increasing the irrigation volume to 60 gallons per month or 15 gallons/week, per tree. We would also expect the application rate to drop to 10 gallons per tree every other week during the cooler months of May and November and cease during the typically cool, wet months of December through April.

Pruning

Young trees should be trained to develop 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 training process is accomplished by pruning the tree at the time of planting and then annually over a 3-5 year period until the desired branch structure is established.

The following highlights the procedures and treatments that should be repeated annually until the permanent structure of the tree has been established. More detail is provided in Appendix B – *Young Tree Management Recommendations* (see Exhibits).

At the time of planting (year 1), prune the tree to:

- Select a central leader and remove or subordinate competing leaders.
- Remove broken, diseased, dying or dead branches.

Annually for the following 2-3 years, prune the tree to:

- Select a central leader and remove or subordinate competing leaders.
- Select the lowest permanent branch.
- Select main scaffold branches above the lowest permanent branch and remove or reduce competing branches.
- Select and maintain temporary branches below the lowest permanent branch

In years 4-5, prune the tree to:

- Remove the largest, lowest temporary branches.

Timing of pruning of young trees should be coordinated to correspond with the activity of elm beetles, which are known to vector the fungus responsible for DED. Pruning should generally occur during the cool winter months of December-March and prior to leaf emergence. Sanitation of any equipment used to prune or treat trees is critical to not spreading the fungi responsible for DED. We recommend sterilization of hand saws, loppers and hand pruners with 10% bleach solution, Lysol or other known sterilizing agent.

Staking

Staking young trees helps support them as they establish and develop anchoring roots and trunk taper. It is equally important to remove stakes after 2 to 3 growing seasons. The tree should have established sufficient anchoring roots by that time to stand-up on its own.

Check the stability of the tree after 2 growing seasons by rocking it back and forth gently prior to removing the stakes. It is the force of the wind acting on the trunk that promotes trunk strength and taper development. Leaving the stakes in place for too long can hinder this development.

Recommendations

When we inspected the young trees in February 2019, the City was preparing to prune them and asked that we provide recommendations to help guide that process. The following recommendations were provided and appeared to have been carried out when we visited the site in June of 2019. **Appendix B -*Young Tree Management Recommendations*** provides recommendations for each of the young trees. Management recommendations are also provided on the attached ***Young Tree Management Map***.

- All 55 of the young trees received primary recommendations; including 29 identified for pruning to improve vertical branch spacing, 26 identified for pruning to select a central leader/subordinate competing leaders and #56 was recommended for removal.
- Thirty-six (36) received secondary recommendations, including 26 identified for pruning to improve vertical branch spacing, 6 that should have the stakes removed and 4 identified to remove temporary/low branches.
- Fourteen (14) received tertiary recommendations, including 8 identified for pruning to improve vertical branch spacing and 6 that should have the stakes removed.
- Three (3) trees received quaternary recommendations, including attempting to remove the embedded stake tie from #28, pruning to remove crossing branches on #29 and pruning to clean the crown of dead/broken branches on #30.

Elm Tunnel Management Plan

We were asked to review and comment on the draft St. Helena Elm Tunnel Management Plan (ETMP) provided to us by the City (no date or author). The ETMP provides guidelines for managing the trees within the context of their contribution to the National Historic Landmark designation of the Beringer Winery. It focuses more on the relationship, communication and responsibilities of the vested parties than it does on specific arboricultural treatments for the trees.

There are three categories of urban forest plans: master plans, management plans, and action plans. For the ETMP we recommend combining the components of these three documents into one. First, the ETMP should identify specific goals for the Elm Tunnel, then it should identify specific actions to accomplish the goals. The plan identifies the tasks, sets priorities, and identifies who will do the work, how the work will be done, and sets a deadline for completion. A well-defined plan should facilitate review to gauge and evaluate success or failure in accomplishing the goals. Best management practices for specific tasks, standards, and specifications, budget and staffing analyses should be included.

An ETMP ideally contains the framework for managing the trees from cradle to grave. It is designed to accomplish specific goals and identify who is responsible for each. Subjects the plan would cover typically include:

- near-term and long-term management goals;
- plant procurement, contract growing, nursery specifications;
- plant inspections and standards for accepting plant material;
- planting methods and standards;
- irrigation methods/volumes/timing;
- pruning methods/timing and standards;
- disease management methods/timing and standards;
- tree risk assessment, management and thresholds for action;
- wood disposal;
- shoot/sucker management;
- tree monitoring frequency, timing, procedures and record-keeping.

We recommend incorporating the following Standards (American National Standard Institute) and Best Management Practices (International Society of Arboriculture).

ANSI Z133 Safety Standards
ANSI A300 Integrated Pest Management
ANSI A300 Support Systems Standard – Part 3
ANSI A300 Tree Risk Assessment Standard a. Tree Failure – Part 9
ANSI A300 Pruning Standard – Part 1
Best Management Practices - Tree Pruning, 3rd Edition
Best Management Practices - Tree Injection
Best Management Practices – Tree Support Systems, 3rd Ed.
Best Management Practices – Tree Planting, 2nd Ed.
Best Management Practices – Tree Risk Assessment, 2nd Ed.
Best Management Practices – Tree and Shrub Fertilization, 3rd Ed.
Best Management Practices – Utility Pruning of Trees
Best Management Practices - - Integrated Pest Management, 2nd Ed.

Dutch Elm Disease Management

Dutch elm disease involves the fungi *Ophiostoma novoulmi* and *O. ulmi*, which are primarily vectored by two species of bark beetles. These beetles wound the trees as they feed on plant parts and breed under the bark, spreading fungal spores and infecting trees along the way. In addition, the disease can be spread from tree to tree through root grafts and un-sterilized equipment.

Based on communications with City staff, the current approach for managing the Dutch elm disease in the mature Beringer elms involves the following:

- Perform a foliar treatment using Xytect 2F (or similar as recommended by contractor) to the approximately 90 mature elms to help suppress elm leaf beetle. Foliar treatments have been applied in the spring, following leaf emergence.

- Perform a systemic root flare injection of Propizol® or Arbotect 20-S® (or similar as recommended by contractor) to the approximately 90 mature elms to help suppress Dutch elm disease. Systemic treatments have been applied in the spring, following leaf emergence.

In general, the City is taking the appropriate actions to manage DED in the mature Beringer elms. There are always additional actions that can be taken to improve efficacy of existing treatments, and/or introduce new treatments in an effort to improve disease control. For example, use of degree day monitoring to identify beetle development and if/when foliar treatments should be applied is the most effective approach. However, this approach requires regular monitoring of temperatures and beetle development, which may not be practical for City staff to perform.

We recommend the use of an integrated pest management (IPM) program that incorporates good cultural practices, conservation of natural enemies, regular monitoring, and the use of less-persistent insecticides, bark banding, or systemic insecticide. The City must recognize that bark beetle populations can fluctuate dramatically from year to year and all trees do not warrant treatment most years. When management is warranted, use a combination of methods, because no single action improves the health of elm trees or kills 100% of the pests.

- Monitor diseased trees and immediately remove and destroy diseased wood to reduce inoculant in environment.
- Maintain tree health to promote resistance to damage/inoculation by vectors.
- Control beetle vectors to reduce inoculant in environment.
- Apply preventive fungicides to healthy trees per label instructions to provide 1 to 3 years of systemic protection (depending on product used).
- Replace dead and infected treed with DED resistant American elm varieties.
- Sterilize all equipment used in the treatment of vectors and systemic fungicide applications. All tools and equipment must be sterilized between trees to prevent spread of the disease from infected trees to uninfected trees.

Other options for DED management include the use of mycoviruses called d-factors, which limit the reproductive ability of the fungi, or Verticillium based products, such as ‘Dutch-trig’, which can help induce the trees natural resistance to DED.

Trenching between symptomatic elms and adjacent asymptomatic elms is used to help prevent disease movement between trees through root grafts. While this method may be effective at limiting disease movement via roots, it also damages the trees by creating wounds and removing roots. In general, we do not recommend trenching between the Beringer elms as a means to limit disease movement as the risk associated with the damage is too great.

Long-Range Planning

Plant Procurement

The City has struggled to procure DED resistant cultivars of American elm to use as replacements within the Berniger elm tunnel. One alternative for the City to consider would be to have the replacement trees contract grown. This is an attractive option that would provide the City with a reliable source of high-quality plant material and greater control over the process.

Contract growing involves establishing a relationship with a grower and getting a contract in place with sufficient lead time for the grower to procure, plant and grow the trees to the desired size. In researching the possibility of contract growing the trees, we contacted Dr. Larry Costello. Dr. Costello previously worked with the City on the Beringer elms and is now operating the Oracle Oak Nursery in Hopland California.

Based on discussions with Dr. Costello, he indicated he does grow DED-resistant elms, which he purchase as bareroot stock from Oregon. Depending on the cultivar and size at planting, it will take 1-2 years for the new trees to be ready for sale. He indicated he currently has the 'Emerald Sunshine' (*U. propinqua*) cultivar available at a unit cost of $185 for a 24-inch box, plus delivery.

Dr. Costello said he would need the following information to provide a quote:

- Species and cultivar
- Stock size (15 gallon or 24" box)
- Delivery date and location

Successional Planning

In thinking about how to best manage the mature trees to reduce risk and provide the best growing conditions for the young trees, it behooves the City to consider the removal of small groups of the highest risk trees and/or those in poor condition to create gaps in the canopy that will provide the young trees with more light and resources. This in turn will help the young trees establish more quickly and with better form and structure.

For example, removal of groups such as #3 and 4, 16 and 17, 50 and 52, 67-71, 99-101, 103 and 104, and 109-113 would all create opportunities for planting new trees as well as improve growing conditions for the adjacent young trees.

Summary

A total of 144 trees were assessed, including 88 mature trees and 56 young trees. Mature trees were part of the original Beringer Brother plantings and young trees included 3 generations of replacement trees planted by the City between 2012 and 2016.

Eighty-four (84) of the mature American elm trees remain. Fifty-seven (57) of the mature elms were in fair condition (65%), 24 (27%) were in poor, 3 were in good and 4 were dead (see ***Tree Condition Map***). Common defects seen in the mature elms included trunk wounds, cavities, wood decay and hollow sounding trunks when struck with a mallet (**Table 3**, page 3).

In addition, 61 of the mature elms had minor branch dieback consistent with DED, 18 had moderate flagging and 5 trees had significant flagging, including elms #16, 17, 35, 112 and 113. Flagging, or dieback of branches in the crown, is a visual indicator of the presence and development of Dutch elm disease.

Fifty-five (55) of the young American elm trees remain. Fifty (50) of the young trees were in excellent condition (rated a 5), 4 were in good condition (rated a 4) and #56 was in fair condition (see ***Tree Condition Map***). Common defects seen in the young trees included multiple stems arising from one point on the trunk, branches emerging low on the trunk and/or close vertical spacing between branches.
In addition, a couple of the young trees had portions of old stake ties embedded between stems, several had been planted in wire baskets and 11 second and third generation trees, were still staked.

All 84 of the mature elm trees were rated for risk associated with a primary defect and 73 were rated for risk associated with a secondary defect (see **Appendix A –Summary of *Tree Risk Ratings***).

Risk ratings for primary defects identified were low for 22 trees, moderate for 53 trees and high for 9 trees. Risk ratings for the secondary defects identified were low for 52 trees and moderate for 21 trees (**Figures 1 and 2**, pages 9 and 10).

Risk abatement recommendations included primary and secondary management actions, as well as advanced assessments. Primary management recommendations are the starting point for the City's management of the mature Beringer elms. Secondary management recommendations and recommendations for advanced assessments were provided for some of the trees we recommended the City 'consider the removal', in case these trees are not removed.

Primary recommendations included pruning for 29 trees to reduce branch weight and extension, 7 trees to reduce tree height and branch extension, and 3 trees to clean the crowns of dead, broken and diseased branches (**Table 4**, page 11). Removal was recommended for 7 trees, stem removal for 4 trees and decay detection for tree #41. We recommended the City 'consider removal' for 20 trees. These were primarily in poor condition or with poor form and structure.

Secondary management recommendation were provided for 9 of the trees we recommended the City to 'consider for removal'. Secondary management recommendations included pruning for 4 trees to reduce branch weight and extension, 3 trees to clean the crowns of dead, broken and diseased branches and 2 trees to reduce tree height and branch extension (**Table 5**, page 13).

Advanced assessments were recommended for those trees where defects were identified that could not be adequately assessed and were primarily for trees where decay was identified through sounding with the mallet and/or probing with the metal rod. Advanced assessments were recommended for 30 trees and included decay detection for 10 trees, aerial inspection and possible decay detection for 5 trees and decay detection for 15 of the trees recommended to 'consider for removal', in case the City chooses not to remove them (**Table 6**, page 14).

We reviewed and commented on the maintenance practices for the young trees, including planting, irrigation, pruning and staking. In addition we provided pruning recommendations for the 55 young trees based on our February 2019 inspection, which appeared to have been carried out when we visited the site in June (**Appendix B -*Young Tree Management*** Recommendations). Management recommendations including pruning to improve vertical branch spacing, select a central leader/subordinate competing leaders, remove temporary/low branches and remove crossing branches, to remove stakes, to remove embedded stake ties and for tree removal.

We also provided a review and comments on the draft St. Helena Elm Tunnel Management Plan (page 17) and Dutch elm disease management (page 18). In general, the ETMP provides the historic context for the trees and their contribution to the National Historic Landmark designation of the Beringer Winery. Ideally, an ETMP ideally contains the framework for managing the trees from cradle to grave, including specific goals, priorities, actions, thresholds, best management practices and industry standards.

In general, the City is taking the appropriate actions to manage DED in the mature Beringer elms. New or additional actions that may improve control must be weighed against the time, money and effort to implement. We recommend the use of an integrated pest management (IPM) program, incorporating good cultural practices, conservation of natural enemies, regular monitoring, and the use of less-persistent insecticides, bark banding, or systemic insecticide.
Other options for DED management include the use of mycoviruses or Verticillium based products, such as 'Dutch-trig'. We do not recommend trenching between symptomatic elms and adjacent asymptomatic elms as a means to limit disease movement as the risk associated with the root loss and damage is too great.

Contract growing of DED resistant cultivars of American elm is an attractive option that would provide the City with a reliable source for replacement trees and greater control over the process. Based on discussions with a local nursery, DED-resistant elms can be grown with a 1-2 year lead-time. One suggested alternative to the 'Accolad' and 'Frontier' varieties the City has planted in the past is the 'Emerald Sunshine' (*U. propinqua*) cultivar.

Finally, we recommend the City consider the removal of small groups of the highest risk trees and/or those in poor condition to create gaps in the canopy that will provide young trees with more light and resources, help them establish more quickly and with better form and structure.

Please feel free to contact me with any questions regarding my observations or recommendations.

Sincerely,

John Leffingwell
Board Certified Master Arborist WE #3966B
Registered Consulting Arborist #442

Exhibits

Tree Assessment Forms

Tree Inventory Map

Tree Condition Map

Mature Tree Management Map

Advanced Assessment Recommendations Map

Young Tree Management Map

Appendix A: Summary of Risk Ratings

Appendix B: Young Tree Management Recommendations

Tree Assessment

Berringer Brother Elm Tunnel
Saint Helena, California
May and June 2019

HORT SCIENCE
BARTLETT CONSULTING

TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
1	American elm	Original	34	3	Minor	Multiple attachments at 15'; cavity at 5' & 15'; proved lower cavity to 20"; one sided NE. to trail; heavy /low laterals NE.
2	American elm	Original	26	3	Minor	Codominant trunks at 7'; 22" stem upright, 26" stem bowed over Hwy. 29 reduced; basal wpunds; lower trunk sounds hollow; heavy lateral NE.
3	American elm	Original	28	2	Moderate	Codominant trunks at 15'; 14" stem upright with decay at attachment; 8" dead stem extends over Hwy. 29 but reduced; cavities @ 8' SW.; lower trunk sounds hollow.
4	American elm	Original	32	3	Moderate	Codominant trunks at 5' & 15'; 16" stems upright with decay;
5	American elm	Second	1	0	--	Hit by car as of 6/19.
6	American elm	Second	1	5	--	Good form; low branch E.
7	American elm	Original	29	4	Minor	Codominant trunks at 6' & 10'; 10" & 18" stems upright with decay; 16" stem extends over Hwy. 29 but reduced; large basal wound S.
8	American elm	Original	25	2	Moderate	Codominant trunks at 7' & 10'; 18" stem upright and topped at 16'; small branches extend over Hwy. 29; basal cavity SW. probed to 2'; lower trunk sounds hollow.
9	American elm	First	2	5	--	Multiple attachments in upper crown: upright form.
10	American elm	First	2	5	--	Good, uupright form.
11	American elm	Second	2	5	--	Good, uupright form; still staked.
12	American elm	Original	31	0	--	Removed.
13	American elm	Original	28	3	Moderate	Codominant trunks at 6'; 18" stem upright; 12" stem extends over trail but reduced; old cavity @ 4' E.; lower trunk sounds hollow.
14	American elm	Original	29	3	Minor	Codominant trunks at 5'; 18" stem upright; 15" stem extends
15	American elm	Third	1	5	--	Good form; planted in basket.

Tree Assessment

Berringer Brother Elm Tunnel
Saint Helena, California
May and June 2019

HORT SCIENCE
BARTLETT CONSULTING

TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
16	American elm	Original	28	2	Sinificant	Codominant trunks at 7'; 16" stem w/slight lean to Hwy. 29 bit topped at 30'; 12" stem extends over trail; cavity @ 6' E. w/ hollow sounds below; dieback/flagging.
17	American elm	Original	28	2	Sinificant	Codominant trunks at 7'; 12" stem extends to Hwy. 29 but
18	American elm	Second	1	5	--	Good form; low branches.
19	American elm	First	2	5	--	Multiple attachments in upper crown: upright form.
20	American elm	First	3	5	--	Multiple attachments at 10': upright form; low branches.
21	American elm	First	3	5	--	Codominant trunks at 7': upright form; twig dieback.
22	American elm	First	4	5	--	Low branches; upright form; twig dieback.
23	American elm	Second	3	5	--	Upright form.
24	American elm	Second	3	5	--	Upright form; low branches.
25	American elm	Third	1	5	--	Upright form.
26	American elm	First	5	5	--	Codominant trunks at 8'; low branches.
27	American elm	Third	1	5	--	Upright form.
28	American elm	First	3	5	--	Codominant trunks at 10'; low branches; embedded stake tie.
29	American elm	First	5	4	--	Multiple attachments at 6'; low branches; trunk wound; crossing branches; embedded stake tie.
30	American elm	First	4	4	--	Multiple attachments at 5'; low branches; trunk wound; dieback in upper crown.
31	American elm	Third	1	5	--	Upright form.
32	American elm	Third	1	5	--	Upright form.
33	American elm	Original	21	0	--	Removed.
34	American elm	Original	24	0	--	Removed.

Tree Assessment

Berringer Brother Elm Tunnel
Saint Helena, California
May and June 2019

HORT SCIENCE
BARTLETT CONSULTING

TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
35	American elm	Original	24	2	Sinificant	Codominant trunks at 7' & 15'; 16" stem w/slight lean to Hwy. 29; 8" & 12" stems extends over trail; basal cavity E.; dieback/flagging.
36	American elm	Original	22	3	Minor	Multiple attachments at 7'; 6" branch extends slightly over Hwy. 29; 18' stem upright; smaller stems extend over trail; basal cavity SW.. w/ hollow sounds around; dieback.
37	American elm	Original	24	3	Minor	Multiple attachments at 8'; small dead branches extend over Hwy. 29; 15' stem upright; smaller stems extend over trail but reduced; basal cavity SW.. w/ hollow sounds around; dieback.
38	American elm	Original	24	3	Minor	Codominant trunks at 7'; 6" branch extends slightly over Hwy. 29; 16' stem upright; 14" stem extends over trail; dieback.
39	American elm	Original	23	3	Minor	Codominant trunks at 7'; 14" stem extends slightly over Hwy. 29; 14' stem & 6" branch extend over trail; basal cavity SW.; dieback.
40	American elm	Original	26	4	Minor	Codminant trunks at 15'; upright, narrow form; small branches extend over Hwy. 29; 10" stem extends to trail; dieback.
41	American elm	Original	27	3	Minor	Codominant trunks at 7'; one sided NE. to trail; wounds & decay in attachment; dieback.
42	American elm	Original	27	2	Moderate	Multiple attachments at 8'; 8" stem extends over Hwy. 29 reduced; 18" & 10" stems upright; smaller stems extend over trail; basal cavity N.; lower trunk sounds hollow; dieback.

Tree Assessment

Berringer Brother Elm Tunnel
Saint Helena, California
May and June 2019

HORT SCIENCE
BARTLETT CONSULTING

TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
43	American elm	Original	28	3	Minor	Codominant trunks at 7'; 18" stem upright w/ 8" branch over Hwy. 29; 18' stem bowed over trail; basal cavity W.. probed to 18"; hollow sounds around cavity; dieback.
44	American elm	Third	1	5	--	Upright form.
45	American elm	Original	26	3	Minor	One sided NE. to trail; 8" branch extends slightly to Hwy. 29; 14" & 8" stems extend over trail; epicormics & dieback.
46	American elm	Original	24	3	Minor	Multiple attachments at 8'; 12" & 10" stems extend over Hwy. 29 but reduced; 16" stem upright; dieback.
47	American elm	Second	2	5	--	Multiple attachments at 10'; upright form; low branch S.
48	American elm	Third	1	5	--	Upright form.
49	American elm	Original	24	0	--	Removed.
50	American elm	Original	28	2	Minor	Codominant trunks at 7'; 18" stem upright; 20" stem bowed NE. over trail; basal wound SW.; mostly epicormics.
51	American elm	Third	1	5	--	Upright form; planted in wire basket.
52	American elm	Original	22	2	Moderate	Multiple attachments at 10'; dead top over Hwy. 29; 3 stems 8-12" extend over trail.
53	American elm	Third	1	5	--	Upright form; planted in wire basket.
54	American elm	Original	27	2	Moderate	Multiple attachments at 10'; dead top over Hwy. 29; 14" stem extends over trail; trunk wounds.
55	American elm	Third	1	5	--	Multiple attachments at 10'; upright form; planted in wire basket; still staked.
56	American elm	First	3,2,2,2	3	--	Multiple attachments at base; central leader dead.
57	American elm	Third	2	5	--	Upright form; planted in wire basket.
58	American elm	Third	1	5	--	Upright form; planted in wire basket.

TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
59	American elm	Original	23	3	Minor	Multiple attachments at 18'; stems over Hwy. 29 topped; small dead branches extend over trail; basal cavity SW.; lower trunk sounds hollow around cavity.
60	American elm	Original	24	2	Moderate	Multiple attachments at 10'; stems over Hwy. 29 topped; 10" & 12" stems extend over trail; old basal cavity SW.; lower trunk sounds hollow around cavity.
61	American elm	Original	21	3	Minor	Codominant trunks at 8'; 18" stem leans slightly over Hwy. 29; 10"'stem & small branches extend over trail; old basal cavity SW.; lower trunk sounds hollow around cavity.
62	American elm	Original	25	3	Minor	Multiple attachments at 8'; one sided NE.; small branches over Hwy. 29; 3 stems 10"-14" extend over trail; dieback.
63	American elm	Original	23	3	Minor	Codominant trunks at 8'; small branches extend over Hwy. 29; 8" & 12" stems extend over trail; old basal cavity W.
64	American elm	Original	25	3	Minor	Multiple attachments at 10'; 12" stem over Hwy. 29; 10" & 20" stems & dead branches extend over trail; trunk wound & basal cavity SW.; lower trunk sounds hollow around cavity.
65	American elm	Original	22	3	Minor	Multiple attachments at 18'; stems over Hwy. 29 reduced; 3 8" stems & small dead branches extend over trail; dieback.
66	American elm	Original	22	3	Minor	Multiple attachments at 18'; stems over Hwy. 29 topped; small stems & branches extend over trail; old basal cavity SW.
67	American elm	Original	22	2	Minor	Topped at 25'-30'; small crown; basal wound SW.; lower trunk sounds hollow; little extends over Hwy. 29 or trail.

TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
68	American elm	Original	20	2	Minor	Topped at 25'-30'; small crown; basal wound SW.; lower trunk sounds hollow; little extends over Hwy. 29 or trail.
69	American elm	Original	24	2	Minor	Topped at 30'; 8" branch over Hwy. 29; 6"-10" branches over trail reduced; basal cavity SW.; lower trunk sounds hollow around cavity.
70	American elm	Original	21	2	Minor	Topped at 20'; small branches over Hwy. 29; 10" stem over trail reduced; large trunk wound W.
71	American elm	Original	22	2	Minor	Codominant trunks at 8'; crown reduced; little over Hwy. 29; 2 7" stems over trail; dead branches.
72	American elm	Second	3	5	--	Multiple attachments at 10'; upright form.
73	American elm	First	4,4	4	--	Codominant trunks at base; narrow attachment; upright form.
74	American elm	Second	2,1	5	--	Multiple attachments at base/low branching; upright form.
75	American elm	Third	1	5	--	Upright form.
76	American elm	Second	3	5	--	Multiple attachments at 7'; upright form.
77	American elm	Second	2	5	--	Upright form.
78	American elm	Second	2	5	--	Upright form.
79	American elm	Third	1	5	--	Multiple attachments in upper crown; upright form; still staked.
80	American elm	Original	28	3	Minor	Multiple attachments at 10'; topped for overhead utilities; 14" stem extends over Hwy. 29.
81	American elm	Original	28	3	Minor	Codominant trunks at 10'; topped for overhead utilities; 84" stem extends over Hwy. 29; 18" stem forms heavy lateral SW. over orchard.

Tree Assessment

Berringer Brother Elm Tunnel
Saint Helena, California
May and June 2019

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TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
82	American elm	Original	27	3	Minor	Multiple attachments at 10'; topped for overhead utilities; 8" stem extends over Hwy. 29 but reduced; 2 12" stems form heavy laterals SW. over orchard; trunk wound NE.
83	American elm	Third	1	5	--	Upright form.
84	American elm	Original	26	3	Minor	Multiple attachments at 8'; topped for overhead utilities; 10" stem extends over Hwy. 29 but reduced 18" stem extends SW. over orchard.
85	American elm	Original	28	2	Moderate	Multiple attachments at 12'; topped for overhead utilities; 2 12" stems extendsover Hwy. 29 but reduced; 12" stem extends SW. over orchard.
86	American elm	Third	1	5	--	Upright form; still staked.
87	American elm	Second	3	4	--	Codominant trunks at 4'. .
88	American elm	Second	2	5	--	Codominant trunks at 8'; upright form.
89	American elm	Second	2	5	--	Multiple attachments at 10'; upright form.
90	American elm	Third	1	5	--	Upright form; still staked.
91	American elm	Second	3	5	--	Multiple attachments at 6'; upright form; basal swelling.
92	American elm	Original	31	3	Minor	Multiple attachments w10'; topped for overhead utilities; heavy laterals NW. & W.; trunk wound & small cavity N.; dieback.
93	American elm	Original	34	3	Minor	Multiple attachments at 10'; topped for overhead utilities; heavy lateral SW.; stem over Hwy. 29 reduced; basal cavity w/ decay NW.
94	American elm	Original	28	3	Minor	Multiple attachments at 10'; narrow form; topped for overhead utilities; heavy lateral SW.

TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
95	American elm	Original	30	3	Minor	Multiple attachments at 8'; topped for overhead utilities; heavy lateral SW.; lower stem SW. reduced but has wound & decay in upper side.
96	American elm	Third	1	5	--	Multiple attachments at 10'; upright form; still staked.
97	American elm	Third	1	5	--	Multiple attachments in upper crown; upright form; still staked.
98	American elm	Third	1	5	--	Upright form; still staked.
99	American elm	Original	33	2	Minor	Multiple attachments at 10'; decay column W. just below attachments; topped for overhead utilities; majority of crown NE. over Hwy. 29.
100	American elm	Original	32	3	Minor	Multiple attachments at 10'; basal wound & decay NE.; topped for overhead utilities; lateral SW. wounded & decayed on upper side; dieback.
101	American elm	Original	30	3	Minor	Codominant trunks at 8'; upper portion of W. stem dead & decayed ; wound & decay at attachment of W. stem; topped for overhead utilities.
102	American elm	Third	1	5	--	Multiple attachments in upper crown; tpright form; still staked.
103	American elm	Original	33	2	Minor	Decay column E. from ground to 7'; topped for overhead utilities; one stem SW reduced, other not reduced.
104	American elm	Original	31	2	Minor	Large decay column N. from ground to 30' on central leader; topped for overhead utilities; cavities at 7' E. & S.
105	American elm	Original	31	3	Moderate	I'll be sided W.; large basal wound E.; topped for overhead utilities; moderate dieback to 8" E.

TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
106	American elm	Original	27	3	Moderate	Codominant trunks at 8'; small cavity E. below attachments; topped for overhead utilities; W. stem mostly dead.
107	American elm	Original	31	3	Minor	Codominant trunks at 8' & 12'; basal wound E.; W. stem forms heavy lateral; topped for overhead utilities; dieback in upper crown.
108	American elm	Original	34	3	Minor	Multiple attachments at 10'; one sided w/ heavy lateral W.; stems E. reduced; topped for overhead utilities; moderate dieback.
109	American elm	Original	26	2	Moderate	Codominant trunks at 15'; one sided W./stems E. removed; cavities @ base & 7' form decay column E.; topped for overhead utilities; moderate dieback.
110	American elm	Original	33	3	Minor	One sided W.; stems removed E.; large basal wound E.; two stems W. form heavy laterals; topped for overhead utilities; moderate dieback.
111	American elm	Original	28	3	Moderate	Multiple attachments at 10'; one sided W. but reduced; cavity & decay in attachment; topped for overhead utilities; moderate dieback in upper crown.
112	American elm	Original	30	2	Sinificant	Multiple attachments at 8'; centeal leader dead; large basal wound & decay E.; topped for overhead utilities; moderate flagging throughout crown.
113	American elm	Original	30	1	Sinificant	Multiple attachments at 8'; one dead 8" branch E.; crown mostly small epicormics; topped for overhead utilities; extensive dieback.
114	American elm	Third	1	5	--	Upright form; still staked.
115	American elm	Second	2,2	5	--	Codominant trunks at base; upright form.

Tree Assessment

Berringer Brother Elm Tunnel
Saint Helena, California
May and June 2019

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TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
116	American elm	Second	3	5	--	Codominant trunks at 8'; upright form.
117	American elm	Second	3	5	--	Codominant trunks at 5'; upright form; low branching.
118	American elm	First	5	5	--	Multiple attachments at 10'; upright form; low branching.
119	American elm	Third	1	5	--	Codominant trunks at 10'; upright form.
120	American elm	Third	1	5	--	Slight lean W.; still staked.
121	American elm	Original	27	4	Minor	Multiple attachments at 12'; topped for overhead utilities; laterals E. & W.
122	American elm	Original	23	3	Minor	Codominant trunks at 10'; one sided E.; topped for overhead utilities.
123	American elm	Original	20	3	Minor	Small crown; topped for overhead utilities; laterals E. & W. reduced.
124	American elm	Original	20	3	Minor	Codominant trunks at 15'; one sided E.; stem E. reduced; topped for overhead utilities.
125	American elm	Original	22	3	Minor	Codominant trunks at 12'; one sided E.; stem E. reduced; topped for overhead utilities.
126	American elm	Original	22	3	Minor	Codominant trunk at 10' forms heavy lateral E,; cavity at 6' probed to 2' above & 1' below; topped for overhead utilities.
127	American elm	Original	24	3	Minor	Codominant trunks at 15'; stems W. reduced; topped for overhead utilities.
128	American elm	Original	24	3	Minor	Codominant trunks at 12'; topped for overhead utilities.; long lateral E. over Hwy. 29.
129	American elm	Original	27	3	Minor	Slight lean E.; topped for overhead utilities; laterals E. over Hwy. 29.
130	American elm	Original	31	3	Moderate	Codominant trunks at 10'; topped for overhead utilities; long lateral E. over Hwy. 29.

TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
131	American elm	Original	25	2	Minor	Codominant trunks at 18'; cavity & decay at 3' W. probed 3' above & below; topped for overhead utilities; laterals E. over Hwy. 29.
132	American elm	Original	27	3	Minor	Codominant trunks at 7'; topped for overhead utilities; one stem forms long lateral E. over Hwy. 29; recent branch failure W.
133	American elm	Original	26	3	Minor	Codominant trunks at 15'; slight lean E.; topped for overhead utilities; one stem forms long lateral E. over Hwy. 29.
134	American elm	Original	29	3	Minor	Multiple attachments at 20'; topped for overhead utilities; history of branch failures; decay in wounds from failures.
135	American elm	Original	26	3	Minor	Cavity & decay at 15' W.; majority of weight W.; topped for overhead utilities; lateral E. over Hwy. 29.
136	American elm	Original	25	3	Moderate	Codominant trunks at 12' & 15'; hanger & cracked branch W.; topped for overhead utilities; burl at 15' E.
137	American elm	Original	25	3	Minor	Codominant trunks at 8'; majority of weight SW.; topped for overhead utilities; branch tear out W. @ 15'.
138	American elm	Original	33	3	Minor	Multiple attachments at 12'; stem/branch failures & wounds E.; majority of weight W.; topped for overhead utilities.
139	American elm	Original	25	3	Minor	Very one sided w/ heavy laterals W.; topped for overhead utilities.
140	American elm	Original	28	3	Minor	Codominant trunks at 10'; small hanger & dead wood E.; topped for overhead utilities.

TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
141	American elm	Original	29	3	Moderate	Codominant trunks at 18'; cavity at 20' W.; history of branch failures at 30' W.; topped for overhead utilities; large trunk wound S.
142	American elm	Original	34	3	Moderate	Codominant trunks at 10'; one stem forms heavy lateral W../one sided W.; topped for overhead utilities.
143	American elm	Original	35	2	Minor	One sided E.; topped for overhead utilities; large basal wound/cavity SE.; smaller cavities at 5' & 10' S.; lower trunk sounds hollow.
144	American elm	Original	36	3	Moderate	Codominant trunks at 12'; topped for overhead utilities; broken branch E.; hard to see structure through epicormics.

Tree Inventory Map

Beringer Elm Tunnel
St. Helena, CA

Prepared for:
City of St. Helena
September 2019

Notes:
1. Tree locations are approximate.

2. Aerial photo provided by ESRI.

Legend
Trees

N

80 Feet

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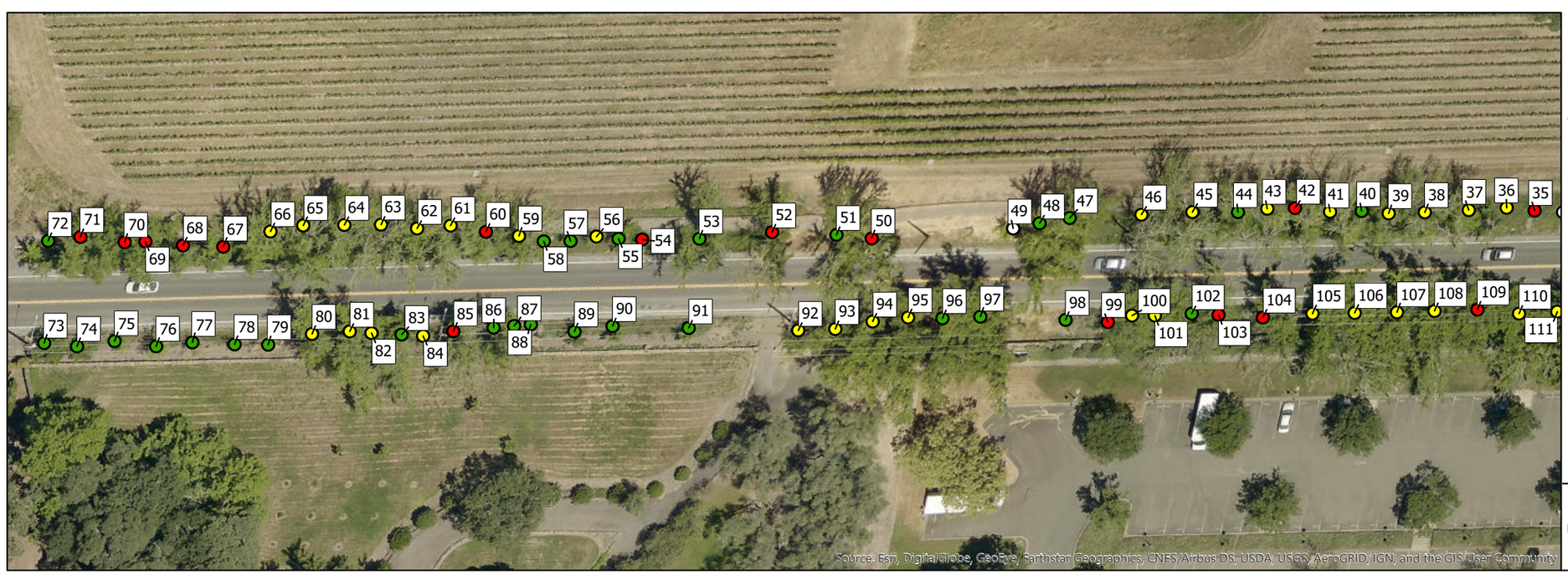
Divisions of The F.A. Bartlett Tree Expert Company

325 Ray Street
Pleasanton, CA 94566
925-484-0211

Tree Condition Map

Beringer Elm Tunnel
St. Helena, CA

Prepared for:
City of St. Helena
September 2019



Tree Condition
- Dead
- Poor
- Fair
- Good

N

80 Feet

Notes:
1. Tree locations are approximate.
2. Aerial photo provided by ESRI.
3. Color represents tree condition.

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325 Ray Street
Pleasanton, CA 94566
925-484-0211

Mature Tree Management

Beringer Elm Tunnel
St. Helena, CA

Prepared for:
City of St. Helena
September 2019

Notes:
1. Tree locations are approximate.

2. Aerial photo provided by ESRI.

3. Color represents management recommendations for mature trees.

Primary Management Recommendations
- Consider for removal
- Remove
- Prune

N

80 Feet

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925-484-0211

Advanced Tree Assessment

Beringer Elm Tunnel
St. Helena, CA

Prepared for:
City of St. Helena
September 2019

Notes:
1. Tree locations are approximate.

2. Aerial photo provided by ESRI.

3. Color represents management recommendations for advanced assessment.

Advanced Assessment
- Aerial Inspect and Decay Detection
- Decay Detection

N

80 Feet

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925-484-0211

Young Tree Management

Beringer Elm Tunnel
St. Helena, CA

Prepared for:
City of St. Helena
September 2019

Primary Management Recommendations
- Prune for branch spacing
- Remove
- Prune for central leader

N

80 Feet

Notes:
1. Tree locations are approximate.

2. Aerial photo provided by ESRI.

3. Color represents management recommendations for recently planted trees.

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325 Ray Street
Pleasanton, CA 94566
925-484-0211

Appendix A - Summary of Tree Risk Ratings
Beringer Elms - St. Halena, CA

Tree #	Tree Condition			Defect 1 Risk Assessment					Defect 2 Risk Assessment					Advanced assessment recs	Management comments
	Species	Trunk diameter (inches)	Condition rating 1=poor; 5=excellent	Tree part likely to fail	Targets	Risk rating	Mitigation option	Residual risk	Tree part likely to fail	Targets	Risk rating	Mitigation option	Residual risk		
1	American elm	34	3	Stem	Trail	Moderate	Aerial inspect cavity @ 15'	Moderate	Scaffold branch	Trail	Moderate	Prune to reduce weight/ext.	Low	Aerial insp. & decay detect.	Prune to reduce weight/ext.
2	American elm	26	3	Whole tree	Primary road	Moderate	Test lower trunk for decay	Moderate	Stem	Hwy. 29	Moderate	None	Moderate	Decay detect. If not removed	Consider for removal
3	American elm	28	2	Whole tree	Hwy. 29	Moderate	Test lower trunk for decay or remove tree	None	Scaffold branch	Hwy. 29	Low	Prune to remove dead 8" stem	Low	Aerial insp. & decay detect. If not removed	Consider for removal
4	American elm	32	3	Stem	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Stem	Trail	Moderate	Prune to reduce weight/ext./inspect decay	Low	--	Prune to reduce weight/ext.
7	American elm	29	4	Stem	Hwy. 29	Moderate	Prune to remove 16" stem	Low	Stem	Trail	Moderate	Prune to reduce weight/ext./inspect decay	Low	--	Prune to remove 16" stem
8	American elm	25	2	Whole tree	Trail	Low	Remove tree	None	Stem	Trail	Low	Prune to reduce weight/ext.	Low	Decay detect. If not removed	Consider for removal
12	American elm	31	0											--	Removed as of 6/19
13	American elm	28	3	Whole tree	Trail	Low	Test lower trunk for decay	Moderate	Stem	Trail	Low	Prune to remove part	Low	Consider decay detection	None
14	American elm	29	3	Whole tree	Trail	Low	None	Low	Stem	Trail	Low	None	Low	Consider decay detection	None
16	American elm	28	2	Whole tree	Hwy. 29	Moderate	Remove tree	None	Stem	Trail	Moderate	Prune to reduce weight/ext.	Low	Decay detect. If not removed	**Remove tree**
17	American elm	28	2	Stem	Hwy. 29	Moderate	Remove tree	None	Scaffold branch	Trail	Low	None	Low	--	**Remove tree**
33	American elm	21	0											--	Removed as of 6/19
34	American elm	24	0											--	Removed as of 6/19
35	American elm	24	2	Dead branch	Hwy. 29	Moderate	Prune to crown clean	Low	Stem	Trail	Low	Prune to reduce weight/ext. & crown clean	Low	--	Consider for removal
36	American elm	22	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Stem	Trail	Low	None	Low	--	Prune to reduce weight/ext.
37	American elm	24	3	Dead branch	Hwy 29	Moderate	Prune to crown clean	Low	Stem	Trail	Low	None	Low	--	Prune to crown clean
38	American elm	24	3	Scaffold branch	Hwy. 29	Low	None	Low	Scaffold branch	Trail	Moderate	Prune to reduce weight/ext.	Low	--	None
39	American elm	23	3	Stem	Hwy. 29	Moderate	Prune to reduce height/extension	Low	Scaffold branch	Trail	Low	None	Low	--	Prune to reduce height/extens

Appendix A - Summary of Tree Risk Ratings
Beringer Elms - St. Halena, CA

Tree #	Tree Condition			Defect 1 Risk Assessment					Defect 2 Risk Assessment					Advanced assessment recs	Management comments
	Species	Trunk diameter (inches)	Condition rating 1=poor; 5=excellent	Tree part likely to fail	Targets	Risk rating	Mitigation option	Residual risk	Tree part likely to fail	Targets	Risk rating	Mitigation option	Residual risk		
40	American elm	26	4	Stem	Hwy. 29	Moderate	Prune to reduce height/extension	Low	Stem	Trail	Low	None	Low	--	Prune to reduce height/extens
41	American elm	27	3	Stem	Trail	Moderate	Test decay in attachment & prune to reduce weight/ext.	Moderate	--	--	--	--	--	Aerial insp. & decay detect.	Test decay in attachment & pr
42	American elm	27	2	Stem	Hwy. 29	Moderate	Prune to remove part	Low	Whole tree	Trail	Low	None	Low	Consider decay detection	Prune to remove 8” stem
43	American elm	28	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce height/extension	Low	Stem	Trail	Moderate	Prune to reduce weight/ext.	Low	Consider decay detection	Prune to reduce height/extens
45	American elm	26	3	Stem	Trail	Moderate	Prune to reduce weight/ext.	Low						--	Prune to reduce weight/ext.
46	American elm	24	3	Stem	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Scaffold branch	Trail	Low	None	Low	--	Prune to reduce weight/ext.
49	American elm	24	0											--	Removed as of 6/19
50	American elm	28	2	Scaffold branch	Hwy. 29	Low	None	Low	Scaffold branch	Trail	Moderate	Prune to reduce weight/ext.	Low	--	Consider for removal
52	American elm	22	2	Dead branch	Hwy. 29	Moderate	Prune to crown clean	Low	Stem	Trail	Moderate	Prune to reduce weight/ext.	Low	--	Consider for removal
54	American elm	27	2	Dead branch	Hwy. 29	Moderate	Prune to crown clean	Low	Stem	Trail	Low	Prune to reduce weight/ext.	Low	--	Consider for removal
59	American elm	23	3	Dead branch	Trail	Moderate	Prune to crown clean & reduce weight/ext.	Low	Whole tree	Hwy. 29	Moderate	Decay detection or remove tree	Moderate	Consider decay detection	Prune to crown clean & reduc
60	American elm	24	2	Stem	Trail	Low	Prune to reduce weight/ext.	Low	--	--	--	--	--	Consider decay detection	None
61	American elm	21	3	Scaffold branch	Hwy. 29	Low	None	Low	Stem	Trail	Low	None	Low	Consider decay detection	None
62	American elm	25	3	Stem	Trail	Low	Prune to reduce weight/ext.	Low	--	--	--	--	--	--	None
63	American elm	23	3	Scaffold branch	Hwy. 29	Low	None	Low	Stem	Trail	Low	Prune to reduce weight/ext.	Low	--	None
64	American elm	25	3	Stem	Hwy. 29	Moderate	Prune to reduce height/extension	Low	Dead branch	Trail	Moderate	Prune to reduce weight/ext. & crown clean	Low	Consider decay detection	Prune to reduce height/extens

Appendix A - Summary of Tree Risk Ratings
Beringer Elms - St. Halena, CA

Tree #	Tree Condition			Defect 1 Risk Assessment					Defect 2 Risk Assessment					Advanced assessment recs	Management comments
	Species	Trunk diameter (inches)	Condition rating 1=poor; 5=excellent	Tree part likely to fail	Targets	Risk rating	Mitigation option	Residual risk	Tree part likely to fail	Targets	Risk rating	Mitigation option	Residual risk		
65	American elm	22	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce height/extension	Low	Stem	Trail	Low	Prune to reduce weight/ext.	Low	--	Prune to reduce height/extens
66	American elm	22	3	Dead branch	Hwy. 29	Moderate	Prune to crown clean	Low	Scaffold branch	Trail	Low	None	Low	--	Prune to crown clean
67	American elm	22	2	Whole tree	Hwy. 29	Moderate	Decay detection or remove tree	Moderate	Dead branch	Trail	Moderate	Prune to crown clean	Low	Decay detect. If not removed	Consider for removal
68	American elm	20	2	Whole tree	Hwy. 29	Moderate	Decay detection or remove tree	Moderate	Scaffold branch	Trail	Low	Prune to reduce weight/ext.	Low	Decay detect. If not removed	Consider for removal
69	American elm	24	2	Scaffold branch	Hwy. 29	Low	None	Low	Stem	Trail	Low	Prune to reduce weight/ext.	Low	Decay detect. If not removed	Consider for removal
70	American elm	21	2	Stem	Trail	Low	Prune to reduce weight/ext.	Low	--	--	--	--	--	--	Consider for removal
71	American elm	22	2	Scaffold branch	Hwy. 29	Moderate	Prune to reduce height/extension	Low	Stem	Trail	Low	Prune to reduce weight/ext.	Low	--	Consider for removal
80	American elm	28	3	Stem	Hwy. 29	Moderate	Prune to reduce height/extension	Low	--	--	--	--	--	--	Prune to reduce height/extens
81	American elm	28	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Scaffold branch	Orchard	Low	Prune to reduce weight/ext.	Low	--	Prune to reduce weight/ext.
82	American elm	27	3	Stem	Hwy. 29	Low	None	Low	Scaffold branch	Orchard	Low	Prune to reduce weight/ext.	Low	--	None
84	American elm	26	3	Stem	Hwy. 29	Low	None	Low	Scaffold branch	Orchard	Low	None	Low	--	None
85	American elm	28	2	Stem	Hwy. 29	Moderate	Prune to reduce height/extension	Low	Stem	Orchard	Low	None	Low	--	Consider for removal
92	American elm	31	3	Scaffold branch	Driveway	Moderate	Prune to reduce weight/ext.	Low	Stem	Hwy. 29	Moderate	None	Moderate	Consider decay detection	Prune to reduce weight/ext.
93	American elm	34	3	Stem	Hwy. 29	Moderate	Remove stem	Low	Stem	Landscape	Low	Prune to reduce weight/ext.	Low	--	Remove 10" stem
94	American elm	28	3	Scaffold branch	Hwy. 29	High	Prune to reduce weight/ext.	Low	Scaffold branch	Landscape	Low	None	Low	--	Prune to reduce weight/ext.
95	American elm	30	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Stem	Parking	Low	Prune to reduce weight/ext.	Low	Aerial insp. & decay detect.	Prune to reduce weight/ext.
99	American elm	33	2	Stem	Hwy. 29	High	Remove tree	None	Scaffold branch	Landscape	Low	None	Low	Decay detect. If not removed	**Remove tree**

Appendix A - Summary of Tree Risk Ratings
Beringer Elms - St. Halena, CA

Tree #	Tree Condition			Defect 1 Risk Assessment					Defect 2 Risk Assessment					Advanced assessment recs	Management comments
	Species	Trunk diameter (inches)	Condition rating 1=poor; 5=excellent	Tree part likely to fail	Targets	Risk rating	Mitigation option	Residual risk	Tree part likely to fail	Targets	Risk rating	Mitigation option	Residual risk		
100	American elm	32	3	Stem	Parking	Moderate	Prune to reduce weight/ext.	Low	Whole tree	Hwy. 29	Low	None	Low	Decay detect. If not removed	Consider for removal
101	American elm	30	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Scaffold branch	Landscape	Low	None	Low	Aerial insp. & decay detect.	Prune to reduce weight/ext.
103	American elm	33	2	Stem	Hwy. 29	High	Remove tree	None	Scaffold branch	Parking	Low	Prune to reduce weight/ext.	Low	Decay detect. If not removed	**Remove tree**
104	American elm	31	2	Stem	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Stem	Parking	Moderate	Prune to reduce weight/ext.	Low	Decay detect. If not removed	Consider for removal
105	American elm	31	3	Dead branch	Parking	Low	Prune to crown clean	Low	Stem	Parking	Low	Prune to reduce weight/ext.	Low	--	None
106	American elm	27	3	Stem	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Dead branch	Parking	Moderate	Prune to crown clean	Low	--	Prune to reduce weight/ext.
107	American elm	31	3	Stem	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Stem	Parking	Moderate	Prune to reduce weight/ext.	Low	--	Prune to reduce weight/ext.
108	American elm	34	3	Stem	Hwy. 29	Low	None	Low	Stem	Parking	Moderate	Prune to reduce weight/ext.	Low	--	None
109	American elm	26	2	Scaffold branch	Hwy. 29	Low	None	Low	Stem	Landscape	Low	None	Low	Decay detect. If not removed	Consider for removal
110	American elm	33	3	Stem	Parking	Moderate	Prune to reduce weight/ext.	Low	--	--	--	--	--	--	Prune to reduce weight/ext.
111	American elm	28	3	Stem	Hwy. 29	Moderate	None	Moderate	Stem	Landscape	Low	None	Low	Aerial insp. & decay detect.	None
112	American elm	30	2	Stem	Hwy. 29	Moderate	Remove tree	None	Stem	Parking	Low	Remove tree	None	--	**Remove tree**
113	American elm	30	1	Dead branch	Hwy. 29	High	Remove tree	None	--	--	--	--	--	--	**Remove tree**
121	American elm	27	4	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Scaffold branch	Landscape	Low	None	Low	--	Prune to reduce weight/ext.
122	American elm	23	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	--	--	--	--	--	--	Prune to reduce weight/ext.
123	American elm	20	3	Scaffold branch	Hwy. 29	Low	None	Low	Stem	Landscape	Low	None	Low	--	None
124	American elm	20	3	Stem	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Scaffold branch	Landscape	Low	None	Low	--	Prune to reduce weight/ext.
125	American elm	22	3	Stem	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Scaffold branch	Landscape	Low	None	Low	--	Prune to reduce weight/ext.
126	American elm	22	3	Stem	Hwy. 29	High	Remove stem	Low	Scaffold branch	Landscape	Low	None	Low	Consider decay detection	Remove 10" stem
127	American elm	24	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Stem	Landscape	Low	None	Low	--	Prune to reduce weight/ext.
128	American elm	24	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Dead branch	Landscape	Low	None	Low	--	Prune to reduce weight/ext.

Appendix A - Summary of Tree Risk Ratings
Beringer Elms - St. Halena, CA

Tree #	Tree Condition			Defect 1 Risk Assessment					Defect 2 Risk Assessment					Advanced assessment recs	Management comments
	Species	Trunk diameter (inches)	Condition rating 1=poor; 5=excellent	Tree part likely to fail	Targets	Risk rating	Mitigation option	Residual risk	Tree part likely to fail	Targets	Risk rating	Mitigation option	Residual risk		
129	American elm	27	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Scaffold branch	Landscape	Low	None	Low	--	Prune to reduce weight/ext.
130	American elm	31	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	--	--	--	--	--	--	Prune to reduce weight/ext.
131	American elm	25	2	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Whole tree	Hwy. 29	Moderate	Remove tree	None	Decay detect. If not removed	Consider for removal
132	American elm	27	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Scaffold branch	Lawn	Low	None	Low	--	Prune to reduce weight/ext.
133	American elm	26	3	Scaffold branch	Hwy. 29	High	Prune to reduce weight/ext.	Low	Scaffold branch	Lawn	Low	None	Low	--	Prune to reduce weight/ext.
134	American elm	29	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Scaffold branch	Lawn	Low	None	Low	--	Prune to reduce weight/ext.
135	American elm	26	3	Scaffold branch	Hwy. 29	High	Prune to reduce weight/ext.	Low	Whole tree	Lawn	Low	Aerial inspection & decay detection	Low	Aerial insp. & decay detect. If not removed	Consider for removal
136	American elm	25	3	Scaffold branch	Hwy. 29	Low	None	Low	Dead branch	Lawn	Moderate	Prune to remove parts	Low	--	None
137	American elm	25	3	Scaffold branch	Hwy. 29	Low	None	Low	Stem	Lawn	Low	None	Low	--	None
138	American elm	33	3	Scaffold branch	Hwy. 29	High	Prune to reduce weight/ext.	Low	Scaffold branch	Lawn	Low	None	Low	--	Prune to reduce weight/ext.
139	American elm	25	3	Stem	Lawn	Low	Prune to reduce weight/ext.	Low	--	--	--	--	--	--	Consider for removal
140	American elm	28	3	Hanger/dead branch	Hwy. 29	Moderate	Prune to remove part & reduce	Called City	Scaffold branch	Lawn	Low	None	Low	--	Prune to reduce weight/ext.
141	American elm	29	3	Scaffold branch	Hwy. 29	Low	None	Low	Stem	Lawn	Low	Prune to reduce weight/ext.	Low	--	Consider for removal
142	American elm	34	3	Scaffold branch	Hwy. 29	Low	None	Low	Stem	ndary road/entry	Low	Prune to reduce weight/ext.	Low	--	None
143	American elm	35	2	Whole tree	Hwy. 29	Moderate	Remove tree	None	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	None	Decay detect. If not removed	**Remove tree**
144	American elm	36	3	Scaffold branch	Hwy. 29	High	Prune to remove part	Low	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	--	Prune to reduce weight/ext.

Appendix B: Young Tree Management Recommendations

Beringer Elms, St. Halena

Tree #	Trunk diameter	Primary recommendations	Secondary recommendations	Tertiary recommendations	Quaternary recommendations
5	1	(Hit by car 6/19)	--	--	--
6	1	Prune to improve branch spacing	--	--	--
9	2	Select central leader	Prune to improve branch spacing	--	--
10	2	Prune to improve branch spacing	--	--	--
11	2	Prune to improve branch spacing	Remove stakes	--	--
15	1	Prune to improve branch spacing	--	--	--
18	1	Prune to improve branch spacing	Prune to remove low branches	--	--
19	2	Select central leader	Prune to improve branch spacing	--	--
20	3	Select central leader	Prune to improve branch spacing	Prune to remove low branches	--
21	3	Select central leader	Prune to improve branch spacing	--	--
22	4	Prune to improve branch spacing	Prune to remove low branches	--	--
23	3	Prune to improve branch spacing	--	--	--
24	3	Prune to improve branch spacing	Prune to remove low branches	--	--
25	1	Prune to improve branch spacing	--	--	--
26	5	Select central leader	Prune to improve branch spacing	Prune to remove low branches	--
27	1	Prune to improve branch spacing	--	--	--
28	3	Select central leader	Prune to improve branch spacing	Prune to remove low branches	Remove embedded stake tie
29	5	Select central leader	Prune to improve branch spacing	Prune to remove low branches	Prune to remove crossing branches
30	4	Select central leader	Prune to improve branch spacing	Prune to remove low branches	Prune tp crown clean
31	1	Prune to improve branch spacing	--	--	--
32	1	Prune to improve branch spacing	--	--	--
44	1	Prune to improve branch spacing	--	--	--
47	2	Select central leader	Prune to improve branch spacing	Prune to remove low branches	--
48	1	Prune to improve branch spacing	--	--	--
51	1	Prune to improve branch spacing	--	--	--
53	1	Prune to improve branch spacing	--	--	--
55	1	Select central leader	Prune to improve branch spacing	Remove stakes	--
56	3,2,2,2	**Remove tree**	--	--	--
57	2	Prune to improve branch spacing	--	--	--
58	1	Prune to improve branch spacing	--	--	--
72	3	Select central leader	Prune to improve branch spacing	--	--
73	4,4	Select central leader	Prune to improve branch spacing	--	--
74	2,1	Prune to improve branch spacing	Prune to remove low branches	--	--
75	1	Prune to improve branch spacing	--	--	--

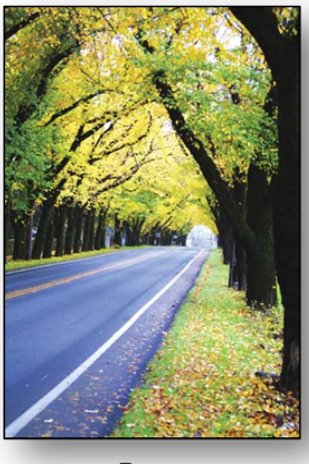
Appendix B: Young Tree Management Recommendations

Beringer Elms, St. Halena

Tree #	Trunk diameter	Primary recommendations	Secondary recommendations	Tertiary recommendations	Quaternary recommendations
76	3	Select central leader	Prune to improve branch spacing	--	--
77	2	Prune to improve branch spacing	--	--	--
78	2	Prune to improve branch spacing	--	--	--
79	1	Select central leader	Prune to improve branch spacing	Remove stakes	--
83	1	Prune to improve branch spacing	--	--	--
86	1	Prune to improve branch spacing	Remove stakes	--	--
87	3	Select central leader	Prune to improve branch spacing	--	--
88	2	Select central leader	Prune to improve branch spacing	--	--
89	2	Select central leader	Prune to improve branch spacing	--	--
90	1	Prune to improve branch spacing	Remove stakes	--	--
91	3	Select central leader	Prune to improve branch spacing	--	--
96	1	Select central leader	Prune to improve branch spacing	Remove stakes	--
97	1	Select central leader	Prune to improve branch spacing	Remove stakes	--
98	1	Prune to improve branch spacing	Remove stakes	--	--
102	1	Select central leader	Prune to improve branch spacing	Remove stakes	--
114	1	Prune to improve branch spacing	Remove stakes	--	--
115	2,2	Select central leader	Prune to improve branch spacing	--	--
116	3	Select central leader	Prune to improve branch spacing	--	--
117	3	Select central leader	Prune to improve branch spacing	Prune to remove low branches	--
118	5	Select central leader	Prune to improve branch spacing	Prune to remove low branches	--
119	1	Select central leader	Prune to improve branch spacing	Remove stakes	--
120	1	Prune to improve branch spacing	Remove stakes	--	--

Tree Risk Assessment

Beringer Elm Tunnel
Saint Helena, CA



PREPARED FOR:
City of St. Helena
Public Works Department
1480 Main St.
St. Helena CA 94575

PREPARED BY:
HortScience | Bartlett Consulting
325 Ray St.
Pleasanton, CA 94566

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HORT SCIENCE
BARTLETT CONSULTING
A Division of The I.A. Bartlett Tree Expert Company

Tree Risk Assessment
Beringer Elm Tunnel
Saint Helena, CA

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Tree Risk Assessment
Beringer Elm Tunnel
Saint Helena, CA

Introduction and Overview

The City of St. Helena manages a stand of mature elm trees. Over the years, trees in the stand have died due to Dutch elm disease (DED). The disease has been actively managed through removal of diseased trees and treatment of others to increase resistance to the disease. HortScience | Bartlett Consulting, Divisions of The F. A. Bartlett Tree Expert Company (H|BC) was asked to prepare a **Tree Risk Assessment Report** to help guide tree management. In addition, HBC was asked to comment on the existing management plan, maintenance practices employed on the young trees and options for DED management.

This report provides the following information:

1. Results of the visual assessment of the health and structural condition of the trees.
2. Risk rating for each of the mature trees, using the techniques and methodology described in *Tree Risk Assessment* Best Management Practices (International Society of Arboriculture, 2nd edition, 2017).
3. Management recommendations to minimize risks associated with trees.
4. A review of the current Elm Tunnel Management Plan provided by the City.
5. A review of the current maintenance practices for young trees.
6. A review of the current DED management and options for future management.
7. A discussion of long-range management considerations, including plant procurement and successional planning.

Background

This group of American elms (*Ulmus americana*) was planted by the Beringer Brothers in 1885 and originally contained approximately 75 trees on either side of Highway 29 in front of their winery, located just north of downtown St. Helena.

The two rows of elms create a tunnel of canopy over Highway 29 and are recognized components of the Beringer Winery Historic District. They contribute to the National Historic Landmark designation of the site. As such, any replacement trees must reach a similar mature height, provide a similar leaf size and branching pattern, and have similar form, scale, color and texture as the original American elms.

In addition, the trees are growing on California Department of Transportation (Caltrans) property but located within the City of St. Helena. The Beringer Winery and local community also have a clear interest in maintaining the trees and perpetuating the elm tunnel experience. Maintenance responsibilities for pruning, DED treatments and planting of new trees are shared by the State and City. This unique dynamic requires a partnership between all of the vested parties to develop and implement a strategic plan for preserving the functional and aesthetic beauty of the trees into the future.

Tree Assessment Methods

Trees were assessed in February, May and June of 2019. The assessment included all of the elm trees within the elm tunnel, mature and young. The assessment procedure consisted of the following steps:

1. Tagging each tree with an identifying number and recording its location on a map;
2. Measuring the trunk diameter at a point 54" above grade;
3. Evaluating the health and structural condition using a scale of 0 – 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.
   - ***0*** – Dead.
4. Rating the amount of flagging present in the crown as "significant", "moderate" or "minor". Flagging, or dieback of branches in the crown, is a visual indicator of the presence of Dutch elm disease.
5. Sounding the lower trunk (below ~7') of the mature elms with a rubber mallet to identify areas of decay, especially for those trees with visible cavities and/or trunk wounds. Where possible, open cavities were probed with a 36" long metal rod to try to determine the extent of the cavity.
6. Assign a risk rating to each tree, using the techniques and methodology described in *Tree Risk Assessment* Best Management Practices (International Society of Arboriculture, 2011). Components of the risk rating are described in detail below.
7. Prepare ***Tree Assessment Maps*** showing location of tree tag numbers, tree condition and management recommendation.

Evaluating structural condition

Examination of the entire tree structure for weaknesses or possible points of failure begins with an assessment of overall vigor and health, then focuses on an examination of root crown, trunk, scaffold limbs and branches. The entire inspection was performed visually from the ground.

The following are examples of structural defects we looked for:

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. We inspected 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 decay or severed roots (construction, sidewalk repair) may be more 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, especially 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 more likely to fail.

Trunk/branch wounds - Bark loss and tissue damage can lead to development of decay over time.

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 and stem 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.

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 and 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.

Tree risk evaluation procedures

The goal of the risk assessment process is to enhance public safety. This is accomplished by assessing the risk of damage to people or property if a tree or one of its parts fails and taking action to reduce that risk. The risk rating considers the likelihood of the tree or one of its parts failing within the following one (1) year, the frequency of use and occupancy below it and the consequences should the target be struck.

To assess and rank the risk associated with each tree, I employed the terminology and methods described in *Best Management Practices: Tree Risk Assessment* (E. T. Smiley, N. Matheny and S. Lilly. 2017. Companion publication to the American National Standards Institute A300 Part 9. International Society of Arboriculture. Champaign IL).

Risk is described in the *Best Management Practices* publication as the combination of likelihood of a tree failure striking people or property, and the consequences of that failure. Those assessments are then combined into a risk rating. For each of the mature elm trees we performed the following:

1. **Identify possible targets.**
2. **Identify tree part(s) that could strike one or more target(s).**
3. **Evaluate the likelihood for each part to fail.**

Rate Likelihood for Failure

Improbable	the tree is **not** likely to fail even in severe weather conditions
Possible	failure could occur, but it is unlikely during normal weather
Probable	failure is expected under normal weather conditions
Imminent	failure has started or is most likely to occur in the near future, even if there is no wind or increased load

4. **Evaluate the likelihood of tree or tree part impacting the target(s).**

Rate Likelihood of Impact

Very Low	the chance of impacting a target is remote
Low	it is not likely that the target will be impacted
Medium	the target may or may not be impacted.
High	the target is likely to be impacted

5. For each failure mode (stem, branch or whole tree), identify likelihood for a failure to impact a specified target (Table 1).

Table 1. The matrix used to estimate the likelihood of a tree failure impacting a specified target.

Likelihood of Failure	**Likelihood of Impacting Target**			
	Very Low	*Low*	*Medium*	*High*
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

6. For each failure mode (stem, branch or whole tree), estimate consequences of the failure.

Rate Consequences

Negligible – low value property damage; Personal injury is unlikely
Minor – low to moderate value property damage; Personal injury is unlikely
Significant – moderate to high value property damage; people could be injured
Severe – high value property damage; one or more people could be injured or killed

7. For each failure mode (stem, branch or whole tree), designate the risk (Table 2).

Table 2. Risk rating matrix.

Likelihood of Failure and Impact	**Consequences**			
	Negligible	*Minor*	*Significant*	*Severe*
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Results of Tree Assessment

Results of the assessment are divided into two sections: tree condition and tree risk assessment.

Tree Condition

Descriptions of each tree are provided in the ***Tree Assessment Form*** and locations are shown on the ***Tree Inventory Map***.

A total of 144 trees were assessed, including 88 mature trees and 56 young trees. Mature trees were part of the original Beringer Brother plantings and young trees included 3 generations of replacement trees planted by the City between 2011 and 2019.

Seventy (71) of the trees were on the east side of Highway 29 and the remaining 73 were on the west side. Those growing on the west side were beneath overhead utility lines and all of the mature trees on that side of the road had been topped for utility line clearance.

In addition, trees on the east side of Highway 29 were adjacent to an improved pedestrian/bike path located immediately east of the trees, with vineyards beyond. Trees on the west side of Highway 29 were located between the road and the retaining wall that is the limit of the Beringer Winery, with roads, parking lots and landscaping beyond.

Mature trees

All of the mature trees were American elms. Four of the mature elms that were tagged and measured on our first field day in February had been removed by the time we visited the site again in May, including #12, 33, 34 and 49. Thus, 84 mature American elm trees remain and are the subject of the following discussion.

Trunk diameters ranged from 20” to 36”, with an average of 27”, surprisingly low for trees of their age. Fifty-seven (57) trees were in fair condition (65%), 24 (27%) were in poor, 3 were in good and 4 were dead (see ***Tree Condition Map***).

The trees had originally been planted at approximately 18’ on center, which is relatively close spacing for the species, especially for a species known to achieve a mature height of 60 to 80’ and a canopy spread of 40’ to 70’. The close proximity of the trees resulted in most having an asymmetric form, with the majority of branches extending to the east and west. While this does help create the tunnel effect, it also concentrated branches over Highway 29.

In addition to the close spacing between trees, they were all located from 4.5’ to 9.5’ from the edge of Highway 29. With no protection between the trees and the road, many had been struck by cars over the years, producing large trunk wounds (Photo 1). Fifteen of the trees had trunk wounds (Table 3, following page).

Photo 1: Showing the base of American elm #7. The tree had been struck by a car at some point, producing a large trunk wound near the base. In this case, the exposed wood had not yet decayed.

Over time, some of the trees have developed cavities of various sizes as the result of the degradation of wood by decay organisms. Twenty-nine (29) of the trees had visible cavities present (Table 3). Where large cavities were present on the lower trunk, I probed them with a 36" long metal rod. Five (5) of the trees had cavities that I was able to probe to a depth of 20" to 36".

Decay had developed in several of the cavities, as well as in wounds created by pruning for overhead utility lines or where branches had failed (Photo 2). Nine (9) of the trees had decay present in the upper crowns and 8 had decay present on the lower trunk (Table 3).

Where cavities were present but probing was not an option or where decay was suspected but not visible, sounding with a rubber mallet can help identify the presence of decay and the approximate extent of the decay. Ten (10) of the trees had hollow sounding areas on the lower trunks (Table 3).

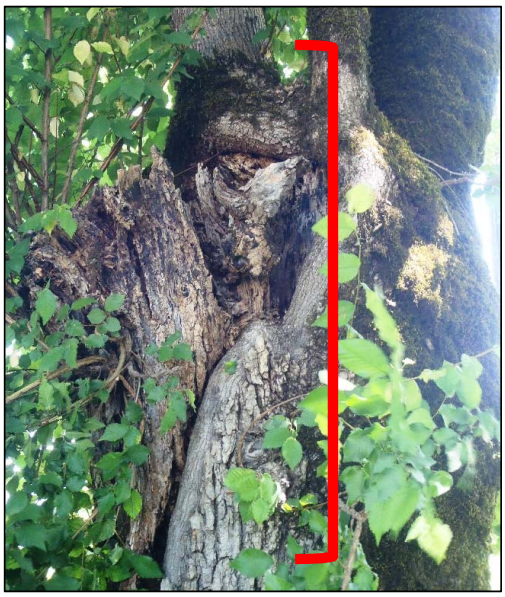


Photo 2: The upper trunk of American elm #99. A large decay column had developed on the west side of the tree, just below the attachment point of the main stems at 10'.

Table 3. Trees with specific visible structural concerns.
Beringer Elms, St. Helena, CA

Condition	Tree Tag Number
Trunk wounds present:	#2, 4, 7, 50, 54, 64, 67, 68, 70, 105, 107, 110, 112, 141 and 143
Cavities present:	#1, 3, 8, 13, 14, 16, 35, 36, 37, 39, 42, 43, 45, 54, 60, 61, 63, 64, 66, 69, 92, 93, 104, 106, 109, 111, 126, 131, 141 and 143
Decay visible in upper crown	#3, 4, 7, 41, 95, 100, 111 and 134
Decay visible on lower trunk:	#93, 99, 100, 103, 104, 109, 112 and 131
Sounded hollow when struck with mallet:	#3, 13, 16, 37, 43, 54, 60, 61, 64 and 69

Trees growing on the west side of Highway 29 were beneath the overhead utility lines. All of the mature trees on that side of the road had been topped for utility line clearance. As a result of the repeated toppings, tree form and structure had been compromised. Topping had produced wounds where branches/stems had been remove, some of which had been colonized by decay organisms. In addition, topping removed upright branches, promoting the growth and development of lateral branches. As lateral branches get larger in diameter and longer in extension, they are more prone to failure. This is especially true where decay is present in the main stem, weakening the wood the lateral branches are attached to.

Finally, I rated the amount of flagging present in the crown of the mature elms. Flagging, or dieback of branches in the crown, is a visual indicator of the presence and development of Dutch elm disease. Sixty-one (61) of the trees had minor branch dieback consistent with DED, 18 had moderate flagging and 5 trees had significant flagging, including elms #16, 17, 35, 112 and 113.

Overall, 24 mature elms were in poor condition (rated a 1 or 2 on a scale of 0-5, where 0 is dead and 5 is excellent condition). Fifty-seven (57) were in fair condition and 3 were in good.

Young trees
A total of 56 young trees were assessed within the elm tunnel. Tree #5, one of the young trees that was tagged and measured on our first field day in February had been hit by a car and snapped off at the base when we visited the site again in May. Thus, 55 young American elm trees remain and are the subject of the following discussion.

Young trees had been planted in 2 phases, with the first generation planted in 2011 and the second and third generations planted between 2016 and 2019. Thirteen (13) of the first generation trees remained, 19 of the second generation and 24 third generation. Based on discussions with City staff, all of the first and second generation trees were the Accolade variety and all of the third generation trees were the Frontier variety.

First generation trees had trunk diameters between 2" and 5", with second generation trees having trunk diameters between 1" and 3" and all of the third generation trees measured 1" or less in diameter.

Fifty (50) of the young trees were in excellent condition (rated a 5), with 4 in good condition (rated a 4) and #56 in fair condition (see ***Tree Condition Map***). For the most part, all of the young trees had good form and structure. However, several had multiple stems arising from one point on the trunk, had branches emerging low on the trunk and/or had close vertical spacing between branches (photos 3 and 4). These are common growth patterns for young trees that should be managed at the time of planting and during the first years of establishment in order to promote development of good form and structure. Establishment times vary widely but a tree is generally considered established once the roots are anchored into the surrounding soil, typically after 2-3 growing seasons.

Photo 3 (L): Showing the base of tree #22, which had several branches emerging low on the stem. This is a candidate for pruning to remove low branches to improve vertical spacing.
Photo 4 (R): Showing the codominant trunks emerging from the base (red lines). This tree is a candidate for pruning to select a central leader by removing the less vigorous and upright stem.

Although few defects were noted on the young trees, #28 and 29 both had portions of old stake ties embedded between stems. Five of the third generation trees had been planted in wire baskets, which have the potential to girdle roots as they grow in diameter. Finally, 11 of the trees from both the second and third generations, were still staked.

Risk Assessment

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. The degree of risk will vary with the size of the tree, type and location of the defect, tree species and the occupancy rate and nature of the target. HortScience | Bartlett Consulting used the terminology found in the 2017 *Best Management Practices: Tree Risk Assessment*.

Risk is an assessment of the combination of likelihood of a tree failure striking people or property, and the consequences of that failure. Risk is categorized in four ways: low, moderate, high and extreme. Trees rated as low may still benefit from mitigation and monitoring, especially for trees in poor health. Immediate action is not normally required for trees with low risk. In contrast, a rating of extreme involves a tree in imminent danger of failing, where the likelihood of impacting a target is high and the consequences would be severe. In general, the rating defines a priority for action.

Working with City of St. Helena staff, target occupancy was defined as follows:

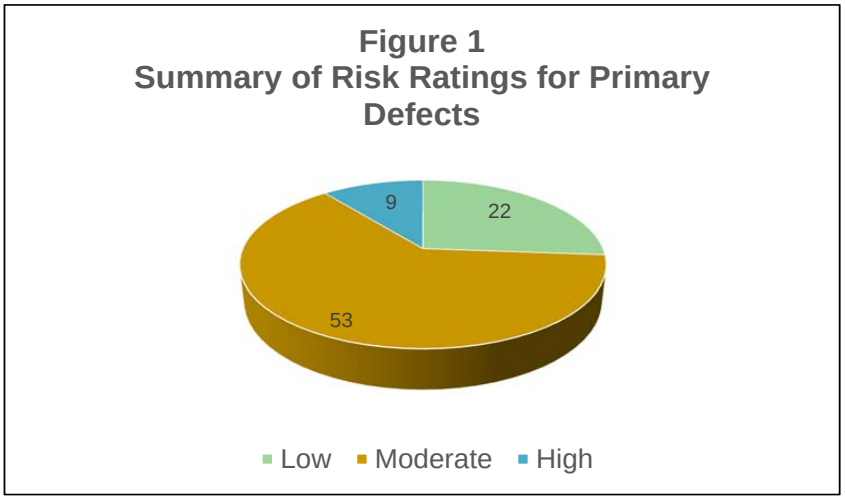
- Highway 29 Constant
- High voltage power lines Constant
- Primary road/driveway (Beringer Winery) Constant
- Pedestrian/bike trail Frequent
- Parking (Beringer Winery) Frequent
- Secondary road/driveway (Beringer Winery) Intermittent
- Landscape/lawn (Berniger Winery) Occasional
- Orchard (Beringer Winery) Occasional
- Vineyard (east of the pedestrian/bike trail) Occasional

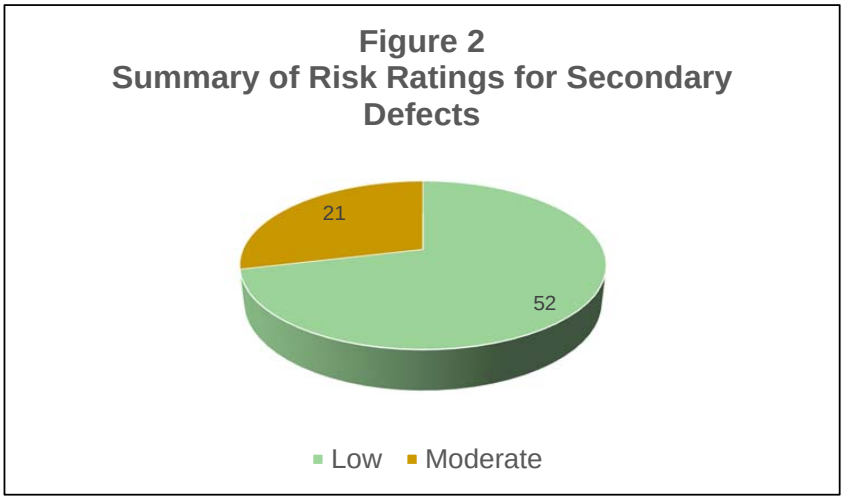
Where appropriate, the risk associated with more than one failure mode (branch, stem or whole tree) for each tree was rated. All 84 of the mature elm trees were rated for a primary defect and 73 were rated for secondary defects. **Figure 1** and **Figure 2** (following page) provide a summary of the risk ratings for each of the defects identified. Risk ratings for individual trees are found in the attached **Appendix A –Summary of *Tree Risk Ratings***.

Primary defects included 38 stems, 33 scaffold branches, 9 dead branches/hangers and 9 whole trees. Risk ratings for the primary defects identified were low for 22 trees, moderate for 53 trees and high for 9 trees. The 9 trees rated as high included 5 scaffold branches (trees #84, 133, 136, 138 and 144), 3 stems (#99, 103 and 126), and a dead branch in tree #113.

Secondary defects included 55 stems, 28 scaffold branches, 5 whole trees and 5 dead branches. Risk ratings for the secondary defects identified were low for 52 trees and moderate for 21 trees. The 21 trees rated as moderate included 10 stems (trees #2, 4, 7, 16, 43, 52, 92, 104, 107 and 108), 5 scaffold branches (#1, 38, 50, 143 and 144), 4 dead branches (#64, 67, 106 and 136) and 2 whole trees (#59 and 131).

Once management recommendations are carried out (pruning, removal, etc.) residual risk would be low for 67 of the primary defects and moderate for 7 of the primary defects (9 trees would be removed and have no residual risk). Residual risk would be low for 67 of the secondary defects and moderate for 3 of the secondary defects (3 trees would be removed and have no residual risk).





In some cases, residual risk would remain moderate despite action being taken to reduce risk associated with specific defects identified. This is a reflection of both the constant occupancy rate of Highway 29, the primary target, and the fact that management actions short of tree removal will not mitigate the risk associated with the specific defect.

The majority of trees posed a low or moderate risk of injury or damage, should they fail, which can be further reduced through pruning. Trees that posed a high risk involved an elevated likelihood of failure, a high-occupancy target and significant or severe consequences should they fail.

Two trees, #140 and 144 were identified as having imminent likelihood of failure associated with a broken branch/hanger in the crown which would strike Highway 29. I called the City during the June 2019 field work to alert them to the risk associated with these trees and recommended immediate action be taken to prune the branches in question.

Management Recommendations

As requested, management recommendations are provided for the following:

- Risk abatement treatments
- Maintenance practices for young trees
- Elm Tunnel Management Plan recommendations
- Dutch elm disease management

Risk Abatement Recommendations

Abatement treatments to reduce risk associated with trees need to be specific to the particular defects in the tree. Risk which results from dead branches, heavy branches, or branches growing on wood weakened by decay can in many cases be abated by crown cleaning (removal of dead and weak branches), end weight reduction and crown reduction pruning (small branch removal and reduction cuts to reduce height and weight). Reduction pruning can be applied to horizontally oriented branches (end weight reduction) or vertically oriented branches (height reduction). Where tree lean, cracked stems or decay cannot be abated through pruning or cabling/bracing, tree removal may be the only option to minimize risk.

The primary use of risk ratings is to help prioritize abatement treatments. In general, trees with high risk ratings should be treated before trees with lower ratings. However, risk ratings cannot strictly define a threshold for action, between either removal and retention, or treatment and no treatment. Risk ratings do not define "danger". A tree does not become dangerous at a given rating.

Rather, use of the rating is framed by the goals of the tree manager, maintenance program and policy of acceptable risk. The line for action, between either removal and retention or treatment and no treatment, is one set by City of St. Helena staff. Budgets, labor force, time and other considerations such as historical, biological and ecological impacts affect those decisions.

Recommendations to abate risk for the mature elm trees included primary and secondary management actions, as well as advanced assessments. Primary management recommendations will have the greatest impact on reducing risk and are the starting point for the City's management of the mature Beringer elms. Since primary recommendations include the suggestion that the City 'consider the removal' of 20 trees, secondary recommendations and recommendations for advanced assessments for some of those trees are provided, in case these trees are not removed.

Primary recommendations included the following and are listed in Table 4 and in **Appendix A – Summary of *Tree Risk Ratings***. Management recommendations are also provided on the attached ***Mature Tree Management Map***.

- Prune 29 trees to reduce branch weight and extension, primarily over Highway 29.
- Prune 7 trees to reduce tree height and branch extension.
- Prune 3 trees to clean the crowns of dead, broken and diseased branches.
- Remove 7 trees, primarily due to poor health, although 3 were rated as having high risk.
- Remove stems in 4 trees.
- Have decay detection performed at the stem attachments in tree #41.
- Consider removal for 20 trees. These were primarily in poor condition or where form and structure had been compromised due to close spacing between trees and/or topping for overhead utility lines.
- 16 trees had no action recommended and trees #41 and 59 had more than one management recommendation.

Table 4: Primary management recommendations
Beringer Elms, St. Helena, CA

Tag #	Species	Diameter	Condition	Primary Management recommendation
1	American elm	34	3	Prune to reduce weight/ext.
2	American elm	26	3	Consider for removal
3	American elm	28	2	Consider for removal
4	American elm	32	3	Prune to reduce weight/ext.
7	American elm	29	4	Prune to remove 16” stem
8	American elm	25	2	Consider for removal
12	American elm	31	0	Removed as of 6/19
13	American elm	28	3	None
14	American elm	29	3	None
16	American elm	28	2	**Remove tree**
17	American elm	28	2	**Remove tree**
33	American elm	21	0	Removed as of 6/19
34	American elm	24	0	Removed as of 6/19
35	American elm	24	2	Consider for removal
36	American elm	22	3	Prune to reduce weight/ext.
37	American elm	24	3	Prune to crown clean
38	American elm	24	3	None
39	American elm	23	3	Prune to reduce height/extension
40	American elm	26	4	Prune to reduce height/extension
41	American elm	27	3	Test decay in attachment & prune to reduce weight/ext.
42	American elm	27	2	Prune to remove 8” stem
43	American elm	28	3	Prune to reduce height/extension
45	American elm	26	3	Prune to reduce weight/ext.
46	American elm	24	3	Prune to reduce weight/ext.
49	American elm	24	0	Removed as of 6/19
50	American elm	28	2	Consider for removal
52	American elm	22	2	Consider for removal
54	American elm	27	2	Consider for removal
59	American elm	23	3	Prune to crown clean & reduce weight/ext.
60	American elm	24	2	None
61	American elm	21	3	None
62	American elm	25	3	None
63	American elm	23	3	None
64	American elm	25	3	Prune to reduce height/extension
65	American elm	22	3	Prune to reduce height/extension
66	American elm	22	3	Prune to crown clean
67	American elm	22	2	Consider for removal
68	American elm	20	2	Consider for removal
69	American elm	24	2	Consider for removal
70	American elm	21	2	Consider for removal
71	American elm	22	2	Consider for removal
80	American elm	28	3	Prune to reduce height/extension
81	American elm	28	3	Prune to reduce weight/ext.
82	American elm	27	3	None
84	American elm	26	3	None
85	American elm	28	2	Consider for removal
92	American elm	31	3	Prune to reduce weight/ext.
93	American elm	34	3	Remove 10" stem
94	American elm	28	3	Prune to reduce weight/ext.
95	American elm	30	3	Prune to reduce weight/ext.
99	American elm	33	2	**Remove tree**
100	American elm	32	3	Consider for removal

Table 4: Primary management recommendations
Beringer Elms, St. Helena, CA, continued

Tag #	Species	Diameter	Condition	Primary Management recommendation
101	American elm	30	3	Prune to reduce weight/ext.
103	American elm	33	2	**Remove tree**
104	American elm	31	2	Consider for removal
105	American elm	31	3	None
106	American elm	27	3	Prune to reduce weight/ext.
107	American elm	31	3	Prune to reduce weight/ext.
108	American elm	34	3	None
109	American elm	26	2	Consider for removal
110	American elm	33	3	Prune to reduce weight/ext.
111	American elm	28	3	None
112	American elm	30	2	**Remove tree**
113	American elm	30	1	**Remove tree**
121	American elm	27	4	Prune to reduce weight/ext.
122	American elm	23	3	Prune to reduce weight/ext.
123	American elm	20	3	None
124	American elm	20	3	Prune to reduce weight/ext.
125	American elm	22	3	Prune to reduce weight/ext.
126	American elm	22	3	Remove 10" stem
127	American elm	24	3	Prune to reduce weight/ext.
128	American elm	24	3	Prune to reduce weight/ext.
129	American elm	27	3	Prune to reduce weight/ext.
130	American elm	31	3	Prune to reduce weight/ext.
131	American elm	25	2	Consider for removal
132	American elm	27	3	Prune to reduce weight/ext.
133	American elm	26	3	Prune to reduce weight/ext.
134	American elm	29	3	Prune to reduce weight/ext.
135	American elm	26	3	Consider for removal
136	American elm	25	3	None
137	American elm	25	3	None
138	American elm	33	3	Prune to reduce weight/ext.
139	American elm	25	3	Consider for removal
140	American elm	28	3	Prune to reduce weight/ext.
141	American elm	29	3	Consider for removal
142	American elm	34	3	None
143	American elm	35	2	**Remove tree**
144	American elm	36	3	Prune to reduce weight/ext.

Secondary management recommendation are provided for 9 of the trees listed in Table 4 for the City to 'consider for removal', in case these trees are not removed.

Secondary management recommendations included the following and are listed in Table 5:

- Prune 4 trees to reduce branch weight and extension, primarily over Highway 29.
- Prune 3 trees to clean the crowns of dead, broken and diseased branches.
- Prune 2 trees to reduce tree height and branch extension.

Table 5: Secondary management recommendations
Beringer Elms, St. Helena, CA

Tag #	Species	Diameter	Condition	Primary Management recommendation
35	American elm	24	2	Prune to crown clean
52	American elm	22	2	Prune to crown clean
54	American elm	27	2	Prune to crown clean
71	American elm	22	2	Prune to reduce height/extension
85	American elm	28	2	Prune to reduce height/extension
100	American elm	32	3	Prune to reduce weight/ext.
104	American elm	31	2	Prune to reduce weight/ext.
131	American elm	25	2	Prune to reduce weight/ext.
135	American elm	26	3	Prune to reduce weight/ext.

Advanced assessments were recommended for those trees where defects were identified that could not be adequately assessed either from the ground or from an examination of the external condition of the trees. These were primarily trees where decay was identified through sounding with the mallet and/or probing with the metal rod. Recommendations for advanced assessments are provided in Table 6 (following page) and on the attached ***Advanced Assessment Recommendations Map***.

Advanced assessments were recommended for 30 trees as follows:

- The City should consider having decay detection performed on 10 trees that are recommended for preservation. These were trees where decay was identified through sounding the trunk with the mallet and/or probing open cavities with the metal rod.

- Perform an aerial inspection and possible decay detection on 5 trees where decay was visible in the main trunk, stems and/or stem attachments above where we could probe with the metal rod and/or sound with the mallet.

An addition 15 trees were recommended for decay detection if the City chooses not to remove them. These were trees with a primary management recommendation for removal, however, they may not be removed all at once for a variety of reasons, in which case we recommend decay detection be performed.

For convenience, I have arranged the recommendations for advanced assessments in Table 6 in the general order of importance. Spaces in the table separate groups of similar priority.

Table 6: Recommendations for advanced assessments
Beringer Elms, St. Helena, CA

Tag #	Species	Diameter	Condition	Advanced Assessment recommendation
99	American elm	33	2	Decay detect. If not removed
103	American elm	33	2	Decay detect. If not removed
126	American elm	22	3	Consider decay detection
135	American elm	26	3	Aerial insp. & decay detect. If not removed
3	American elm	28	2	Aerial insp. & decay detect. If not removed
16	American elm	28	2	Decay detect. If not removed
67	American elm	22	2	Decay detect. If not removed
68	American elm	20	2	Decay detect. If not removed
104	American elm	31	2	Decay detect. If not removed
131	American elm	25	2	Decay detect. If not removed
143	American elm	35	2	Decay detect. If not removed
42	American elm	27	2	Consider decay detection

Tag #	Species	Diameter	Condition	Advanced Assessment recommendation
43	American elm	28	3	Consider decay detection
64	American elm	25	3	Consider decay detection
95	American elm	30	3	Aerial insp. & decay detect.
101	American elm	30	3	Aerial insp. & decay detect.
111	American elm	28	3	Aerial insp. & decay detect.
61	American elm	21	3	Consider decay detection
69	American elm	24	2	Decay detect. If not removed
109	American elm	26	2	Decay detect. If not removed
2	American elm	26	3	Decay detect. If not removed
92	American elm	31	3	Consider decay detection
100	American elm	32	3	Decay detect. If not removed
1	American elm	34	3	Aerial insp. & decay detect.
8	American elm	25	2	Decay detect. If not removed
13	American elm	28	3	Consider decay detection
14	American elm	29	3	Consider decay detection
41	American elm	27	3	Aerial insp. & decay detect.
59	American elm	23	3	Consider decay detection
60	American elm	24	2	Consider decay detection

Our risk assessment procedures focused on trees with observable defects. This is not to say that trees without significant defects will not fail. Failure of apparently defect-free trees does occur, especially during storm events. Wind forces, for example, can exceed the strength of defect-free wood causing branches and trunks to break. Wind forces coupled with rain can saturate soils, reducing their ability to hold roots, and blow over defect-free trees. Although we cannot predict all failures, identifying those trees with observable defects is a critical component of enhancing public safety.

Furthermore, trees change over time. Our inspections represent the condition of the tree at the time of inspection. Annual tree inspections are recommended to identify changes to tree health and structure. In addition, trees should be inspected after storms of unusual severity to evaluate damage and structural changes. Initiating these inspections is the responsibility of the City and/or tree owner.

Maintenance practices for young trees

We were asked to review and comment on the current maintenance practices employed by the City for the young elm trees. We based our recommendations on our field investigation as well as communications with the City.

Planting

Although not technically maintenance, planting sets the stage for tree establishment and growth. We recommend the following when planting new elm trees:

- Excavate a planting pit 2 to 3 times the width and twice the depth of the container size to be planted.
- Amend the backfill with 1/3 to 1/2 (by volume) high organic matter compost.
- Create a temporary earthen berm around each tree to retain and concentrate as much of the supplemental irrigation water at the base of the tree as possible.
- Stake young trees with 3 lodge poles (or similar) placed in a triangular formation and attached loosely to the tree trunk.

Several of the young trees we assessed in the field had been planted in wire baskets. We strongly recommend the City avoid the use of wire baskets. While the wire will break-down in time, wire baskets have the potential to girdle roots and slow tree growth, establishment and anchoring.

Irrigation

We expect supplemental irrigation to be required during the first 2-3 years of establishment for the dry months of the year (typically May-October). The City has been watering the trees with a combination of watering trailer on the east side and quick coupler hose on the west side at a rate of 10 gallons per tree, per week. We consider this volume adequate for the all but the hottest months of the year (typically July-September) or during periods of extended drought.

Our recommended irrigation approach would be as follows:

- In the first year after planting, irrigate at a volume of 5 gallons per application, ideally applied twice a week during the summer months. Irrigation rates can be tapered in the spring and fall by 25 to 50% depending on temperature, day length, and rainfall.

- In the second year after planting, irrigations volumes should be increased to 8 gallons per application, but frequency should be decreased to once a week (again for the summer months).

- In the third year after planting, irrigation at a volume of 10 gallons every 10 days to 2 weeks (again, during the summer months).

- After 3 years, they should be fairly well established and irrigation can be on an "as needed" basis. For example, if we experience a drought after 3 years, continue with the third year regime.

The above assumes a sufficient soil quality such that roots can get established. If this does not happen, irrigation will be needed over a longer period of time. This is another reason to do as much soil cultivation as possible before planting and to use basins and mulch around each tree.

One alternative irrigation practice for the City to consider would be the use of Gator bags® or doughnuts. These systems allow the City to fill it with water, which is applied slowly over a period of time.

During periods of extreme heat, where average daily temperatures exceed 90°, we would recommend increasing the irrigation volume to 60 gallons per month or 15 gallons/week, per tree. We would also expect the application rate to drop to 10 gallons per tree every other week during the cooler months of May and November and cease during the typically cool, wet months of December through April.

Pruning

Young trees should be trained to develop 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 training process is accomplished by pruning the tree at the time of planting and then annually over a 3-5 year period until the desired branch structure is established.

The following highlights the procedures and treatments that should be repeated annually until the permanent structure of the tree has been established. More detail is provided in Appendix B – *Young Tree Management Recommendations* (see Exhibits).

At the time of planting (year 1), prune the tree to:

- Select a central leader and remove or subordinate competing leaders.
- Remove broken, diseased, dying or dead branches.

Annually for the following 2-3 years, prune the tree to:

- Select a central leader and remove or subordinate competing leaders.
- Select the lowest permanent branch.
- Select main scaffold branches above the lowest permanent branch and remove or reduce competing branches.
- Select and maintain temporary branches below the lowest permanent branch

In years 4-5, prune the tree to:

- Remove the largest, lowest temporary branches.

Timing of pruning of young trees should be coordinated to correspond with the activity of elm beetles, which are known to vector the fungus responsible for DED. Pruning should generally occur during the cool winter months of December-March and prior to leaf emergence. Sanitation of any equipment used to prune or treat trees is critical to not spreading the fungi responsible for DED. We recommend sterilization of hand saws, loppers and hand pruners with 10% bleach solution, Lysol or other known sterilizing agent.

Staking

Staking young trees helps support them as they establish and develop anchoring roots and trunk taper. It is equally important to remove stakes after 2 to 3 growing seasons. The tree should have established sufficient anchoring roots by that time to stand-up on its own.

Check the stability of the tree after 2 growing seasons by rocking it back and forth gently prior to removing the stakes. It is the force of the wind acting on the trunk that promotes trunk strength and taper development. Leaving the stakes in place for too long can hinder this development.

Recommendations

When we inspected the young trees in February 2019, the City was preparing to prune them and asked that we provide recommendations to help guide that process. The following recommendations were provided and appeared to have been carried out when we visited the site in June of 2019. **Appendix B -*Young Tree Management Recommendations*** provides recommendations for each of the young trees. Management recommendations are also provided on the attached ***Young Tree Management Map***.

- All 55 of the young trees received primary recommendations; including 29 identified for pruning to improve vertical branch spacing, 26 identified for pruning to select a central leader/subordinate competing leaders and #56 was recommended for removal.
- Thirty-six (36) received secondary recommendations, including 26 identified for pruning to improve vertical branch spacing, 6 that should have the stakes removed and 4 identified to remove temporary/low branches.
- Fourteen (14) received tertiary recommendations, including 8 identified for pruning to improve vertical branch spacing and 6 that should have the stakes removed.
- Three (3) trees received quaternary recommendations, including attempting to remove the embedded stake tie from #28, pruning to remove crossing branches on #29 and pruning to clean the crown of dead/broken branches on #30.

Elm Tunnel Management Plan

We were asked to review and comment on the draft St. Helena Elm Tunnel Management Plan (ETMP) provided to us by the City (no date or author). The ETMP provides guidelines for managing the trees within the context of their contribution to the National Historic Landmark designation of the Beringer Winery. It focuses more on the relationship, communication and responsibilities of the vested parties than it does on specific arboricultural treatments for the trees.

There are three categories of urban forest plans: master plans, management plans, and action plans. For the ETMP we recommend combining the components of these three documents into one. First, the ETMP should identify specific goals for the Elm Tunnel, then it should identify specific actions to accomplish the goals. The plan identifies the tasks, sets priorities, and identifies who will do the work, how the work will be done, and sets a deadline for completion. A well-defined plan should facilitate review to gauge and evaluate success or failure in accomplishing the goals. Best management practices for specific tasks, standards, and specifications, budget and staffing analyses should be included.

An ETMP ideally contains the framework for managing the trees from cradle to grave. It is designed to accomplish specific goals and identify who is responsible for each. Subjects the plan would cover typically include:

- near-term and long-term management goals;
- plant procurement, contract growing, nursery specifications;
- plant inspections and standards for accepting plant material;
- planting methods and standards;
- irrigation methods/volumes/timing;
- pruning methods/timing and standards;
- disease management methods/timing and standards;
- tree risk assessment, management and thresholds for action;
- wood disposal;
- shoot/sucker management;
- tree monitoring frequency, timing, procedures and record-keeping.

We recommend incorporating the following Standards (American National Standard Institute) and Best Management Practices (International Society of Arboriculture).

ANSI Z133 Safety Standards
ANSI A300 Integrated Pest Management
ANSI A300 Support Systems Standard – Part 3
ANSI A300 Tree Risk Assessment Standard a. Tree Failure – Part 9
ANSI A300 Pruning Standard – Part 1
Best Management Practices - Tree Pruning, 3rd Edition
Best Management Practices - Tree Injection
Best Management Practices – Tree Support Systems, 3rd Ed.
Best Management Practices – Tree Planting, 2nd Ed.
Best Management Practices – Tree Risk Assessment, 2nd Ed.
Best Management Practices – Tree and Shrub Fertilization, 3rd Ed.
Best Management Practices – Utility Pruning of Trees
Best Management Practices - - Integrated Pest Management, 2nd Ed.

Dutch Elm Disease Management

Dutch elm disease involves the fungi *Ophiostoma novoulmi* and *O. ulmi*, which are primarily vectored by two species of bark beetles. These beetles wound the trees as they feed on plant parts and breed under the bark, spreading fungal spores and infecting trees along the way. In addition, the disease can be spread from tree to tree through root grafts and un-sterilized equipment.

Based on communications with City staff, the current approach for managing the Dutch elm disease in the mature Beringer elms involves the following:

- Perform a soil drench using Merit® (or similar as recommended by contractor) to the approximately 90 mature elms to help suppress elm leaf beetle. Soil drench treatments have been applied in late winter/early spring, following leaf emergence.

- Perform a systemic root flare injection of Shepherd® (or similar as recommended by contractor) to the approximately 90 mature elms to help suppress Dutch elm disease. Systemic treatments have been applied in late summer to help suppress DED.

In general, the City is taking the appropriate actions to manage DED in the mature Beringer elms. There are always additional actions that can be taken to improve efficacy of existing treatments, and/or introduce new treatments in an effort to improve disease control. For example, use of degree day monitoring to identify beetle development and if/when foliar treatments should be applied is the most effective approach. However, this approach requires regular monitoring of temperatures and beetle development, which may not be practical for City staff to perform.

We recommend the use of an integrated pest management (IPM) program that incorporates good cultural practices, conservation of natural enemies, regular monitoring, and the use of less-persistent insecticides, bark banding, or systemic insecticide. The City must recognize that bark beetle populations can fluctuate dramatically from year to year and all trees do not warrant treatment most years. When management is warranted, use a combination of methods, because no single action improves the health of elm trees or kills 100% of the pests.

- Monitor diseased trees and immediately remove and destroy diseased wood to reduce inoculant in environment.
- Maintain tree health to promote resistance to damage/inoculation by vectors.
- Control beetle vectors to reduce inoculant in environment.
- Apply preventive fungicides to healthy trees per label instructions to provide 1 to 3 years of systemic protection (depending on product used).
- Replace dead and infected treed with DED resistant American elm varieties.
- Sterilize all equipment used in the treatment of vectors and systemic fungicide applications. All tools and equipment must be sterilized between trees to prevent spread of the disease from infected trees to uninfected trees.

Other options for DED management include the use of mycoviruses called d-factors, which limit the reproductive ability of the fungi, or Verticillium based products, such as ‘Dutch-trig’, which can help induce the trees natural resistance to DED.

Trenching between symptomatic elms and adjacent asymptomatic elms is used to help prevent disease movement between trees through root grafts. While this method may be effective at limiting disease movement via roots, it also damages the trees by creating wounds and removing roots. In general, we do not recommend trenching between the Beringer elms as a means to limit disease movement as the risk associated with the damage is too great.

Long-Range Planning

Plant Procurement

The City has struggled to procure DED resistant cultivars of American elm to use as replacements within the Berniger elm tunnel. One alternative for the City to consider would be to have the replacement trees contract grown. This is an attractive option that would provide the City with a reliable source of high-quality plant material and greater control over the process.

Contract growing involves establishing a relationship with a grower and getting a contract in place with sufficient lead time for the grower to procure, plant and grow the trees to the desired size. In researching the possibility of contract growing the trees, we contacted Dr. Larry Costello. Dr. Costello previously worked with the City on the Beringer elms and is now operating the Oracle Oak Nursery in Hopland California.

Based on discussions with Dr. Costello, he indicated he does grow DED-resistant elms, which he purchase as bareroot stock from Oregon. Depending on the cultivar and size at planting, it will

take 1-2 years for the new trees to be ready for sale. He indicated he currently has the 'Emerald Sunshine' (*U. propinqua*) cultivar available at a unit cost of $185 for a 24-inch box, plus delivery.

Dr. Costello said he would need the following information to provide a quote:

- Species and cultivar
- Stock size (15 gallon or 24" box)
- Delivery date and location

Successional Planning

In thinking about how to best manage the mature trees to reduce risk and provide the best growing conditions for the young trees, it behooves the City to consider the removal of small groups of the highest risk trees and/or those in poor condition to create gaps in the canopy that will provide the young trees with more light and resources. This in turn will help the young trees establish more quickly and with better form and structure.

For example, removal of groups such as #3 and 4, 16 and 17, 50 and 52, 67-71, 99-101, 103 and 104, and 109-113 would all create opportunities for planting new trees as well as improve growing conditions for the adjacent young trees.

Summary

A total of 144 trees were assessed, including 88 mature trees and 56 young trees. Mature trees were part of the original Beringer Brother plantings and young trees included 3 generations of replacement trees planted by the City between 2012 and 2016.

Eighty-four (84) of the mature American elm trees remain. Fifty-seven (57) of the mature elms were in fair condition (65%), 24 (27%) were in poor, 3 were in good and 4 were dead (see ***Tree Condition Map***). Common defects seen in the mature elms included trunk wounds, cavities, wood decay and hollow sounding trunks when struck with a mallet (**Table 3**, page 3).

In addition, 61 of the mature elms had minor branch dieback consistent with DED, 18 had moderate flagging and 5 trees had significant flagging, including elms #16, 17, 35, 112 and 113. Flagging, or dieback of branches in the crown, is a visual indicator of the presence and development of Dutch elm disease.

Fifty-five (55) of the young American elm trees remain. Fifty (50) of the young trees were in excellent condition (rated a 5), 4 were in good condition (rated a 4) and #56 was in fair condition (see ***Tree Condition Map***). Common defects seen in the young trees included multiple stems arising from one point on the trunk, branches emerging low on the trunk and/or close vertical spacing between branches.
In addition, a couple of the young trees had portions of old stake ties embedded between stems, several had been planted in wire baskets and 11 second and third generation trees, were still staked.

All 84 of the mature elm trees were rated for risk associated with a primary defect and 73 were rated for risk associated with a secondary defect (see **Appendix A –Summary of *Tree Risk Ratings***).

Risk ratings for primary defects identified were low for 22 trees, moderate for 53 trees and high for 9 trees. Risk ratings for the secondary defects identified were low for 52 trees and moderate for 21 trees (**Figures 1 and 2**, pages 9 and 10).

Risk abatement recommendations included primary and secondary management actions, as well as advanced assessments. Primary management recommendations are the starting point for the City's management of the mature Beringer elms. Secondary management recommendations and recommendations for advanced assessments were provided for some of the trees we recommended the City 'consider the removal', in case these trees are not removed.

Primary recommendations included pruning for 29 trees to reduce branch weight and extension, 7 trees to reduce tree height and branch extension, and 3 trees to clean the crowns of dead, broken and diseased branches (**Table 4**, page 11). Removal was recommended for 7 trees, stem removal for 4 trees and decay detection for tree #41. We recommended the City 'consider removal' for 20 trees. These were primarily in poor condition or with poor form and structure.

Secondary management recommendation were provided for 9 of the trees we recommended the City to 'consider for removal'. Secondary management recommendations included pruning for 4 trees to reduce branch weight and extension, 3 trees to clean the crowns of dead, broken and diseased branches and 2 trees to reduce tree height and branch extension (**Table 5**, page 13).

Advanced assessments were recommended for those trees where defects were identified that could not be adequately assessed and were primarily for trees where decay was identified through sounding with the mallet and/or probing with the metal rod. Advanced assessments were recommended for 30 trees and included decay detection for 10 trees, aerial inspection and possible decay detection for 5 trees and decay detection for 15 of the trees recommended to 'consider for removal', in case the City chooses not to remove them (**Table 6**, page 14).

We reviewed and commented on the maintenance practices for the young trees, including planting, irrigation, pruning and staking. In addition we provided pruning recommendations for the 55 young trees based on our February 2019 inspection, which appeared to have been carried out when we visited the site in June (**Appendix B -*Young Tree Management*** Recommendations). Management recommendations including pruning to improve vertical branch spacing, select a central leader/subordinate competing leaders, remove temporary/low branches and remove crossing branches, to remove stakes, to remove embedded stake ties and for tree removal.

We also provided a review and comments on the draft St. Helena Elm Tunnel Management Plan (page 17) and Dutch elm disease management (page 18). In general, the ETMP provides the historic context for the trees and their contribution to the National Historic Landmark designation of the Beringer Winery. Ideally, an ETMP ideally contains the framework for managing the trees from cradle to grave, including specific goals, priorities, actions, thresholds, best management practices and industry standards.

In general, the City is taking the appropriate actions to manage DED in the mature Beringer elms. New or additional actions that may improve control must be weighed against the time, money and effort to implement. We recommend the use of an integrated pest management (IPM) program, incorporating good cultural practices, conservation of natural enemies, regular monitoring, and the use of less-persistent insecticides, bark banding, or systemic insecticide.
Other options for DED management include the use of mycoviruses or Verticillium based products, such as 'Dutch-trig'. We do not recommend trenching between symptomatic elms and adjacent asymptomatic elms as a means to limit disease movement as the risk associated with the root loss and damage is too great.

Contract growing of DED resistant cultivars of American elm is an attractive option that would provide the City with a reliable source for replacement trees and greater control over the process. Based on discussions with a local nursery, DED-resistant elms can be grown with a 1-2 year lead-time. One suggested alternative to the 'Accolad' and 'Frontier' varieties the City has planted in the past is the 'Emerald Sunshine' (*U. propinqua*) cultivar.

Finally, we recommend the City consider the removal of small groups of the highest risk trees and/or those in poor condition to create gaps in the canopy that will provide young trees with more light and resources, help them establish more quickly and with better form and structure.

Please feel free to contact me with any questions regarding my observations or recommendations.

Sincerely,

John Leffingwell
Board Certified Master Arborist WE #3966B
Registered Consulting Arborist #442

Exhibits

Glossary

Tree Assessment Forms

Tree Inventory Map

Tree Condition Map

Mature Tree Management Map

Advanced Assessment Recommendations Map

Young Tree Management Map

Appendix A: Summary of Risk Ratings

Appendix B: Young Tree Management Recommendations

Glossary of Terms

Asymmetric form. A crown having an uneven weight distribution so that most of the canopy is on one side of the tree; unbalanced.

Branch attachment The structural union of lateral to the trunk or another branch.

Buttress Support of branch, stem or root; usually associated with exaggerated growth.

Buttress root A large woody root located at the base of the trunk (the root crown).

Cavity An open wound, characterized by the presence of decay and resulting in a hollow.

Central leader The main stem or bole of the tree.

Codominant trunks. Equal in size and relative importance, usually associated with either the trunks/stems or scaffold limbs/branches in the crown; in the context of crown class, trees whose crowns form the bulk of the upper layer of the canopy but which are crowded by adjacent trees.

Collar The ring of trunk tissue that surrounds a lateral branch at its point of attachment to the stem.

Conk Fruiting or spore producing body of wood decay fungi, forming on the external surface of branches and trunks.

Crown The leaves and branches of a tree measured from the lowest branch on the trunk to the top of the tree.

DBH Diameter of the trunk, measured at breast height (1.4 m [54 in.] above the ground. Contrast with caliper.

Decay Process of degradation of woody tissues by fungi and bacteria through the decomposition of cellulose and lignin.

Decline Progressive decrease in health of organs or the entire plant, usually caused by a series of interacting factors.

Dieback Progressive death of twigs and small branches, generally from tip to base.

Dripline The width of the crown, as measured by the lateral extent of the foliage.

Establishment Point at which roots of a newly planted tree have grown into the surrounding soil, providing access to resources and anchorage

End weight Growth concentrated at the end of branches

Embedded bark Pattern of development at branch junctions where bark is turned inward rather than pushed out. Syn. included bark.

Epicormic shoot Shoot that arises from latent or adventitious buds that occur on stems and branches and on suckers produced from the base of trees.

Failure potential Likelihood that tree or tree part will fail.

Flagging Dieback of entire branches in the crown that are a visual indicator of the presence of Dutch elm disease.

Heading cut Cutting a currently growing or one-year old shoot back to a bud, or cutting an branch to a stub or a branch that is not large enough to assume the terminal role.

Heart rot Decay in the center of the tree (heartwood).

Impact zone Area into which tree may fail.

Included bark Pattern of development at branch junctions where bark is turned inward rather than pushed out; contrast with branch bark ridge. Syn. embeded bark.

Leader. The topmost portion of the tree trunk (stem) that is able to grow more than the laterals below.

Multiple branch attachments Three or more branches of similar size arising near one point. Because of lack of space for development of holding wood, branches are more likely to fail than when branches are arranged vertically along the trunk.

Reaction wood Specialized secondary xylem which develops in response to lean or similar mechanical stress, to restore the stem to the vertical. Occurs as *compression* wood in conifers and *tension* wood in angiosperms.

Reduction cut (drop-crotch cut, lateral cut). Reduces the length of a branch or stem back to a lateral branch large enough to assume the terminal role. Syn. thin to a lateral.

Risk Likelihood or probability that something will happen. Usually associated with negative consequences. In tree management, the likelihood that a tree or tree part will fal and cause injury or damage.

Risk assessment. Process of evaluating what unexpected things could happen, how likely it is, and what the likely outcomes are. In tree management, the systematic process to determine the level of risk posed by a tree, tree part, or group of trees.

Risk rating A qualitative assessment of the relative risk posed by individual trees within a population of trees.

Risk reduction. Treatment applied to tree or target to reduce risk.

Root crown. The junction of root and stem

Root collar inspection Examination of the junction of root and stem, aimed at determining stability, presence of disease, decay and other defects.

Saprot Type of decay where fungi attack those parts of the xylem functioning in water, mineral element and carbohydrate transport and storage.

Scaffold In decurrent trees, the large branches that form the main structure of the crown.

Seam The characteristic vertical line that appears where two edges of woundwood or callus ridge meet. Commonly found at branch junctions where bark is included and between the two edges of callus/woundwood at the center of a cavity or wound

Stem. The main trunk of a tree or other plant.

Suppressed One of four types of crown class; trees that have been overtopped by adjacent trees.

Target. Person object, or structure that could be harmed by a tree or tree part in the event of failure.

Topping Pruning technique to reduce height by heading of large branches. Generally considered poor practice. Syn. dehorning, lopping, hat-racking.

Vigor Overall health; the capacity to grow and resist physiological stress.

Wound Any injury which induces a compartmentalization response.

Woundwood Lignified, partially differentiated tissue which develops from callus associated with wounds.

Tree Assessment

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TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
1	American elm	Original	34	3	Minor	Multiple attachments at 15'; cavity at 5' & 15'; proved lower cavity to 20"; one sided NE. to trail; heavy /low laterals NE.
2	American elm	Original	26	3	Minor	Codominant trunks at 7'; 22" stem upright, 26" stem bowed over Hwy. 29 reduced; basal wpunds; lower trunk sounds hollow; heavy lateral NE.
3	American elm	Original	28	2	Moderate	Codominant trunks at 15'; 14" stem upright with decay at attachment; 8" dead stem extends over Hwy. 29 but reduced; cavities @ 8' SW.; lower trunk sounds hollow.
4	American elm	Original	32	3	Moderate	Codominant trunks at 5' & 15'; 16" stems upright with decay;
5	American elm	Second	1	0	--	Hit by car as of 6/19.
6	American elm	Second	1	5	--	Good form; low branch E.
7	American elm	Original	29	4	Minor	Codominant trunks at 6' & 10'; 10" & 18" stems upright with decay; 16" stem extends over Hwy. 29 but reduced; large basal wound S.
8	American elm	Original	25	2	Moderate	Codominant trunks at 7' & 10'; 18" stem upright and topped at 16'; small branches extend over Hwy. 29; basal cavity SW. probed to 2'; lower trunk sounds hollow.
9	American elm	First	2	5	--	Multiple attachments in upper crown: upright form.
10	American elm	First	2	5	--	Good, uupright form.
11	American elm	Second	2	5	--	Good, uupright form; still staked.
12	American elm	Original	31	0	--	Removed.
13	American elm	Original	28	3	Moderate	Codominant trunks at 6'; 18" stem upright; 12" stem extends over trail but reduced; old cavity @ 4' E.; lower trunk sounds hollow.
14	American elm	Original	29	3	Minor	Codominant trunks at 5'; 18" stem upright; 15" stem extends
15	American elm	Third	1	5	--	Good form; planted in basket.

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TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
16	American elm	Original	28	2	Sinificant	Codominant trunks at 7'; 16" stem w/slight lean to Hwy. 29 bit topped at 30'; 12" stem extends over trail; cavity @ 6' E. w/ hollow sounds below; dieback/flagging.
17	American elm	Original	28	2	Sinificant	Codominant trunks at 7'; 12" stem extends to Hwy. 29 but
18	American elm	Second	1	5	--	Good form; low branches.
19	American elm	First	2	5	--	Multiple attachments in upper crown: upright form.
20	American elm	First	3	5	--	Multiple attachments at 10': upright form; low branches.
21	American elm	First	3	5	--	Codominant trunks at 7': upright form; twig dieback.
22	American elm	First	4	5	--	Low branches; upright form; twig dieback.
23	American elm	Second	3	5	--	Upright form.
24	American elm	Second	3	5	--	Upright form; low branches.
25	American elm	Third	1	5	--	Upright form.
26	American elm	First	5	5	--	Codominant trunks at 8'; low branches.
27	American elm	Third	1	5	--	Upright form.
28	American elm	First	3	5	--	Codominant trunks at 10'; low branches; embedded stake tie.
29	American elm	First	5	4	--	Multiple attachments at 6'; low branches; trunk wound; crossing branches; embedded stake tie.
30	American elm	First	4	4	--	Multiple attachments at 5'; low branches; trunk wound; dieback in upper crown.
31	American elm	Third	1	5	--	Upright form.
32	American elm	Third	1	5	--	Upright form.
33	American elm	Original	21	0	--	Removed.
34	American elm	Original	24	0	--	Removed.

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TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
35	American elm	Original	24	2	Sinificant	Codominant trunks at 7' & 15'; 16" stem w/slight lean to Hwy. 29; 8" & 12" stems extends over trail; basal cavity E.; dieback/flagging.
36	American elm	Original	22	3	Minor	Multiple attachments at 7'; 6" branch extends slightly over Hwy. 29; 18' stem upright; smaller stems extend over trail; basal cavity SW.. w/ hollow sounds around; dieback.
37	American elm	Original	24	3	Minor	Multiple attachments at 8'; small dead branches extend over Hwy. 29; 15' stem upright; smaller stems extend over trail but reduced; basal cavity SW.. w/ hollow sounds around; dieback.
38	American elm	Original	24	3	Minor	Codominant trunks at 7'; 6" branch extends slightly over Hwy. 29; 16' stem upright; 14" stem extends over trail; dieback.
39	American elm	Original	23	3	Minor	Codominant trunks at 7'; 14" stem extends slightly over Hwy. 29; 14' stem & 6" branch extend over trail; basal cavity SW.; dieback.
40	American elm	Original	26	4	Minor	Codminant trunks at 15'; upright, narrow form; small branches extend over Hwy. 29; 10" stem extends to trail; dieback.
41	American elm	Original	27	3	Minor	Codominant trunks at 7'; one sided NE. to trail; wounds & decay in attachment; dieback.
42	American elm	Original	27	2	Moderate	Multiple attachments at 8'; 8" stem extends over Hwy. 29 reduced; 18" & 10" stems upright; smaller stems extend over trail; basal cavity N.; lower trunk sounds hollow; dieback.

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TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
43	American elm	Original	28	3	Minor	Codominant trunks at 7'; 18" stem upright w/ 8" branch over Hwy. 29; 18' stem bowed over trail; basal cavity W.. probed to 18"; hollow sounds around cavity; dieback.
44	American elm	Third	1	5	--	Upright form.
45	American elm	Original	26	3	Minor	One sided NE. to trail; 8" branch extends slightly to Hwy. 29; 14" & 8" stems extend over trail; epicormics & dieback.
46	American elm	Original	24	3	Minor	Multiple attachments at 8'; 12" & 10" stems extend over Hwy. 29 but reduced; 16" stem upright; dieback.
47	American elm	Second	2	5	--	Multiple attachments at 10'; upright form; low branch S.
48	American elm	Third	1	5	--	Upright form.
49	American elm	Original	24	0	--	Removed.
50	American elm	Original	28	2	Minor	Codominant trunks at 7'; 18" stem upright; 20" stem bowed NE. over trail; basal wound SW.; mostly epicormics.
51	American elm	Third	1	5	--	Upright form; planted in wire basket.
52	American elm	Original	22	2	Moderate	Multiple attachments at 10'; dead top over Hwy. 29; 3 stems 8-12" extend over trail.
53	American elm	Third	1	5	--	Upright form; planted in wire basket.
54	American elm	Original	27	2	Moderate	Multiple attachments at 10'; dead top over Hwy. 29; 14" stem extends over trail; trunk wounds.
55	American elm	Third	1	5	--	Multiple attachments at 10'; upright form; planted in wire basket; still staked.
56	American elm	First	3,2,2,2	3	--	Multiple attachments at base; central leader dead.
57	American elm	Third	2	5	--	Upright form; planted in wire basket.
58	American elm	Third	1	5	--	Upright form; planted in wire basket.

TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
59	American elm	Original	23	3	Minor	Multiple attachments at 18'; stems over Hwy. 29 topped; small dead branches extend over trail; basal cavity SW.; lower trunk sounds hollow around cavity.
60	American elm	Original	24	2	Moderate	Multiple attachments at 10'; stems over Hwy. 29 topped; 10" & 12" stems extend over trail; old basal cavity SW.; lower trunk sounds hollow around cavity.
61	American elm	Original	21	3	Minor	Codominant trunks at 8'; 18" stem leans slightly over Hwy. 29; 10"'stem & small branches extend over trail; old basal cavity SW.; lower trunk sounds hollow around cavity.
62	American elm	Original	25	3	Minor	Multiple attachments at 8'; one sided NE.; small branches over Hwy. 29; 3 stems 10"-14" extend over trail; dieback.
63	American elm	Original	23	3	Minor	Codominant trunks at 8'; small branches extend over Hwy. 29; 8" & 12" stems extend over trail; old basal cavity W.
64	American elm	Original	25	3	Minor	Multiple attachments at 10'; 12" stem over Hwy. 29; 10" & 20" stems & dead branches extend over trail; trunk wound & basal cavity SW.; lower trunk sounds hollow around cavity.
65	American elm	Original	22	3	Minor	Multiple attachments at 18'; stems over Hwy. 29 reduced; 3 8" stems & small dead branches extend over trail; dieback.
66	American elm	Original	22	3	Minor	Multiple attachments at 18'; stems over Hwy. 29 topped; small stems & branches extend over trail; old basal cavity SW.
67	American elm	Original	22	2	Minor	Topped at 25'-30'; small crown; basal wound SW.; lower trunk sounds hollow; little extends over Hwy. 29 or trail.

TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
68	American elm	Original	20	2	Minor	Topped at 25'-30'; small crown; basal wound SW.; lower trunk sounds hollow; little extends over Hwy. 29 or trail.
69	American elm	Original	24	2	Minor	Topped at 30'; 8" branch over Hwy. 29; 6"-10" branches over trail reduced; basal cavity SW.; lower trunk sounds hollow around cavity.
70	American elm	Original	21	2	Minor	Topped at 20'; small branches over Hwy. 29; 10" stem over trail reduced; large trunk wound W.
71	American elm	Original	22	2	Minor	Codominant trunks at 8'; crown reduced; little over Hwy. 29; 2 7" stems over trail; dead branches.
72	American elm	Second	3	5	--	Multiple attachments at 10'; upright form.
73	American elm	First	4,4	4	--	Codominant trunks at base; narrow attachment; upright form.
74	American elm	Second	2,1	5	--	Multiple attachments at base/low branching; upright form.
75	American elm	Third	1	5	--	Upright form.
76	American elm	Second	3	5	--	Multiple attachments at 7'; upright form.
77	American elm	Second	2	5	--	Upright form.
78	American elm	Second	2	5	--	Upright form.
79	American elm	Third	1	5	--	Multiple attachments in upper crown; upright form; still staked.
80	American elm	Original	28	3	Minor	Multiple attachments at 10'; topped for overhead utilities; 14" stem extends over Hwy. 29.
81	American elm	Original	28	3	Minor	Codominant trunks at 10'; topped for overhead utilities; 84" stem extends over Hwy. 29; 18" stem forms heavy lateral SW. over orchard.

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TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
82	American elm	Original	27	3	Minor	Multiple attachments at 10'; topped for overhead utilities; 8" stem extends over Hwy. 29 but reduced; 2 12" stems form heavy laterals SW. over orchard; trunk wound NE.
83	American elm	Third	1	5	--	Upright form.
84	American elm	Original	26	3	Minor	Multiple attachments at 8'; topped for overhead utilities; 10" stem extends over Hwy. 29 but reduced 18" stem extends SW. over orchard.
85	American elm	Original	28	2	Moderate	Multiple attachments at 12'; topped for overhead utilities; 2 12" stems extendsover Hwy. 29 but reduced; 12" stem extends SW. over orchard.
86	American elm	Third	1	5	--	Upright form; still staked.
87	American elm	Second	3	4	--	Codominant trunks at 4'. .
88	American elm	Second	2	5	--	Codominant trunks at 8'; upright form.
89	American elm	Second	2	5	--	Multiple attachments at 10'; upright form.
90	American elm	Third	1	5	--	Upright form; still staked.
91	American elm	Second	3	5	--	Multiple attachments at 6'; upright form; basal swelling.
92	American elm	Original	31	3	Minor	Multiple attachments w10'; topped for overhead utilities; heavy laterals NW. & W.; trunk wound & small cavity N.; dieback.
93	American elm	Original	34	3	Minor	Multiple attachments at 10'; topped for overhead utilities; heavy lateral SW.; stem over Hwy. 29 reduced; basal cavity w/ decay NW.
94	American elm	Original	28	3	Minor	Multiple attachments at 10'; narrow form; topped for overhead utilities; heavy lateral SW.

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TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
95	American elm	Original	30	3	Minor	Multiple attachments at 8'; topped for overhead utilities; heavy lateral SW.; lower stem SW. reduced but has wound & decay in upper side.
96	American elm	Third	1	5	--	Multiple attachments at 10'; upright form; still staked.
97	American elm	Third	1	5	--	Multiple attachments in upper crown; upright form; still staked.
98	American elm	Third	1	5	--	Upright form; still staked.
99	American elm	Original	33	2	Minor	Multiple attachments at 10'; decay column W. just below attachments; topped for overhead utilities; majority of crown NE. over Hwy. 29.
100	American elm	Original	32	3	Minor	Multiple attachments at 10'; basal wound & decay NE.; topped for overhead utilities; lateral SW. wounded & decayed on upper side; dieback.
101	American elm	Original	30	3	Minor	Codominant trunks at 8'; upper portion of W. stem dead & decayed ; wound & decay at attachment of W. stem; topped for overhead utilities.
102	American elm	Third	1	5	--	Multiple attachments in upper crown; tpright form; still staked.
103	American elm	Original	33	2	Minor	Decay column E. from ground to 7'; topped for overhead utilities; one stem SW reduced, other not reduced.
104	American elm	Original	31	2	Minor	Large decay column N. from ground to 30' on central leader; topped for overhead utilities; cavities at 7' E. & S.
105	American elm	Original	31	3	Moderate	I'll be sided W.; large basal wound E.; topped for overhead utilities; moderate dieback to 8" E.

TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
106	American elm	Original	27	3	Moderate	Codominant trunks at 8'; small cavity E. below attachments; topped for overhead utilities; W. stem mostly dead.
107	American elm	Original	31	3	Minor	Codominant trunks at 8' & 12'; basal wound E.; W. stem forms heavy lateral; topped for overhead utilities; dieback in upper crown.
108	American elm	Original	34	3	Minor	Multiple attachments at 10'; one sided w/ heavy lateral W.; stems E. reduced; topped for overhead utilities; moderate dieback.
109	American elm	Original	26	2	Moderate	Codominant trunks at 15'; one sided W./stems E. removed; cavities @ base & 7' form decay column E.; topped for overhead utilities; moderate dieback.
110	American elm	Original	33	3	Minor	One sided W.; stems removed E.; large basal wound E.; two stems W. form heavy laterals; topped for overhead utilities; moderate dieback.
111	American elm	Original	28	3	Moderate	Multiple attachments at 10'; one sided W. but reduced; cavity & decay in attachment; topped for overhead utilities; moderate dieback in upper crown.
112	American elm	Original	30	2	Sinificant	Multiple attachments at 8'; centeal leader dead; large basal wound & decay E.; topped for overhead utilities; moderate flagging throughout crown.
113	American elm	Original	30	1	Sinificant	Multiple attachments at 8'; one dead 8" branch E.; crown mostly small epicormics; topped for overhead utilities; extensive dieback.
114	American elm	Third	1	5	--	Upright form; still staked.
115	American elm	Second	2,2	5	--	Codominant trunks at base; upright form.

TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
116	American elm	Second	3	5	--	Codominant trunks at 8'; upright form.
117	American elm	Second	3	5	--	Codominant trunks at 5'; upright form; low branching.
118	American elm	First	5	5	--	Multiple attachments at 10'; upright form; low branching.
119	American elm	Third	1	5	--	Codominant trunks at 10'; upright form.
120	American elm	Third	1	5	--	Slight lean W.; still staked.
121	American elm	Original	27	4	Minor	Multiple attachments at 12'; topped for overhead utilities; laterals E. & W.
122	American elm	Original	23	3	Minor	Codominant trunks at 10'; one sided E.; topped for overhead utilities.
123	American elm	Original	20	3	Minor	Small crown; topped for overhead utilities; laterals E. & W. reduced.
124	American elm	Original	20	3	Minor	Codominant trunks at 15'; one sided E.; stem E. reduced; topped for overhead utilities.
125	American elm	Original	22	3	Minor	Codominant trunks at 12'; one sided E.; stem E. reduced; topped for overhead utilities.
126	American elm	Original	22	3	Minor	Codominant trunk at 10' forms heavy lateral E,; cavity at 6' probed to 2' above & 1' below; topped for overhead utilities.
127	American elm	Original	24	3	Minor	Codominant trunks at 15'; stems W. reduced; topped for overhead utilities.
128	American elm	Original	24	3	Minor	Codominant trunks at 12'; topped for overhead utilities.; long lateral E. over Hwy. 29.
129	American elm	Original	27	3	Minor	Slight lean E.; topped for overhead utilities; laterals E. over Hwy. 29.
130	American elm	Original	31	3	Moderate	Codominant trunks at 10'; topped for overhead utilities; long lateral E. over Hwy. 29.

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TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
131	American elm	Original	25	2	Minor	Codominant trunks at 18'; cavity & decay at 3' W. probed 3' above & below; topped for overhead utilities; laterals E. over Hwy. 29.
132	American elm	Original	27	3	Minor	Codominant trunks at 7'; topped for overhead utilities; one stem forms long lateral E. over Hwy. 29; recent branch failure W.
133	American elm	Original	26	3	Minor	Codominant trunks at 15'; slight lean E.; topped for overhead utilities; one stem forms long lateral E. over Hwy. 29.
134	American elm	Original	29	3	Minor	Multiple attachments at 20'; topped for overhead utilities; history of branch failures; decay in wounds from failures.
135	American elm	Original	26	3	Minor	Cavity & decay at 15' W.; majority of weight W.; topped for overhead utilities; lateral E. over Hwy. 29.
136	American elm	Original	25	3	Moderate	Codominant trunks at 12' & 15'; hanger & cracked branch W.; topped for overhead utilities; burl at 15' E.
137	American elm	Original	25	3	Minor	Codominant trunks at 8'; majority of weight SW.; topped for overhead utilities; branch tear out W. @ 15'.
138	American elm	Original	33	3	Minor	Multiple attachments at 12'; stem/branch failures & wounds E.; majority of weight W.; topped for overhead utilities.
139	American elm	Original	25	3	Minor	Very one sided w/ heavy laterals W.; topped for overhead utilities.
140	American elm	Original	28	3	Minor	Codominant trunks at 10'; small hanger & dead wood E.; topped for overhead utilities.

TREE No.	SPECIES	GENERATION	SIZE DIAMETER (in inches)	CONDITION 1=POOR 5=EXCELLENT	FLAGGING	COMMENTS
141	American elm	Original	29	3	Moderate	Codominant trunks at 18'; cavity at 20' W.; history of branch failures at 30' W.; topped for overhead utilities; large trunk wound S.
142	American elm	Original	34	3	Moderate	Codominant trunks at 10'; one stem forms heavy lateral W../one sided W.; topped for overhead utilities.
143	American elm	Original	35	2	Minor	One sided E.; topped for overhead utilities; large basal wound/cavity SE.; smaller cavities at 5' & 10' S.; lower trunk sounds hollow.
144	American elm	Original	36	3	Moderate	Codominant trunks at 12'; topped for overhead utilities; broken branch E.; hard to see structure through epicormics.

Tree Inventory Map

Beringer Elm Tunnel
St. Helena, CA

Prepared for:
City of St. Helena
September 2019

Notes:
1. Tree locations are approximate.

2. Aerial photo provided by ESRI.

Legend
Trees

N

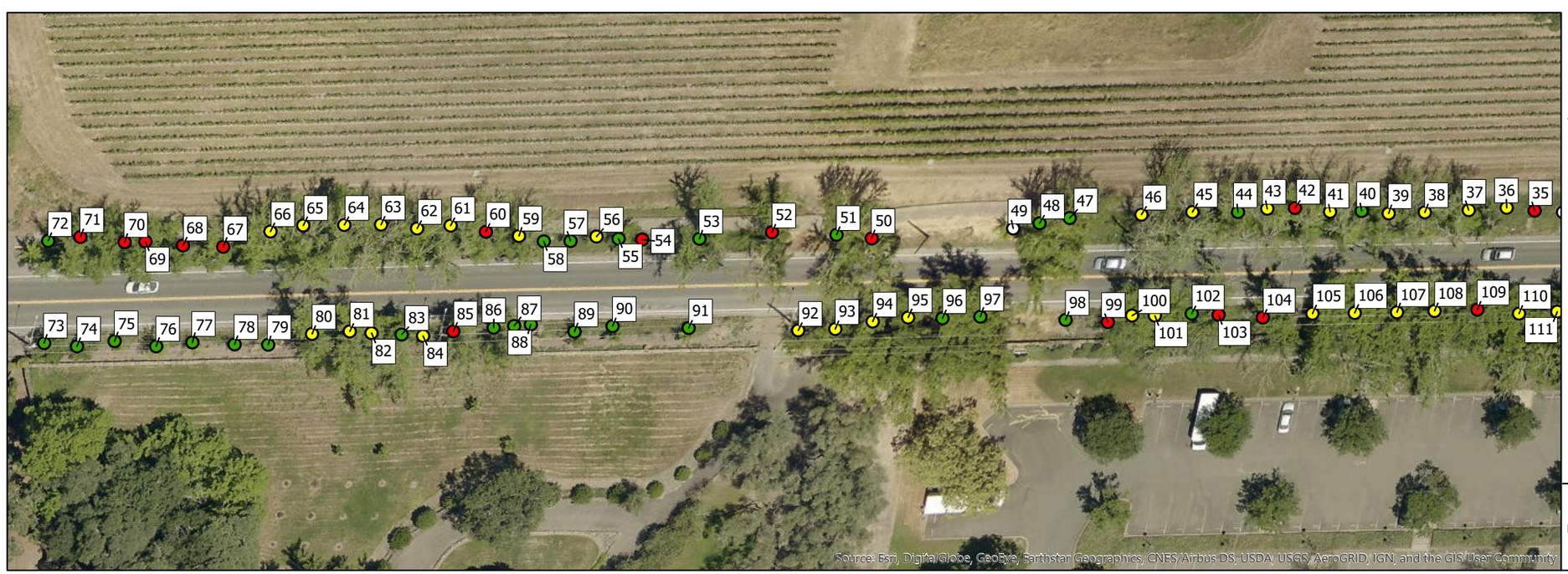
80
Feet

HORT SCIENCE
BARTLETT CONSULTING
325 Ray Street
Pleasanton, CA 94566
925-484-0211

Tree Condition Map

Beringer Elm Tunnel
St. Helena, CA

Prepared for:
City of St. Helena
September 2019



Notes:
1. Tree locations are approximate.

2. Aerial photo provided by ESRI.

3. Color represents tree condition.

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925-484-0211

Mature Tree Management

Beringer Elm Tunnel
St. Helena, CA

Prepared for:
City of St. Helena
September 2019

Notes:
1. Tree locations are approximate.

2. Aerial photo provided by ESRI.

3. Color represents management recommendations for mature trees.

Primary Management Recommendations
- Consider for removal
- Remove
- Prune

N

80 Feet

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Pleasanton, CA 94566
925-484-0211

Advanced Tree Assessment

Beringer Elm Tunnel
St. Helena, CA

Prepared for:
City of St. Helena
September 2019

Notes:
1. Tree locations are approximate.

2. Aerial photo provided by ESRI.

3. Color represents management recommendations for advanced assessment.

Advanced Assessment
- Aerial Inspect and Decay Detection
- Decay Detection

N

80 Feet

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325 Ray Street
Pleasanton, CA 94566
925-484-0211

Young Tree Management

Beringer Elm Tunnel
St. Helena, CA

Prepared for:
City of St. Helena
September 2019

Primary Management Recommendations
- Prune for branch spacing
- Remove
- Prune for central leader

N

80 Feet

Notes:
1. Tree locations are approximate.

2. Aerial photo provided by ESRI.

3. Color represents management recommendations for recently planted trees.

HORT SCIENCE BARTLETT CONSULTING
Divisions of The F.A. Bartlett Tree Expert Company
325 Ray Street
Pleasanton, CA 94566
925-484-0211

Appendix A - Summary of Tree Risk Ratings
Beringer Elms - St. Halena, CA

Tree #	Tree Condition			Defect 1 Risk Assessment					Defect 2 Risk Assessment					Advanced assessment recs	Management comments
	Species	Trunk diameter (inches)	Condition rating 1=poor; 5=excellent	Tree part likely to fail	Targets	Risk rating	Mitigation option	Residual risk	Tree part likely to fail	Targets	Risk rating	Mitigation option	Residual risk		
1	American elm	34	3	Stem	Trail	Moderate	Aerial inspect cavity @ 15'	Moderate	Scaffold branch	Trail	Moderate	Prune to reduce weight/ext.	Low	Aerial insp. & decay detect.	Prune to reduce weight/ext.
2	American elm	26	3	Whole tree	Primary road	Moderate	Test lower trunk for decay	Moderate	Stem	Hwy. 29	Moderate	None	Moderate	Decay detect. If not removed	Consider for removal
3	American elm	28	2	Whole tree	Hwy. 29	Moderate	Test lower trunk for decay or remove tree	None	Scaffold branch	Hwy. 29	Low	Prune to remove dead 8" stem	Low	Aerial insp. & decay detect. If not removed	Consider for removal
4	American elm	32	3	Stem	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Stem	Trail	Moderate	Prune to reduce weight/ext./inspect decay	Low	--	Prune to reduce weight/ext.
7	American elm	29	4	Stem	Hwy. 29	Moderate	Prune to remove 16" stem	Low	Stem	Trail	Moderate	Prune to reduce weight/ext./inspect decay	Low	--	Prune to remove 16" stem
8	American elm	25	2	Whole tree	Trail	Low	Remove tree	None	Stem	Trail	Low	Prune to reduce weight/ext.	Low	Decay detect. If not removed	Consider for removal
12	American elm	31	0											--	Removed as of 6/19
13	American elm	28	3	Whole tree	Trail	Low	Test lower trunk for decay	Moderate	Stem	Trail	Low	Prune to remove part	Low	Consider decay detection	None
14	American elm	29	3	Whole tree	Trail	Low	None	Low	Stem	Trail	Low	None	Low	Consider decay detection	None
16	American elm	28	2	Whole tree	Hwy. 29	Moderate	Remove tree	None	Stem	Trail	Moderate	Prune to reduce weight/ext.	Low	Decay detect. If not removed	**Remove tree**
17	American elm	28	2	Stem	Hwy. 29	Moderate	Remove tree	None	Scaffold branch	Trail	Low	None	Low	--	**Remove tree**
33	American elm	21	0											--	Removed as of 6/19
34	American elm	24	0											--	Removed as of 6/19
35	American elm	24	2	Dead branch	Hwy. 29	Moderate	Prune to crown clean	Low	Stem	Trail	Low	Prune to reduce weight/ext. & crown clean	Low	--	Consider for removal
36	American elm	22	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Stem	Trail	Low	None	Low	--	Prune to reduce weight/ext.
37	American elm	24	3	Dead branch	Hwy 29	Moderate	Prune to crown clean	Low	Stem	Trail	Low	None	Low	--	Prune to crown clean
38	American elm	24	3	Scaffold branch	Hwy. 29	Low	None	Low	Scaffold branch	Trail	Moderate	Prune to reduce weight/ext.	Low	--	None
39	American elm	23	3	Stem	Hwy. 29	Moderate	Prune to reduce height/extension	Low	Scaffold branch	Trail	Low	None	Low	--	Prune to reduce height/extens

Appendix A - Summary of Tree Risk Ratings
Beringer Elms - St. Halena, CA

Tree #	Tree Condition			Defect 1 Risk Assessment					Defect 2 Risk Assessment					Advanced assessment recs	Management comments
	Species	Trunk diameter (inches)	Condition rating 1=poor; 5=excellent	Tree part likely to fail	Targets	Risk rating	Mitigation option	Residual risk	Tree part likely to fail	Targets	Risk rating	Mitigation option	Residual risk		
40	American elm	26	4	Stem	Hwy. 29	Moderate	Prune to reduce height/extension	Low	Stem	Trail	Low	None	Low	--	Prune to reduce height/extens
41	American elm	27	3	Stem	Trail	Moderate	Test decay in attachment & prune to reduce weight/ext.	Moderate	--	--	--	--	--	Aerial insp. & decay detect.	Test decay in attachment & pr
42	American elm	27	2	Stem	Hwy. 29	Moderate	Prune to remove part	Low	Whole tree	Trail	Low	None	Low	Consider decay detection	Prune to remove 8” stem
43	American elm	28	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce height/extension	Low	Stem	Trail	Moderate	Prune to reduce weight/ext.	Low	Consider decay detection	Prune to reduce height/extens
45	American elm	26	3	Stem	Trail	Moderate	Prune to reduce weight/ext.	Low						--	Prune to reduce weight/ext.
46	American elm	24	3	Stem	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Scaffold branch	Trail	Low	None	Low	--	Prune to reduce weight/ext.
49	American elm	24	0											--	Removed as of 6/19
50	American elm	28	2	Scaffold branch	Hwy. 29	Low	None	Low	Scaffold branch	Trail	Moderate	Prune to reduce weight/ext.	Low	--	Consider for removal
52	American elm	22	2	Dead branch	Hwy. 29	Moderate	Prune to crown clean	Low	Stem	Trail	Moderate	Prune to reduce weight/ext.	Low	--	Consider for removal
54	American elm	27	2	Dead branch	Hwy. 29	Moderate	Prune to crown clean	Low	Stem	Trail	Low	Prune to reduce weight/ext.	Low	--	Consider for removal
59	American elm	23	3	Dead branch	Trail	Moderate	Prune to crown clean & reduce weight/ext.	Low	Whole tree	Hwy. 29	Moderate	Decay detection or remove tree	Moderate	Consider decay detection	Prune to crown clean & reduc
60	American elm	24	2	Stem	Trail	Low	Prune to reduce weight/ext.	Low	--	--	--	--	--	Consider decay detection	None
61	American elm	21	3	Scaffold branch	Hwy. 29	Low	None	Low	Stem	Trail	Low	None	Low	Consider decay detection	None
62	American elm	25	3	Stem	Trail	Low	Prune to reduce weight/ext.	Low	--	--	--	--	--	--	None
63	American elm	23	3	Scaffold branch	Hwy. 29	Low	None	Low	Stem	Trail	Low	Prune to reduce weight/ext.	Low	--	None
64	American elm	25	3	Stem	Hwy. 29	Moderate	Prune to reduce height/extension	Low	Dead branch	Trail	Moderate	Prune to reduce weight/ext. & crown clean	Low	Consider decay detection	Prune to reduce height/extens

Appendix A - Summary of Tree Risk Ratings
Beringer Elms - St. Halena, CA

Tree #	Tree Condition			Defect 1 Risk Assessment					Defect 2 Risk Assessment					Advanced assessment recs	Management comments
	Species	Trunk diameter (inches)	Condition rating 1=poor; 5=excellent	Tree part likely to fail	Targets	Risk rating	Mitigation option	Residual risk	Tree part likely to fail	Targets	Risk rating	Mitigation option	Residual risk		
65	American elm	22	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce height/extension	Low	Stem	Trail	Low	Prune to reduce weight/ext.	Low	--	Prune to reduce height/extens
66	American elm	22	3	Dead branch	Hwy. 29	Moderate	Prune to crown clean	Low	Scaffold branch	Trail	Low	None	Low	--	Prune to crown clean
67	American elm	22	2	Whole tree	Hwy. 29	Moderate	Decay detection or remove tree	Moderate	Dead branch	Trail	Moderate	Prune to crown clean	Low	Decay detect. If not removed	Consider for removal
68	American elm	20	2	Whole tree	Hwy. 29	Moderate	Decay detection or remove tree	Moderate	Scaffold branch	Trail	Low	Prune to reduce weight/ext.	Low	Decay detect. If not removed	Consider for removal
69	American elm	24	2	Scaffold branch	Hwy. 29	Low	None	Low	Stem	Trail	Low	Prune to reduce weight/ext.	Low	Decay detect. If not removed	Consider for removal
70	American elm	21	2	Stem	Trail	Low	Prune to reduce weight/ext.	Low	--	--	--	--	--	--	Consider for removal
71	American elm	22	2	Scaffold branch	Hwy. 29	Moderate	Prune to reduce height/extension	Low	Stem	Trail	Low	Prune to reduce weight/ext.	Low	--	Consider for removal
80	American elm	28	3	Stem	Hwy. 29	Moderate	Prune to reduce height/extension	Low	--	--	--	--	--	--	Prune to reduce height/extens
81	American elm	28	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Scaffold branch	Orchard	Low	Prune to reduce weight/ext.	Low	--	Prune to reduce weight/ext.
82	American elm	27	3	Stem	Hwy. 29	Low	None	Low	Scaffold branch	Orchard	Low	Prune to reduce weight/ext.	Low	--	None
84	American elm	26	3	Stem	Hwy. 29	Low	None	Low	Scaffold branch	Orchard	Low	None	Low	--	None
85	American elm	28	2	Stem	Hwy. 29	Moderate	Prune to reduce height/extension	Low	Stem	Orchard	Low	None	Low	--	Consider for removal
92	American elm	31	3	Scaffold branch	Driveway	Moderate	Prune to reduce weight/ext.	Low	Stem	Hwy. 29	Moderate	None	Moderate	Consider decay detection	Prune to reduce weight/ext.
93	American elm	34	3	Stem	Hwy. 29	Moderate	Remove stem	Low	Stem	Landscape	Low	Prune to reduce weight/ext.	Low	--	Remove 10" stem
94	American elm	28	3	Scaffold branch	Hwy. 29	High	Prune to reduce weight/ext.	Low	Scaffold branch	Landscape	Low	None	Low	--	Prune to reduce weight/ext.
95	American elm	30	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Stem	Parking	Low	Prune to reduce weight/ext.	Low	Aerial insp. & decay detect.	Prune to reduce weight/ext.
99	American elm	33	2	Stem	Hwy. 29	High	Remove tree	None	Scaffold branch	Landscape	Low	None	Low	Decay detect. If not removed	**Remove tree**

Appendix A - Summary of Tree Risk Ratings
Beringer Elms - St. Halena, CA

Tree #	Tree Condition			Defect 1 Risk Assessment					Defect 2 Risk Assessment					Advanced assessment recs	Management comments
	Species	Trunk diameter (inches)	Condition rating 1=poor; 5=excellent	Tree part likely to fail	Targets	Risk rating	Mitigation option	Residual risk	Tree part likely to fail	Targets	Risk rating	Mitigation option	Residual risk		
100	American elm	32	3	Stem	Parking	Moderate	Prune to reduce weight/ext.	Low	Whole tree	Hwy. 29	Low	None	Low	Decay detect. If not removed	Consider for removal
101	American elm	30	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Scaffold branch	Landscape	Low	None	Low	Aerial insp. & decay detect.	Prune to reduce weight/ext.
103	American elm	33	2	Stem	Hwy. 29	High	Remove tree	None	Scaffold branch	Parking	Low	Prune to reduce weight/ext.	Low	Decay detect. If not removed	**Remove tree**
104	American elm	31	2	Stem	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Stem	Parking	Moderate	Prune to reduce weight/ext.	Low	Decay detect. If not removed	Consider for removal
105	American elm	31	3	Dead branch	Parking	Low	Prune to crown clean	Low	Stem	Parking	Low	Prune to reduce weight/ext.	Low	--	None
106	American elm	27	3	Stem	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Dead branch	Parking	Moderate	Prune to crown clean	Low	--	Prune to reduce weight/ext.
107	American elm	31	3	Stem	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Stem	Parking	Moderate	Prune to reduce weight/ext.	Low	--	Prune to reduce weight/ext.
108	American elm	34	3	Stem	Hwy. 29	Low	None	Low	Stem	Parking	Moderate	Prune to reduce weight/ext.	Low	--	None
109	American elm	26	2	Scaffold branch	Hwy. 29	Low	None	Low	Stem	Landscape	Low	None	Low	Decay detect. If not removed	Consider for removal
110	American elm	33	3	Stem	Parking	Moderate	Prune to reduce weight/ext.	Low	--	--	--	--	--	--	Prune to reduce weight/ext.
111	American elm	28	3	Stem	Hwy. 29	Moderate	None	Moderate	Stem	Landscape	Low	None	Low	Aerial insp. & decay detect.	None
112	American elm	30	2	Stem	Hwy. 29	Moderate	Remove tree	None	Stem	Parking	Low	Remove tree	None	--	**Remove tree**
113	American elm	30	1	Dead branch	Hwy. 29	High	Remove tree	None	--	--	--	--	--	--	**Remove tree**
121	American elm	27	4	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Scaffold branch	Landscape	Low	None	Low	--	Prune to reduce weight/ext.
122	American elm	23	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	--	--	--	--	--	--	Prune to reduce weight/ext.
123	American elm	20	3	Scaffold branch	Hwy. 29	Low	None	Low	Stem	Landscape	Low	None	Low	--	None
124	American elm	20	3	Stem	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Scaffold branch	Landscape	Low	None	Low	--	Prune to reduce weight/ext.
125	American elm	22	3	Stem	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Scaffold branch	Landscape	Low	None	Low	--	Prune to reduce weight/ext.
126	American elm	22	3	Stem	Hwy. 29	High	Remove stem	Low	Scaffold branch	Landscape	Low	None	Low	Consider decay detection	Remove 10" stem
127	American elm	24	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Stem	Landscape	Low	None	Low	--	Prune to reduce weight/ext.
128	American elm	24	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Dead branch	Landscape	Low	None	Low	--	Prune to reduce weight/ext.

Appendix A - Summary of Tree Risk Ratings
Beringer Elms - St. Halena, CA

Tree #	Tree Condition			Defect 1 Risk Assessment					Defect 2 Risk Assessment					Advanced assessment recs	Management comments
	Species	Trunk diameter (inches)	Condition rating 1=poor; 5=excellent	Tree part likely to fail	Targets	Risk rating	Mitigation option	Residual risk	Tree part likely to fail	Targets	Risk rating	Mitigation option	Residual risk		
129	American elm	27	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Scaffold branch	Landscape	Low	None	Low	--	Prune to reduce weight/ext.
130	American elm	31	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	--	--	--	--	--	--	Prune to reduce weight/ext.
131	American elm	25	2	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Whole tree	Hwy. 29	Moderate	Remove tree	None	Decay detect. If not removed	Consider for removal
132	American elm	27	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Scaffold branch	Lawn	Low	None	Low	--	Prune to reduce weight/ext.
133	American elm	26	3	Scaffold branch	Hwy. 29	High	Prune to reduce weight/ext.	Low	Scaffold branch	Lawn	Low	None	Low	--	Prune to reduce weight/ext.
134	American elm	29	3	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	Scaffold branch	Lawn	Low	None	Low	--	Prune to reduce weight/ext.
135	American elm	26	3	Scaffold branch	Hwy. 29	High	Prune to reduce weight/ext.	Low	Whole tree	Lawn	Low	Aerial inspection & decay detection	Low	Aerial insp. & decay detect. If not removed	Consider for removal
136	American elm	25	3	Scaffold branch	Hwy. 29	Low	None	Low	Dead branch	Lawn	Moderate	Prune to remove parts	Low	--	None
137	American elm	25	3	Scaffold branch	Hwy. 29	Low	None	Low	Stem	Lawn	Low	None	Low	--	None
138	American elm	33	3	Scaffold branch	Hwy. 29	High	Prune to reduce weight/ext.	Low	Scaffold branch	Lawn	Low	None	Low	--	Prune to reduce weight/ext.
139	American elm	25	3	Stem	Lawn	Low	Prune to reduce weight/ext.	Low	--	--	--	--	--	--	Consider for removal
140	American elm	28	3	Hanger/dead branch	Hwy. 29	Moderate	Prune to remove part & reduce	Called City	Scaffold branch	Lawn	Low	None	Low	--	Prune to reduce weight/ext.
141	American elm	29	3	Scaffold branch	Hwy. 29	Low	None	Low	Stem	Lawn	Low	Prune to reduce weight/ext.	Low	--	Consider for removal
142	American elm	34	3	Scaffold branch	Hwy. 29	Low	None	Low	Stem	ndary road/entry	Low	Prune to reduce weight/ext.	Low	--	None
143	American elm	35	2	Whole tree	Hwy. 29	Moderate	Remove tree	None	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	None	Decay detect. If not removed	**Remove tree**
144	American elm	36	3	Scaffold branch	Hwy. 29	High	Prune to remove part	Low	Scaffold branch	Hwy. 29	Moderate	Prune to reduce weight/ext.	Low	--	Prune to reduce weight/ext.

Appendix B: Young Tree Management Recommendations

Beringer Elms, St. Halena

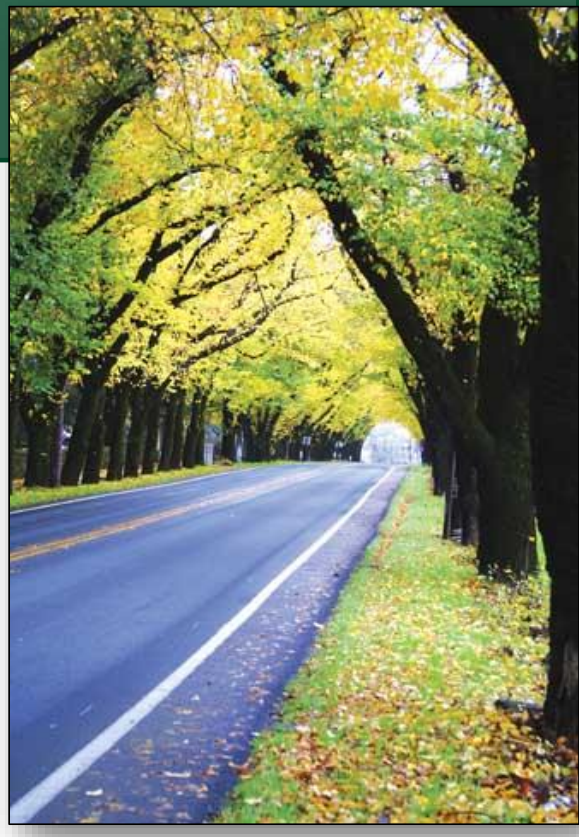
Tree #	Trunk diameter	Primary recommendations	Secondary recommendations	Tertiary recommendations	Quaternary recommendations
5	1	(Hit by car 6/19)	--	--	--
6	1	Prune to improve branch spacing	--	--	--
9	2	Select central leader	Prune to improve branch spacing	--	--
10	2	Prune to improve branch spacing	--	--	--
11	2	Prune to improve branch spacing	Remove stakes	--	--
15	1	Prune to improve branch spacing	--	--	--
18	1	Prune to improve branch spacing	Prune to remove low branches	--	--
19	2	Select central leader	Prune to improve branch spacing	--	--
20	3	Select central leader	Prune to improve branch spacing	Prune to remove low branches	--
21	3	Select central leader	Prune to improve branch spacing	--	--
22	4	Prune to improve branch spacing	Prune to remove low branches	--	--
23	3	Prune to improve branch spacing	--	--	--
24	3	Prune to improve branch spacing	Prune to remove low branches	--	--
25	1	Prune to improve branch spacing	--	--	--
26	5	Select central leader	Prune to improve branch spacing	Prune to remove low branches	--
27	1	Prune to improve branch spacing	--	--	--
28	3	Select central leader	Prune to improve branch spacing	Prune to remove low branches	Remove embedded stake tie
29	5	Select central leader	Prune to improve branch spacing	Prune to remove low branches	Prune to remove crossing branches
30	4	Select central leader	Prune to improve branch spacing	Prune to remove low branches	Prune tp crown clean
31	1	Prune to improve branch spacing	--	--	--
32	1	Prune to improve branch spacing	--	--	--
44	1	Prune to improve branch spacing	--	--	--
47	2	Select central leader	Prune to improve branch spacing	Prune to remove low branches	--
48	1	Prune to improve branch spacing	--	--	--
51	1	Prune to improve branch spacing	--	--	--
53	1	Prune to improve branch spacing	--	--	--
55	1	Select central leader	Prune to improve branch spacing	Remove stakes	--
56	3,2,2,2	**Remove tree**	--	--	--
57	2	Prune to improve branch spacing	--	--	--
58	1	Prune to improve branch spacing	--	--	--
72	3	Select central leader	Prune to improve branch spacing	--	--
73	4,4	Select central leader	Prune to improve branch spacing	--	--
74	2,1	Prune to improve branch spacing	Prune to remove low branches	--	--
75	1	Prune to improve branch spacing	--	--	--

Appendix B: Young Tree Management Recommendations

Beringer Elms, St. Halena

Tree #	Trunk diameter	Primary recommendations	Secondary recommendations	Tertiary recommendations	Quaternary recommendations
76	3	Select central leader	Prune to improve branch spacing	--	--
77	2	Prune to improve branch spacing	--	--	--
78	2	Prune to improve branch spacing	--	--	--
79	1	Select central leader	Prune to improve branch spacing	Remove stakes	--
83	1	Prune to improve branch spacing	--	--	--
86	1	Prune to improve branch spacing	Remove stakes	--	--
87	3	Select central leader	Prune to improve branch spacing	--	--
88	2	Select central leader	Prune to improve branch spacing	--	--
89	2	Select central leader	Prune to improve branch spacing	--	--
90	1	Prune to improve branch spacing	Remove stakes	--	--
91	3	Select central leader	Prune to improve branch spacing	--	--
96	1	Select central leader	Prune to improve branch spacing	Remove stakes	--
97	1	Select central leader	Prune to improve branch spacing	Remove stakes	--
98	1	Prune to improve branch spacing	Remove stakes	--	--
102	1	Select central leader	Prune to improve branch spacing	Remove stakes	--
114	1	Prune to improve branch spacing	Remove stakes	--	--
115	2,2	Select central leader	Prune to improve branch spacing	--	--
116	3	Select central leader	Prune to improve branch spacing	--	--
117	3	Select central leader	Prune to improve branch spacing	Prune to remove low branches	--
118	5	Select central leader	Prune to improve branch spacing	Prune to remove low branches	--
119	1	Select central leader	Prune to improve branch spacing	Remove stakes	--
120	1	Prune to improve branch spacing	Remove stakes	--	--

Tree Risk Assessment
Beringer Elm Tunnel



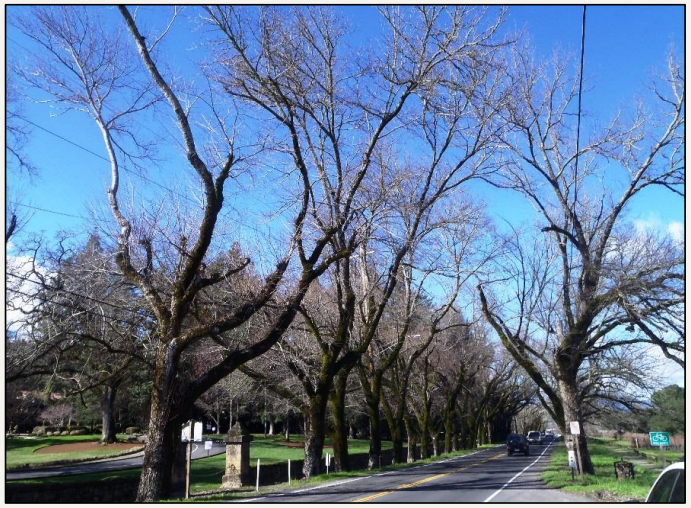
John Leffingwell

City of St. Helena
November 24, 2019

HORT SCIENCE
BARTLETT CONSULTING
A Division of The F.A. Bartlett Tree Expert Company

Background

- Approximately 150 American elms (*Ulmus americana*) were planted by the Beringer Brothers in 1885.



- The two rows of elms create a tunnel of canopy over Highway 29 and contribute to the National Historic Landmark designation of the site.

- Replacement of the trees are constrained by this designation.

- Jurisdiction and management responsibilities include California Department of Transportation (Caltrans), City of St. Helena, the Beringer Winery and the local community.

- Maintenance responsibilities are shared by the State, City and local community, requiring a flexible and strategic plan for preserving the trees and experience.

Methods

- Visual assessment of health and structure of 144 elm trees between Feb. and June 2019.
- Rated the amount of flagging in the crown
- Sounded lower trunk of trees with a rubber mallet and probed cavities
- Rated risk for each tree, using the techniques and methodology described in *Tree Risk Assessment* Best Management Practices (International Society of Arboriculture, 2017).
- Prepared GIS maps of tree locations.

Components of risk rating

- Identify possible targets.
- Identify tree part(s) that could strike one or more target(s).

Likelihood of Failure	Table 1 - Likelihood of Impacting Target			
	Very Low	*Low*	*Medium*	*High*
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

- Evaluate the likelihood for each part to fail.
- Evaluate the likelihood of tree or tree part impacting the target(s).
- For each failure mode (stem, branch or whole tree), identify likelihood for a failure to impact a specified target (Table 1).
- For each failure mode, estimate consequences of the failure.

Likelihood of Failure and Impact	Table 2- Consequences			
	Negligible	*Minor*	*Significant*	*Severe*
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

- For each failure mode, designate the risk (Table 2).

Results – Mature Tree Condition

- A total of 144 trees were assessed - 88 mature trees and 56 young trees
- 71 were on the east side of Highway 29 and 73 were on the west side
- Mature trees varied from 20” to 36” in trunk diameter and were primarily in fair condition (57 trees). 24 were poor, 3 good and 4 were dead.
- Trees had been planted at 18’ OC, resulting in asymmetric forms.
- Trees were now within 5’ to 10’ of edge of roadway, so trunk wounds were common.
- Wounds are colonized by decay organisms and wood is slowly degraded over time.
- 61 trees had minor flagging, 18 had moderate and 5 had significant

Results – Young Tree Condition

- 56 young trees were originally assessed, 55 remain
- Planted in 2 phases (2011 and 2016-2019)
- Trunk diameters ranged from 1” and 5”
- 50 were in excellent condition, 4 were in good and #56 was in fair

- Structures were generally good but multiple trunks, low branching and poor vertical spacing between branches were noted
- 2 trees had embedded stake ties, 5 had been planted in wire baskets and several were still staked

Tree Condition Map

Tree Condition Map

Beringer Elm Tunnel
St. Helena, CA

Prepared for:
City of St. Helena
September 2019

Notes:
1. Tree locations are approximate.
2. Aerial photo provided by ESRI.
3. Color represents tree condition.

Tree Condition
- Dead
- Poor
- Fair
- Good

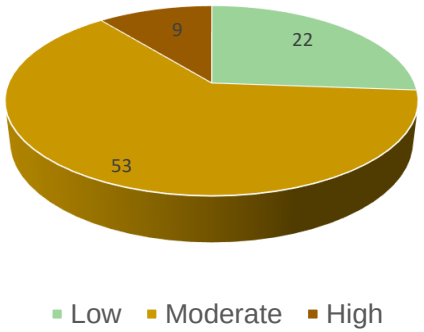
80 Feet

325 Ray Street
Pleasanton, CA 94566
925-484-0211

Results – Risk Assessment

- Rating risk is systematic process focused on trees with observable defects
- Risk assessment captures tree condition/structure at one point in time
- Worked with the City to identify targets and rate occupancy
- Primary and secondary failure modes were evaluated
- Stems and scaffold branches were most common primary failure modes
- Risk assoc. with primary defects was low for 22 trees, moderate for 53 and high for 9

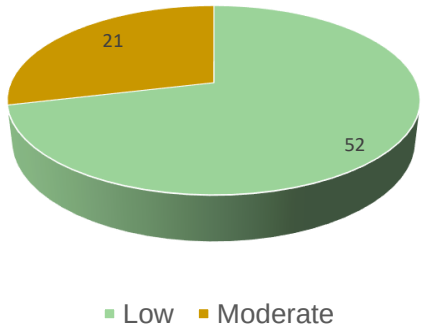
Figure 1
Summary of Risk Ratings for Primary Defects



Results – Risk Assessment

- Stems and scaffold branches were most common secondary failure modes
- Risk assoc. with secondary defects was low for 52 trees and moderate for 21 trees
- Residual risk was considered for each failure mode and would be:
  - Low for 66 primary defects
  - Moderate for 7 of the primary defects
  - Low for 67 of the secondary defects
  - Moderate for 3 of the secondary defects
- Residual remains moderate for some trees
- Broken branches in trees #140 and 144 posed imminent risk and City was alerted to take action

Figure 2
Summary of Risk Ratings for Secondary Defects



Management Recommendations – Risk Abatement

- Risk ratings are meant to help prioritize management
- Tree manager must decide on risk tolerance, as well as goals and constraints to management
- Primary, secondary and advanced assessment recommendations were provided.
- Primary recommendations included:
  - Prune 39 trees
  - Remove 7 trees
  - Remove stems in 4 trees.
  - Consider removal for 20 trees.

Mature Tree Management Map

Management Recommendations – Risk Abatement

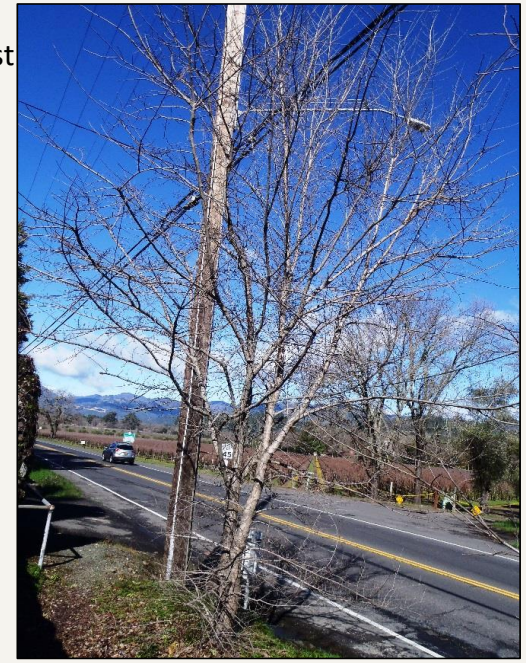
- Secondary recommendations included:
  - Prune 4 trees to reduce branch weight and extension, primarily over Highway 29.
  - Prune 3 trees to clean the crowns of dead, broken and diseased branches.
  - Prune 2 trees to reduce tree height and branch extension.

- Advanced assessments were recommended for 30 trees, including:
  - Consider decay detection for 10 trees
  - Aerial inspection and possible decay detection for 5 trees
  - An addition 15 trees were recommended for decay detection if the City chooses not to remove them.

Advanced Assessment Management Map

Management Recommendations – Young Trees

- Planting:
  - Excavate a large hole and amend with high organic matter compost
  - Create berm and stake
  - Avoid planting in wire baskets



- Irrigation will be required for the first 2-3 years when dry:
  - Year 1 - 5 gallons per app. (ideally twice a week), tapering
  - Year 2 - 8 gallons per app., but once a week
  - Year 3 - 10 gallons every 10 days to 2 weeks
  - Irrigate on an “as needed” basis after year 3
- Annual pruning is critical during first 3-5 years after planting to:
  - Correct defects and establish good form and structure
  - Select central leader and lowest permanent branch
  - Early training also reduces future pruning frequency, intensity and costs as they age, and reduces public risk from tree failures due to structural defects
- Staking:
  - Helps support young trees while the establish, anchor and develop taper
  - Must be removed after 2-3 growing seasons or can hinder development

Young Tree Management Map

Elm Tunnel Management Plan

- The current Elm Tunnel Management Plan (ETMP):
  - Is primarily historical and does not provide tree management guidelines/standards
- A robust ETMP should identify:
  - Goals, actions, tasks, priorities, responsibilities and deadlines
  - Benchmarks to gauge and evaluate success or failure in accomplishing the goals
  - Best management practices for specific tasks, standards, and specifications, as well as budget and staffing analyses
- A robust ETMP should provide the framework for managing the trees from cradle to grave, including specific goals and responsibilities for:
  - near-term and long-term management goals;
  - plant procurement, contract growing, nursery specifications;
  - standards for accepting plant material, planting, pruning, disease management;
  - irrigation methods/volumes/timing;
  - tree risk assessment, management and thresholds for action;
  - wood disposal;
  - shoot/sucker management;
  - tree monitoring frequency, timing, procedures and record-keeping

Dutch Elm Disease Management

- Fungal disease (*Ophiostoma novoulmi* and *O. ulmi)*
- Vectored by bark beetles when they feed on plant parts and breed beneath bark.
- Can also be spread by root grafts and unsanitized equipment
- City is currently treating with:
  - A soil drench of Merit® in late winter/early spring, following leaf emergence.
  - A systemic root flare injections of Shepherd® in late summer to help suppress DED.

- Alternatives include:
  - Degree day monitoring of beetle activity
  - Mycoviruses called d-factors, which limit the reproductive ability of the fungi
  - Verticillium based products, such as 'Dutch-trig', which help induce natural resistance to DED.

Dutch Elm Disease Management

- Recommend Integrated Pest Management approach

- Use a combination of methods, including:
  - Monitoring diseased trees
  - Maintain tree health
  - Control beetle vectors
  - Apply preventive fungicides to healthy trees
  - Replace dead and infected trees with DED resistant American elm varieties
  - Sterilize all equipment to prevent spread of the disease from infected trees to uninfected trees
- Do not recommend trenching between trees to prevent root graft transmission

Long-Range Planning

- Procurement of DED resistant American elm varieties is an ongoing challenge for the City
  - Consider contract growing trees
  - Contract growing may take 1-2 years lead time for trees to be ready

- Successional planning
  - Consider removal of small groups of mature trees
  - Creates gaps in canopy
  - Improves establishment and development

Report to the City Council
Regular City Council - 26 Nov 2019

Agenda Section: **OLD BUSINESS**

Subject: **Discussion and Direction Regarding Process Options for Decisions Related to Civic Building Site Selection, Construction, and Financing Options including Unfunded Stormwater and Streetscape Improvements, and Consideration of a Resolution to Memorialize the City Council's Preferred Approach and Desired Scope/Mission.**

CEQA Determination: **Not a CEQA project**

Prepared By: Preya Nixon, Asst. to the City Manager

Reviewed By: April Mitts, Finance Director

Approved By: Mark T. Prestwich, City Manager

BACKGROUND

On September 17, 2018, the City Council approved a four-phase "City of St. Helena Civic Infrastructure Strategy" framework for City Council decision making to advance discussions for replacement of City Hall, Library improvements, and a possible Community/Recreation space. The Strategy was designed and developed in accordance with the City's Vision and Mission Statement and built upon the criteria established by the 11-member citizen St. Helena Assets Planning Engagement (SHAPE) Committee to honor community values and characteristics. The Strategy consists of four distinct phases to organize the decision-making process and considers work completed during the SHAPE Committee process to be the first step of this comprehensive effort.

City of St. Helena Civic Infrastructure Strategy

- Phase 1-Baseline Research/Public Engagement (Complete)
- Phase 2-City Council Asset Prioritization and Analysis (Underway and nearing completion)

- Phase 3-Planning, Cost Estimates, and Identification of Funding Strategy
- Phase 4-Construction (To be determined)

Pursuant to the work evolving with Phase 2, on August 26, 2019, the City Council held a public workshop to discuss concept site options for the St. Helena Library, City Hall, and conceptual Community/Recreational facilities. This workshop resulted in direction to further evaluate four options associated with City Hall replacement, Library improvements, and a conceptual Community/Recreation space. Noll & Tam Architects, the City's consultant, completed massing sketches and developed preliminary cost estimates for each of the four configurations.

On November 4, 2019, the City Council held a Special Meeting to discuss formulating a decision-making framework to guide important community decisions related to site selection, available funding, and financing options for its civic institutions as well as other infrastructure including storm drains and downtown streetscape. The Council requested staff:

- Develop draft evaluation criteria for Council review that would subsequently guide decision making by aggregating key themes from the City's Vision and Mission Statements, SHAPE Evaluation Criteria, City Three Year Goals, and Council feedback at the November 4, 2019 Special Meeting.

- Options for use of local citizens with subject matter expertise in finance, real estate, construction, and architecture to provide recommendations on site selection and financing strategies for civic infrastructure improvements.

On November 12, 2019, the City Council received a presentation and information from Noll & Tam Architects which included massing sketches and preliminary cost estimates for each of four Council requested configurations and discussed the focus of next steps.

DISCUSSION

Pursuant to Council direction, City staff has prepared draft evaluation criteria for Council review and feedback (attached). Further, staff has prepared three alternatives for Council to consider related to use of local subject matter experts in finance, real estate, construction, and architecture to advance decision making.

Each of the three alternatives are intended to draw upon local subject matter expertise.

Summary of Options

	Option A	Option B	Option C
	Citizen Task Force	**Workshop Series**	**Ad Hoc + Workshops (Hybrid)**
Selection	5-7 subject matter experts appointed by Council		
Transparency	Public meetings	Public workshops	Public workshops following development of Ad Hoc recommendations
Meeting Frequency	Weekly or Semi-weekly	Semi-weekly	At least three community workshops
Staffing Requirements	Higher	Medium	Lower

Details of each option are described in greater depth in the attachments to this report.

Summary
Throughout this process, the City Manager will be available as a resource and will appoint a staff liaison to provide additional support. Attached is a draft resolution that can be finalized with Council direction to memorialize the preferred approach and desired scope/mission.

FISCAL IMPACT
The purpose of this report is to organize decision making associated with civic building site selection, renovation and/or new construction, and framework for evaluating financing options to fund desired civic buildings and infrastructure, including unfunded stormwater and streetscape improvements.

RECOMMENDED ACTION
Provide direction to the City Manager.

ATTACHMENTS
Draft Civic Institutions Criteria
Option A - Citizen Task Force
Option B – Workshop Series
Option C – Ad Hoc + Workshops (Hybrid)
ST HELENA_ Draft Resolution

DRAFT
Civic Institutions Evaluation Criteria/Principles

City Facilities/Services
- Ensure efficient use and functionality of facilities
- Improve community meeting and gathering spaces/venues for multiple uses
- Safe working environment
- Anticipate future needs
- High quality facilities; places citizens feel pride in.
- Ensure maintenance of facilities
- Consider partnerships if available
- Pursue environmentally superior solution with low impact on water demands

City Finances
- Secure sustaining revenue and cash flow stability to ensure long-term economic sustainability
- Support thriving unique business community, while balancing tourism
- Evaluate creative revenue strategies (e.g. naming rights, philanthropy, sweat equity, etc.)
- Resist selling assets or build development for immediate gain
- Protection of the General Fund

Other
- Minimize risk to City
- Minimize tax burden
- Minimize time to achieve outcome

Option A – Citizen Task Force

Draft Scope/Mission

A. Review the September 17, 2018, City Council Report which led to prioritization of civic building asset investments in order to limit the number of concurrent projects to a manageable number, and adoption of a Civic Infrastructure Strategy to "action" ideas and observations of the SHAPE Committee Final Report and associated research data.

B. Consider the Civic Institutions Evaluation Criteria/Principles approved by the City Council.

C. Review Noll & Tam cost estimates and the four configuration options presented to the City Council on November 12, 2019.

D. Review of preliminary Downtown Streetscape cost estimates.

E. Review of preliminary Underground Utilities Master Plan estimates associated with Storm Drain infrastructure.

F. Work with City staff via the City Manager to evaluate and update the City's Long Range Financial Forecast (LRFF) to consider timing and scale of various infrastructure investments, revenue options, and financial strategies.

G. Provide recommendations to the City Council regarding:

- Site selection for replacement of City Hall
- Prioritization of which facilities/projects to construct and/or renovate
- Funding strategy(ies) related to site selection, phasing, improvements, and impact on City finances
- Consult with City Manager and Police Chief to discuss potential alignment and/or synergies related to Police Department needs
- Recommendations related to architectural design

The City Council will invite minority perspective recommendations.

Task Force Structure and Appointment Process

One alternative City staff is recommending the City Council consider is appointment of a five to seven member Citizen Task Force. The Council may desire to focus the recruitment on citizens with specific expertise with finance, real estate, architecture, construction, and related talents, and request feedback on why they believe their participation would add value to the Task Force.

Assuming direction is provided at the meeting of November 26, 2019 to proceed with recruitment, the following conceptual schedule has been drafted for Council consideration:

> Application Period. The City Clerk would advertise recruitment of Task Force members for a two-week period beginning November 27 and closing December 11. A Special Meeting could be scheduled on December 16 or December 18 to interview applicants. Applicants could be appointed immediately following interviews or in January.

Timeline

If this is the preferred alternative, Staff recommends a four to six week Task Force process, with the first meeting scheduled as early as the week of January 13, 2020. Due to community interest in the subject, staff will plan to record all meetings.

Staff recommends recurring Task Force meetings be held on either a Wednesday or Thursday at the St. Helena School Board Room beginning at 6:00 p.m. This would encourage Task Force recommendations be presented to the City Council by the March 24, 2020, City Council meeting.

In addition to the meetings, the Council may desire to require the Task Force to employ various methods to increase community engagement including a community survey and/or workshop(s) for additional citizen feedback.

Appointment to the Task Force

Per the City Council's Protocols (attached), the Council's appointment process is described below:

> *The Mayor shall nominate Task Force members from the pool of applicants, and they will be appointed only after a majority vote approval by the City Council. Task Force members must reside within the St. Helena City limits. However, the Council may approve an exception to this rule on a case-by-case basis.*
>
> *Per the Protocol, the Task Force will select a chairperson and a vice chairperson. The chairperson runs the meeting in accordance with the agenda. The vice chairperson has the same powers and duties of the chair if the chair is absent or unable to act.*

The Council may desire to appoint the chairperson and may consider other options if an alternate appointment process is desired.

Option B – Workshop Series

DRAFT Scope/Mission

Council convenes a "Civic Institutions Workshop Series" of community workshops jointly with local subject matter experts in finance, real estate, architectural design, and construction to discuss and receive feedback on issues related to site selection, phasing, improvements, and funding strategy(ies).

Council duplicates recruitment and appointment process with the exception that it would not be necessary to appoint a chairperson as the Council and subject matter experts would meet jointly with the Mayor chairing the meeting. Considering the Council-approved Civic Institutions Evaluation Criteria/Principles, subject matter experts would be expected to review the same documents and information required of the Task Force and would be prepared to provide their individual recommendations related to:

- Site selection for replacement of City Hall
- Prioritization of which facilities/projects to construct and/or renovate
- Funding strategy(ies) related to site selection, phasing, improvements, and impact on City finances
- Discuss potential alignment and/or synergies related to Police Department needs after consulting with City Manager and Police Chief
- Recommendations related to architectural design

It is recommended the Council consider use of a facilitator to guide a workshop series approach.

Staff recommends that meetings occur semi-monthly over a two to three month period, resulting in a total of four to six meetings to complete its due diligence.

Recurring workshop meetings would be recommended on either a Wednesday or Thursday at the St. Helena School Board Room beginning at 6:00 p.m. Assuming subject matter experts are appointed by the Council Meeting of January 14, 2020, it is anticipated the work could be completed by March 26, 2020 or April 23, 2020.

Option C – Ad Hoc + Workshops (Hybrid)

A third hybrid alternative consists of establishing a two-member Council Ad hoc Committee with participation and support from a Council-selected Task Force of local subject matter experts in finance, real estate, architectural design, and construction to develop and provide recommendations to the Council. Task Force subject matter experts would be expected to review the same documents and information required with the other alternatives.

A series of at least three public community workshops are envisioned with the full Council and subject matter experts to discuss recommendations related to site selection, phasing, improvements, and funding strategy(ies) after the Ad hoc Committee has completed its due diligence and developed recommendations for the Council.

Timing associated with this alternative would depend on the pace of Ad hoc Committee work/recommendations and the scheduling of community workshops.

RESOLUTION NO. _____

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ST. HELENA CREATING THE CIVIC INSTITUTIONS TASK FORCE

WHEREAS, the City of St. Helena City Council approved a "City of St. Helena Civic Infrastructure Strategy" framework to advance discussions for a new City Hall, improvements to the Library, and a possible community/recreation space; and

WHEREAS, the City Council's strategy consists of four phases, the second of which involves asset prioritization and analysis and is underway and nearing completion; and

WHEREAS, the City hired Noll & Tam Architects to provide massing sketches and develop preliminary cost estimates for each of four different configurations for the City Council's consideration; and

WHEREAS, the City Council values the opinions and expertise of its citizens, many of whom have extensive knowledge and practical experience in specific subject matters, and believes that its Civic Infrastructure Strategy framework process will be enhanced if the City Council can further tap into this citizen expertise; and

WHEREAS, the City Council believes that a task force of interested and engaged residents from a variety of disciplines would be a helpful means of vetting the options and refining a preferred project; and

WHEREAS, on November 26, 2019, the City Council gave staff direction to begin the recruitment process for selection of the Civic Institutions Task Force.

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of St. Helena does hereby resolve as follows:

1. CREATION AND PURPOSE

The Civic Institutions Task Force is hereby created. The purpose of the Civic Institutions Task Force is to review and analyze project alternatives for its civic institutions and other infrastructure, such as storm drains and downtown streetscape and to provide recommendations prior to the City Council's decision.

2. MEMBERSHIP

The Civic Institutions Task Force shall consist of five to seven members, to be appointed as follows:

A. The Mayor shall nominate Task Force members from the pool of applicants.

B. The City Council will interview applicants at a special meeting in mid-December 2019.

C. The City Council shall appoint members at the special meeting or soon thereafter. A majority of the City Council must approve the Task Force membership. The City Council shall appoint members who have expertise in the following areas: architecture, construction, economics/finance, and real estate, and will endeavor to have each of these disciplines represented on the Task Force.

All efforts shall be made to ensure that the Task Force membership reflects the City's diversity of interests and viewpoints, and care shall be taken to ensure broad-based community representation.

Additionally, applicants should be St. Helena residents although the City Council reserves its right to appoint members who do not reside in the City.

3. TERM OF OFFICE

Members of the Task Force shall serve until its work has been completed and a recommendation from the Task Force is made to the City Council, which is expected to occur around March of 2020.

4. TERMINATION OF APPOINTMENT

Any member who has two unexcused absences from Task Force meetings shall have their membership automatically terminated. Members of the Task Force shall serve at the pleasure of the City Council and may be removed from office by a majority vote of the City Council.

5. VACANCIES

Vacancies on the Task Force shall be filled for the unexpired term in the same manner in which regular appointments are otherwise made.

6. OFFICERS

For Alternative A only*:* The City Council reserves its right to appoint a Chairperson and Vice Chairperson. If the City Council does not appoint a Chairperson and/or Vice Chairperson, the Task Force shall nominate a Chairperson and/or Vice Chairperson, which shall be ratified by the City Council. The Chairperson shall call the meetings to order, shall serve as the presiding officer of the Task Force's meetings, and shall perform such other duties as may from time to time be prescribed by the Task Force. The Chairperson shall serve in that position at the pleasure of the City Council.

The Vice Chairperson shall have all of the powers and duties of the Chairperson in the event the Chairperson is absent or unable to act.

For Alternatives B and C: The Task Force will not have officers.

For All Alternatives: The Task Force may create and appoint members to subcommittees, but the City Council expects that such subcommittees would be formed for very specific and limited purposes.

7. MEETINGS

For Alternative A: The Task Force shall establish a regular time and shall hold regular meetings at the St. Helena School Board Room. Special meetings of the Task Force may be called by the Chairperson, or by a quorum of the Task Force. All meetings shall comply with the Ralph M. Brown Act.

For Alternative B: The City Council will convene a Civic Institutions Workshop Series of community workshops, which will be joint meetings of the City Council and the Task Force. The joint meetings will be special meetings of the City Council and will be held at the St. Helena School Board Room. The meetings will be chaired by the Mayor. All meetings shall comply with the Ralph M. Brown Act. Neither the Task Force, nor a quorum of the Task Force, shall meet separate and apart from meetings held as a part of the Workshop Series.

For Alternative C: The City Council formed, or will form, a two member ad hoc committee. The ad hoc committee shall meet with members of the Task Force, but in no event will the ad hoc committee meet with more than a quorum of the Task Force at any one time. After completion of the ad hoc committee's work, the City Council will hold at least three public community workshops to discuss the ad hoc committee's recommendations related to site selection, phasing, public improvements, and funding strategies.

8. QUORUM

A quorum of the Task Force shall consist of a majority of the Task Force's membership.

9. FUNCTIONS OF THE TASK FORCE

The Task Force shall have the responsibilities as provided in this section and such other duties as the City Council may from time to time decide:

A. Consider the Civic Institutions Evaluation Criteria/Principles approved by the City Council.

B. Review and provide recommendations on Noll & Tam's cost estimates and the four configuration options it presented to the City Council during its November 12, 2019 City Council meeting.

C. Work with city staff via the City Manager to study and update the City's Long Range Financial Forecast to consider the timing and scale of the possible infrastructure investments.

D. Review of preliminary Downtown Streetscape cost estimates.

E. Review of preliminary Underground Utilities Master Plan estimates associated with Storm Drain infrastructure.

F. Provide recommendations to the City Council regarding the renovation or relocation of the City Hall building, prioritization of projects to either construct and/or renovate, funding strategies related to civic infrastructure and how such strategies would impact the City's finances, architectural design, and the alignment of its recommendations with the Police Department's needs.

Approved at a Regular Meeting of the St. Helena City Council on November 26, 2019 by the following vote:

Mayor Ellsworth:

Vice Mayor Dohring:

Council Member Chouteau:

Council Member Knudsen:

Council Member Koberstein:

APPROVED:

_____
Geoff Ellsworth, Mayor

ATTEST:

_____
Cindy Tzafopoulos, City Clerk

Cindy Tzafopoulos

From: Mark Prestwich
Sent: Tuesday, November 26, 2019 12:15 PM
To: Cindy Tzafopoulos
Subject: FW: Citizen Comment re: Scope of Task Force Inquiry - Must Include Review and Assessment of All Revenue Options in Purpose Statement

Public comment.

From: tallen@northbaymgt.com <tallen@northbaymgt.com>
Sent: Tuesday, November 26, 2019 12:12 PM
To: 'Mary Koberstein' <mbksthelena@gmail.com>; Mark Prestwich <MPrestwich@cityofsthelena.org>
Subject: Citizen Comment re: Scope of Task Force Inquiry - Must Include Review and Assessment of All Revenue Options in Purpose Statement

Mary and Mark:

With respect to the citizen task force concept on tonight's City Council agenda, I remain concerned that the city is not asking the right question. Therefore, citizen analysis, no matter how staffed, will not produce a meaningful recommendation that can be readily adopted by the City Council.

Here is the current draft Purpose of the citizen inquiry:

1. CREATION AND PURPOSE

The Civic Institutions Task Force is hereby created. The purpose of the Civic Institutions Task Force is to review and analyze project alternatives for its civic institutions and other infrastructure, such as storm drains and downtown streetscape and to provide recommendations prior to the City Council's decision.

By asking the narrowly defined question, "what should we build where?", the City is only focused on spending, not revenue generation. Thus, the City has most likely doomed itself to an answer that says: "make minor repairs or build a minimal City Hall, because that is all we can afford."

IMO the question that needs to be asked is as follows:

What course of action should we follow to secure a stable and prosperous financial future, while also revitalizing our declining town?

In order to pursue this broader and more relevant -- and existential -- question, the Citizen task force must first realistically forecast the significant coming financial obligations. Next, the task force must assess the revenue producing potential of all city assets. It appears as though both steps are in scope, within the context of this task:

F. Work with City staff via the City Manager to evaluate and update the City's Long Range Financial Forecast (LRFF) to consider timing and scale of various infrastructure investments, revenue options, and financial strategies.

1

I am also pleased to see that the first evaluation criterion is the following:

City Finances
- Secure sustaining revenue and cash flow stability to ensure long-term economic sustainability

The flaw in the current proposed citizen task force Purpose statement is that revenue options are not included in the statement as currently defined. I believe the Resolution would be strengthened if it were stated more consistently with the two references to revenue pasted in above.

Only by asking the right question, and directing the task force to assess the full range of potential options for long-term financial and social viability of our town, will the city Council be able to set a direction that can be voted upon and implemented.

Thank you for your consideration.

Thomas W. Allen
1703 Madrona Avenue
St. Helena, CA 94574
Mobile 415-990-0240
tallen@northbaymgt.com

Civic Institutions Citizen Task Force Options

Mark Prestwich, City Manager

November 26, 2019

Discussion Points

- Citizen Task Force Options
- Clarify Scope/Mission & Requested Recommendations
- Structure & Appointment Process
- Timeline
- Criteria
- Resolution

Summary of Options

	Option A	Option B	Option C
	Citizen Task Force	**Workshop Series**	**Ad Hoc + Workshops (Hybrid)**
Selection	5-7 subject matter experts appointed by Council		
Transparency	Public meetings	Public workshops	Public workshops following development of Ad Hoc recommendations
Meeting Frequency	Weekly or Semi-weekly	Semi-weekly	At least three community workshops
Staffing Requirements	Higher	Medium	Lower

Mark Prestwich, City Manager

November 26, 2019
City Council Meeting

August 2018

Public-Private Partnerships in California

How Governments Can Innovate, Attract Investment, and Improve Infrastructure Performance

BAY AREA COUNCIL ECONOMIC INSTITUTE

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Samara Barend, Senior Vice President, North America Strategic Development Director for Public-Private Partnerships – AECOM Capital

Ignacio Barandiaran, Principal – Arup

Orion Fulton, Associate Principal – Arup

Michael Gomez, Director, Public Finance – Barclays

Chris Roberts, Director – Barclays Investment Bank

Rachel Factor, Senior Planner – BART

Zach Knight, Co-Founder and Managing Partner – Blue Forest Conservation

Nick Wobbrock, Co-Founder and Partner – Blue Forest Conservation

Nizar Melehani, Program Manager (retired) – California Department of Transportation

Fred Silva, Senior Fiscal Policy Advisor – California Forward

Andrew Fahlund, Senior Program Officer – California Water Foundation

Mark Taylor, Chief of Staff, Office of Mayor Robert Garcia – City of Long Beach

Ian Parker, Managing Director, Public Sector and Infrastructure Banking – Goldman Sachs

Mark Pisano, Senior Advisor and Board President – Infrastructure Funding Alliance

Dan Feitelberg, Principal – KPMG

Joshua Schank, Chief Innovation Officer – LA Metro Office of Extraordinary Innovation

Yousef Salama, Innovation Manager for Public-Private Partnerships – LA Metro Office of Extraordinary Innovation

Jonathan Dingle, Investment Director – Meridiam

John Dionisio, Business Development Director, North America – Meridiam

Dan Carol, Senior Advisor on Infrastructure and Energy – Office of California Governor Edmund G. Brown

Colin Kelly, Healthy Watersheds California Manager – Pacific Forest Trust

Laurie Wayburn, Co-founder, Co-CEO, and President – Pacific Forest Trust

Michael Houle, Senior Advisor – Partnerships BC

John Heisse, Partner – Pillsbury Winthrop Shaw Pittman LLP

Robert James, Partner – Pillsbury Winthrop Shaw Pittman LLP

Dale Bonner, Executive Chairman – Plenary Concessions

Mike Marasco, CEO – Plenary Concessions

William Gorham, Senior Associate – Plenary Group

Stuart Marks, Group Co-Head, Origination (West) – Plenary Group

Sia Kusha, Group Head, Project Development and Partnering– Plenary Group

Stan Williams, Vice-President, Project Development – Poseidon Water

Victoria Stackwick, Principal Legislative Analyst – San Diego Association of Governments

Carey Batha, Senior Environmental Scientist – San Francisco Bay Conservation and Development Commission

Larry Goldzband, Executive Director – San Francisco Bay Conservation and Development Commission

Tilly Chang, Executive Director – San Francisco County Transportation Authority

Jim Bourgart, Transportation and Infrastructure Policy – San Mateo County

Bob Marks, Transportation and Infrastructure Policy – San Mateo County

Keith Lew, Deputy Director – Sonoma County General Services Department

Suzanne Smith, Executive Director – Sonoma County Transportation Authority

Daryl Halls, Executive Director – Solano Transportation Authority

Michael Bennon, Managing Director – Stanford Global Projects Center

Peter Luchetti, Managing Partner – Table Rock Infrastructure Partners

Mark Zabaneh, Executive Director – Transbay Joint Powers Authority

Richard Cummings, Director, Strategic Planning and Communications – University of California, Merced

Ed Klotzbier, Associate Chancellor – University of California, Merced

Wes Sullens, Director of Codes Technical Development – U.S. Green Building Council

Jeremy Sigmon, Director, Technical Policy – U.S. Green Building Council

Shelley Doran, Senior Vice President – Webcor Builders

Scott Boardman, Executive Director – West Coast Infrastructure Exchange

Carsten Voecker, Principal, Director–North America – Woods Bagot

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About the Institute

Since 1990, the Bay Area Council Economic Institute has been the leading think tank focused on the economic and policy issues facing the San Francisco/Silicon Valley Bay Area, one of the most dynamic regions in the United States and the world's leading center for technology and innovation. A valued forum for stakeholder engagement and a respected source of information and fact-based analysis, the Institute is a trusted partner and adviser to both business leaders and government officials. Through its economic and policy research and its many partnerships, the Institute addresses major factors impacting the competitiveness, economic development, and quality of life of the region and the state, including infrastructure, globalization, science and technology, and health policy. It is guided by a Board of Advisors drawn from influential leaders in the corporate, academic, non-profit, and government sectors. The Institute is housed at and supported by the Bay Area Council, a public policy organization that includes hundreds of the region's largest employers and is committed to keeping the Bay Area the world's most competitive economy and best place to live. The Institute also supports and manages the Bay Area Science and Innovation Consortium (BASIC), a partnership of Northern California's leading scientific research laboratories and thinkers.

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Long Beach Courthouse: **Meridiam**

Carlsbad Desalination Plant: **Poseidon Water**

LAX Automated People Mover: **Los Angeles World Airports**

Napa Civic Center: **Plenary Group**

Public-Private Partnerships in California

How Governments Can Innovate, Attract Investment, and Improve Infrastructure Performance

Presidio Parkway

Executive Summary

California's vibrant economy and communities rely on an extensive infrastructure network of highways, bridges, ports, levees, rail lines, public buildings, and energy, water, and wastewater systems. Over the past several decades, much of the state's infrastructure has been inadequately maintained and is facing a backlog of deferred maintenance, even as new needs arise. Funding has not kept pace with aging infrastructure or the demands of a growing economy and population. On the current spending trajectory, California's infrastructure funding gap will reach $1 trillion by 2050. Investment in infrastructure has one of the highest economic multipliers of any form of government spending, but due to California's failure to invest in and maintain its infrastructure at all levels, the state is putting its future growth and prosperity at risk.

While positive steps have been taken in recent years, business as usual is not delivering the infrastructure that California needs to support economic and population growth in the decades ahead. In too many cases, public agencies spend millions of dollars studying projects for years or decades, making little progress toward actual delivery, even as delay sends costs through the roof. When projects are built, frequent cost and schedule overruns—typically 10–20%, but at times over 100%—and subsequent failure to maintain assets over time result in higher costs and a lower quality of services for the public. The need to improve on this sub-optimal status quo will become more urgent as climate change places additional strain on existing infrastructure and requires new investments to address rising sea levels and shifting weather patterns.

There is a demonstrated need to fundamentally reform public infrastructure procurement in California and the U.S., accelerate project delivery, and drive more widespread adoption of life-cycle management approaches. Public agencies across the state have begun looking to public-private partnerships (P3s) as a tool that achieves these goals by shifting the risk for delivery and long-term management of infrastructure assets to private partners. The role these partnerships can play in addressing California's infrastructure needs is the primary focus of this report.

Definitions of P3 vary widely, but most commonly refer to long-term (typically 25+ years) performance-based contracts with public-sector entities in which the private sector takes or shares responsibility and risk for the design-build-finance-operate-maintain (DBFOM) elements of a public infrastructure project. P3s are not appropriate for every project and will not by themselves solve the state's infrastructure funding challenges, but properly-structured P3s have a demonstrated track record of reducing the risk of cost overruns, accelerating project delivery, and providing contractual guarantees for proper operations and maintenance over the life of a public asset.

Public-private partnerships have played a modest but important and growing role in infrastructure delivery in California to date. California was one of the first states to adopt P3 legislation and has been home to some of the country's most innovative projects. This report highlights seven of the most high-profile projects in the state over the past five years, primarily in water and social infrastructure. Public agencies in the state can look to these experiences and a substantial body of global literature to understand both the limitations and the substantial potential of P3s to deliver value to the public through improved cost and operational performance.

California is also developing a significant pipeline of P3 projects in the years ahead. This report identifies 23 projects that are in active procurement or in the planning stages across a range of sectors, as well as longer-term, large-scale projects that lend themselves to consideration as P3 procurements.

Despite this growing pipeline and its demonstrated benefits, the use of P3s is much less widespread than it could be. The lessons from the past five years of experience in California and elsewhere suggest the following best practices and innovations.

P3 Offices and Programs: Rather than considering just one-off projects, public agencies can develop broader P3 initiatives to build procurement expertise and consequentially larger, more impactful pipelines.

Progressive P3: The number of progressive P3s in California is growing. In a progressive delivery procurement, the private partner is selected early in

the process, based on qualifications, and develops the contract and ongoing design collaboratively with the public partner so as to maximize public input and opportunity for innovation.

Unsolicited Proposals: Public agencies such as LA Metro are accepting unsolicited project proposals, increasing the number and diversity of P3 projects that are considered and incorporating technology solutions that agencies are not well placed to consider in their traditional project development processes.

Public Sector Leadership: Projects benefit when public agencies recognize the importance of having a political champion and dedicated staff that can advance P3 projects through the inevitable political, financial, and technical challenges. This is critical to fostering the needed internal cultural changes when adopting a new form of procurement. Access to transaction-oriented advisors with a track record of bringing P3 projects to close is also important.

Stakeholder Engagement: Early engagement of the public, decision makers, and the labor community, among others, is important to identifying and proactively addressing challenges that could stall a project during the procurement or delivery phase.

Policy changes at the state and federal levels can incentivize project delivery and life-cycle asset management. Adopting these changes does not mean that every capital project in the state will be delivered as a P3. Such changes would, however, provide public agencies with additional tools that may allow them to deliver major projects in a manner that is more cost-effective for the public.

State-Level Authorizing Legislation: Currently Caltrans and regional transportation agencies do not have the authority to enter into P3 contracts for road and highway projects. (That authority expired in 2017.) A permanent extension of P3 authority for all transportation projects would give California's public agencies additional flexibility for meeting the state's growing transportation needs.

State-Level CEQA Reform: CEQA plays a vital role in protecting California's environment. It has also become an obstacle to delivering infrastructure in a timely and cost-effective manner under any procurement approach. Reforms that limit legal challenges and accelerate agreed categories of projects with minimal environmental impacts could help the state reduce costs and uncertainty.

State-Level Public Resources: The state could provide expertise and limited financial assistance to public agencies in order to build their capacity in P3 procurement. A California center of excellence could provide standardized procurement documents, skills transfer, and vetting of third party advisors as a way to accelerate procurement and provide public sector agencies with greater comfort in utilizing a new delivery model. Limited predevelopment funding would help public agencies accelerate the earliest, highest-risk phases of projects. The state could also require that life-cycle costs and performance in the project design, operations, and selection of procurement approach must be considered for any project over a certain size that receives state funding.

Federal-Level Tax-Exempt Financing: There is a need to level the playing field on the cost of capital for P3 projects. While there are currently federal programs that provide low-cost capital to P3 projects, they apply only to certain types of projects or have limited capacity. Ensuring that all public infrastructure projects have access to tax-exempt financing, regardless of how they are delivered, would provide public agencies with greater flexibility. Congress could do this by removing the volume cap on private activity bonds (PABs), eliminating the Alternative Minimum Tax penalty, expanding the types of projects eligible for PABs (as proposed in the Public Buildings Renewal Act of 2017, H.R. 960/S. 326—which would enable tax-exempt finance for public-private partnerships used to develop public buildings), and providing additional options for addressing existing tax-exempt debt.

Federal-Level Flexibility and Incentives: New federal grant programs and incentives could encourage state and local agencies to accelerate needed infrastructure projects. This could take the form of the Trump Administration's proposed Infrastructure Incentives Program, which would provide grant assistance to selected projects, or another proposal in the Administration's infrastructure plan which would streamline review for projects that do not rely significantly on federal funding.

Introduction

California is home to some of the nation's most iconic and ambitious infrastructure, from the Golden Gate Bridge to the State Water Project. With an extensive network of highways, bridges, ports, levees, rail lines, public buildings, and energy, water, and wastewater systems, the state needs large-scale investments in its infrastructure to address deferred maintenance, serve a growing population, and adapt to a changing climate. This introduction first examines the state of California's infrastructure and funding needs in the coming decades. It then discusses the role that innovative procurement and financing strategies such as public private-partnerships (P3s) can play in addressing these needs. It also considers the role that P3s have played historically in California and around the world, before moving to case studies of recent projects in Chapter 1.

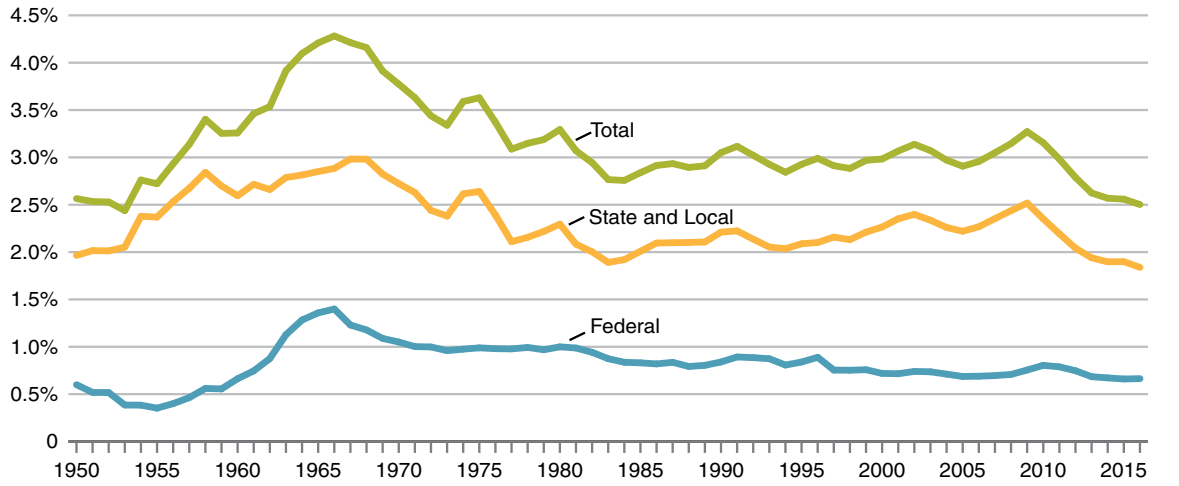
Infrastructure Investment Status

Infrastructure at both the state and local levels—in California and across the U.S.—is in increasingly poor condition as funding levels continue to fall short of needs. State and local governments own over 90% of the country's non-defense public infrastructure.[1] The federal government plays an important role in funding infrastructure at all levels of government, but total federal capital investment has declined sharply in the past 50 years—from 1.4% of GDP to under 0.7% of GDP. Failing to fill the gap, state and local spending has also declined relative to GDP over that same time period.[2]

FIGURE 1

Government investment in public infrastructure has declined over the past 50 years.

Government Nondefense Investment in Public Fixed Assets, 1950–2016, as a Share of GDP

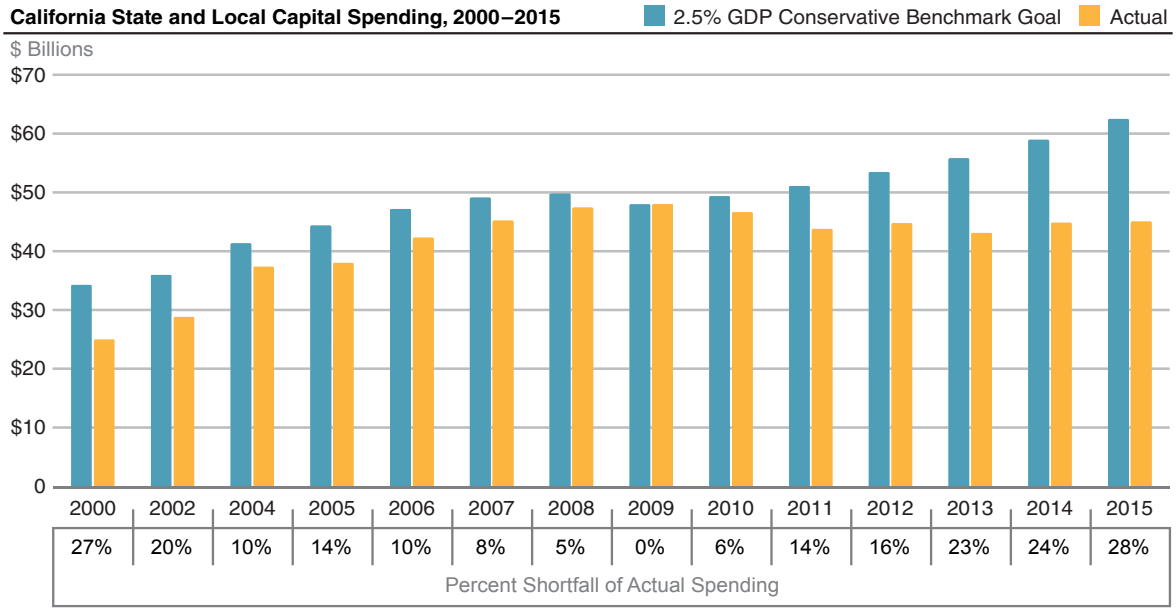


Source: Bureau of Economic Analysis

Analysis: Bay Area Council Economic Institute

FIGURE 2

Using a modest benchmark of 2.5% of GDP as an investment goal, California's capital spending has fallen short since 2000.



Source: U.S. Census, Bureau of Economic Analysis

Analysis: Bay Area Council Economic Institute

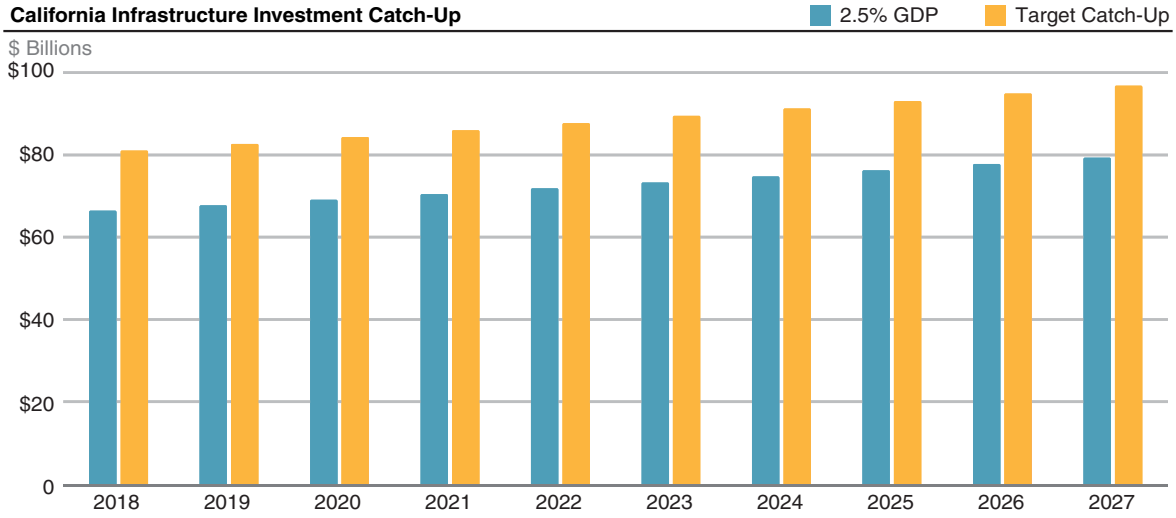
The result of lower spending is a broad decline in the condition of infrastructure across the nation. The American Society of Civil Engineers gives America's infrastructure a grade of D+.[3] There is a broad-based need to repair aging water and wastewater systems, replace structurally deficient dams and bridges, rebuild deteriorating roads, and invest in new transit, school, water, and energy projects. These investments are critical to future growth, as infrastructure spending has one of the highest economic multiplier effects of any public investment.[4] These spending trends, the deteriorating condition of the nation's capital stock, and the potential for economic growth that comes with greater investment all suggest that a higher level of investment in infrastructure is needed now.

In California, infrastructure spending patterns and the condition of infrastructure assets mirror national trends. Nearly 50% of the state's public roads are in poor condition, which costs each motorist $844 on average in annual vehicle repair costs caused by the lack of road upkeep.[5] Nearly 1,400 bridges in the state are structurally deficient. California's school facilities are underfunded by $6.7 billion per year.[6] The state's parks, dams, levees, public buildings, and water and wastewater systems all have significant unmet funding needs. The 2018 California Infrastructure Plan identifies $67 billion in deferred maintenance for state infrastructure alone.[7]

There is no single agreed-upon target for adequate infrastructure investment. In the U.S., public capital investment across all levels of government has averaged 3% of GDP since 1950 but has declined to 2.5% of GDP in recent years.[8] Spending levels have been higher across other developed economies, averaging 3.7% of GDP.[9] Current levels of investment will come under further pressure from the high level of deferred maintenance across infrastructure assets in California and the future need to adapt many of those assets and develop new responses to the impacts of climate change. Using even the 2.5% of GDP benchmark as a

FIGURE 3

In the next decade, California would need to spend nearly $900 billion or 3.05% of the state's GDP per year in order to make up the past 10 years' shortfall.



Source: U.S. Census, Bureau of Economic Analysis

Analysis: Bay Area Council Economic Institute

conservative investment target, Figure 2 shows how California's spending since 2000 has fallen short. The gap averages 15% of actual spending, with a cumulative total of $100 billion over the past 15 years.

Looking forward, if California were to make up the past 10 years' funding shortfall in the next decade, state and local governments would need to spend nearly $900 billion or 3.05% of the state's GDP per year. The implications are clear: as capital spending is deferred, the amount of investment needed in future years continues to grow, and that investment will consume a larger share of the economy, placing a greater burden on future taxpayers and ratepayers.

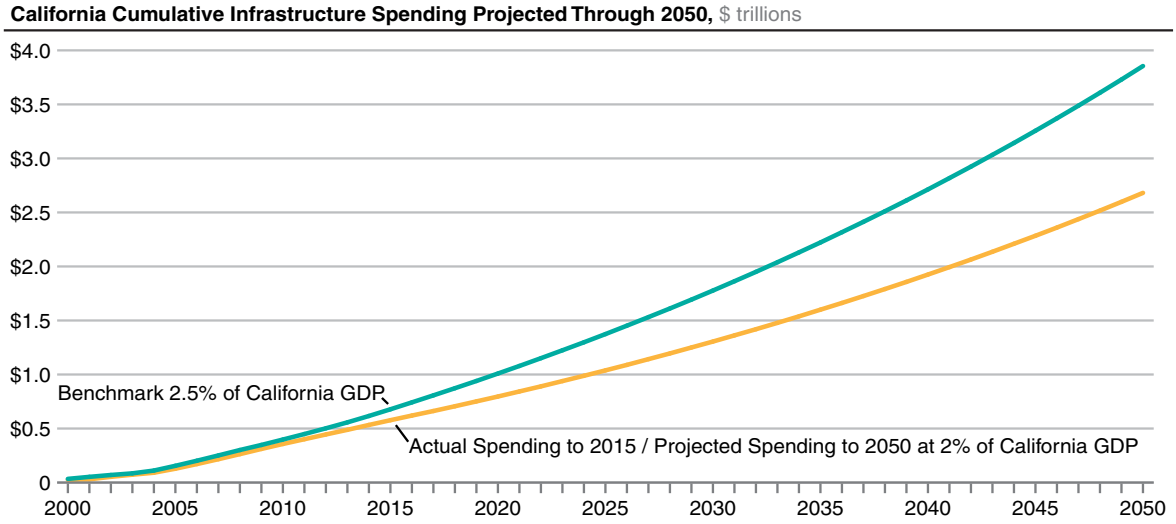
This infrastructure funding gap will become unmanageable over the long term if not addressed now. Assuming that the state GDP and California's average capital spending from the past 10 years grow at just 2% through 2050, the cumulative shortfall in infrastructure investment will grow to more than $1 trillion. If California continues on this trajectory, critical infrastructure at both the state and local levels will continue to deteriorate, and new assets that could spur economic growth and improve the quality of life for Californians will not be built.

Grade given to America's infrastructure by the American Society of Civil Engineers on the 2017 Infrastructure Report Card

D+

FIGURE 4

Assuming that California's capital spending grows at just 2% through 2050, the cumulative shortfall in infrastructure investment will grow to more than $1 trillion.



Source: U.S. Census, Bureau of Economic Analysis

Analysis: Bay Area Council Economic Institute

California has recently taken steps in the right direction, most notably the passage of SB 1 in April 2017, a measure that will generate $54 billion over the next decade for transportation projects. The revenue comes from higher taxes on gas and diesel fuels and from a new transportation improvement fee paid at vehicle registration. The bulk of the SB 1 funding will be used by Caltrans, counties, and cities for "Fix It First" road maintenance and rehabilitation and for new transit projects. Hundreds of projects are already in design or construction, thanks to this newly available funding, many of which could not go forward in its absence. This SB 1 revenue could be particularly important if a federal infrastructure bill with state matching fund requirements passes in the next year.

While SB 1 is a significant step forward, it addresses only a small part of California's longer-term infrastructure needs and, notably, was the first such increase *in 24 years*. More funding across a much wider range of sectors is needed. Beyond transportation, these include water, wastewater, dams, levees, solid waste, parks, energy, airports, ports, and public buildings. Investing additional resources—as well as developing innovative strategies to accelerate infrastructure investment and promote improved performance and long-term resilience—remains a priority and a critical unmet challenge.

1 to 3%

is the typical average for P3 cost or schedule overruns, compared to

15%

or more for traditional procurements

The Role of Public-Private Partnerships

The shortage of funding is not the only cause of California's infrastructure investment gap: there is also a lack of capacity in public agencies for developing and managing complex procurements and effectively maintaining infrastructure assets over their useful lives. Many agencies have listed priority projects in their capital budgets for years or decades with little progress toward their development. Far too often, the public sector spends considerable time and resources studying projects—frequently hiring consultants that have little experience or incentive to move projects to completion—but makes little progress toward actually building them. When major projects are built through traditional forms of project delivery, they are rarely completed on time and on budget or maintained properly following completion.[10]

Given California's growing infrastructure funding gap, business as usual is not sustainable. State and local governments cannot afford to spend years studying projects, absorb major cost overruns, or allow assets to deteriorate due to inadequate maintenance. Performance-based approaches such as public-private partnerships are not the only answer to these challenges, but they can help address them, particularly for large and more complex projects. At its best, the P3 process incentivizes the private sector to move projects to completion instead of spending years and millions of dollars on consultant studies. It also provides contractual certainty on budgets, schedules, and long-term asset maintenance. In a typical contract, the private partner gets paid only if a project reaches financial close, is delivered on time and on budget, and is properly operated and maintained for the life of the partnership. A number of comparative studies across sectors have found minimal cost or schedule overruns for P3 projects—typically 1–3% cost overruns on average, compared to 15% or more for traditional procurements.[11]

Like any form of procurement, poorly-structured public-private partnerships can result in undesirable outcomes for the public and private sectors. Critics argue that P3s frequently do not provide the transfer of risk that they promise and that the public sector remains responsible for many types of cost overruns which, combined with a higher cost of capital, results in higher costs for taxpayers and ratepayers. There are undoubtedly examples where poorly-structured contracts have resulted in negative outcomes for the public. Under the oft-maligned Chicago parking meter deal, for example, the city leased its parking meter business for 75 years in exchange for a $1.15 billion upfront payment. Rising parking rates and the frequent "true-up" payments the city has to make to the P3 partner in the event of street closures have sparked widespread public opposition. These cases confirm that P3 is not a panacea, that careful upfront attention is needed to ensure that the contract protects the public, and that stakeholders are engaged early and understand the goals and risks of the partnership.

The term public-private partnership itself is controversial. It is different from privatization (with which it is sometimes confused), because long-term ownership remains in public hands. Definitions vary widely, with the broadest applications referring to long-term contracts between private and governmental entities for the provision of public services. Many in the industry believe the term should be replaced with any number of alternatives, given the widely varying understandings of its meaning and the negative connotations that may accompany it in some cases. P3 is, in many ways, a Rorschach test with entrenched opinions of its value. In this report, the term public-private partnership (P3) is used because it is the most widely recognized term in the industry, and we consider that nomenclature issues matter less than the important underlying concepts.

Our definition of P3 encompasses long-term, performance-based contracts with a private partner that involve some combination of the design, construction, financing, operations, and maintenance elements of public infrastructure delivery. This is commonly referred to as design-build-finance-operate-maintain (DBFOM), although this report also includes alternate approaches such as lease/leaseback, build-own-operate-transfer, and other structures. These models can be alternatively described as "performance-based infrastructure" or PBI. The central theme across these approaches is performance-based contracting that accelerates delivery, provides improved value for money, allocates risk to the party best able to manage it, and assures the maintenance of the asset over the life of the agreement.

Life-cycle management is central to the P3 model. Public agencies in California and across the U.S. are notorious for their failure to adequately maintain public assets once they are built. Often this occurs as maintenance is reduced during budget downturns. P3 contracts require the private partner to operate and maintain the assets under their management for the life of the contract (typically 30 years) and to return the asset to public control in good condition. Failure to perform can result in reduced payments or in forfeiture of the contract. While the initial procurement cost of P3s may sometimes be higher than a traditional procurement, this commitment to life-cycle management ensures that the asset will be maintained to a high standard, resulting in lower costs to the public over the life of the project. As ratings agencies increasingly consider deferred maintenance a liability, accounting for long-term asset management will become more essential.

The compensation model is a key distinction in P3 delivery and there are two primary options: revenue risk and availability payment. Under a revenue risk P3, the private partner assumes the risk that the revenue generated by the project will be sufficient to pay back their costs. If revenues are higher, the project will be more profitable, but lower revenues can reduce profitability or even lead to bankruptcy. California's first two P3s (discussed below) were revenue risk highway projects under which the private partners took the risk that tolls would be sufficient to pay back the costs of financing and maintaining the projects. Similarly, private developers take revenue risk under some of the student housing partnerships discussed below. Under an availability payment structure, the public makes payments to the private partner as long as the project is delivered, operated, and maintained according to the contract, while the public remains responsible for collecting sufficient revenue (from user fees or other government revenues) to make those payments. If the private partner fails to perform to the specifications of the contract, it may incur financial penalties or risk termination of the agreement. The private partners are therefore heavily incentivized to operate and maintain public assets to a high standard.

California P3 Background

In 1989, California was one of the first states to pass P3 legislation, and two of the nation's first P3 highway projects were built in Southern California under that legislation.[12] Few P3s were completed immediately following those first pilot projects, but a number of high-profile projects have been completed across the state in the past 5–10 years. These cover both transportation and social infrastructure (public facilities).

The state's enabling legislation has evolved in the past twenty years, and building on past legislation, several parts of the California code govern P3 contracting today.[13]

State and Regional Transportation: In 1989, California's first P3 legislation, AB 680, authorized up to four toll road demonstration projects. Two projects , SR-91 in Orange County and the South Bay Expressway in San Diego County, were developed under that legislation before it expired in 2003.[14] Those projects were controversial, particularly the South Bay Expressway which entered bankruptcy due to contractor disputes and lower than expected toll revenues, but the public was able to acquire the toll road at a lower cost after the original investors lost their money. In 2006, AB 1467 again authorized four P3 highway projects but included a number of restrictions, and as a result no projects were developed under that legislation. In 2009, Governor Schwarzenegger signed SB 4, which authorized Caltrans and regional transportation agencies to enter into an unlimited number of transportation P3s. Only one project, the Presidio Parkway in San Francisco, was finalized before the authorization expired on January 1, 2017. Since then, P3 delivery of state highway projects has not been authorized in California.

Local Government: The California Infrastructure Finance Act (California Government Code Section 5956) was adopted in 1996 and provides broad authorization for local government agencies to enter into P3s for fee-producing infrastructure facilities including water, solid waste, and energy utilities, airports, harbors, transportation, and transit projects. The Infrastructure Finance Act requires that selection be based on qualifications, that the facility be operated at a fair and reasonable price, and that

there be a competitive negotiation process, but otherwise leaves agencies with broad latitude on how to conduct the procurement.

High-Speed Rail: The California High-Speed Rail Act of 1996 authorizes the High-Speed Rail Authority to enter into a wide range of P3 transactions. As discussed below, this authority has not been utilized to date, but it could be as high-speed rail advances.

Courthouses: Authority for the Judicial Branch to enter into P3s was passed in 2007.[15] The Long Beach Courthouse was recently completed under this authorization.

Global P3 Adoption

Public-private partnerships have been implemented more extensively internationally than in the U.S., particularly in the U.K., Australia, and Canada as discussed below. While the origins of the model extend back further, the U.K. and Australia began to use P3 delivery methods widely in the early 1990s. Canada has developed one of the most robust P3 markets over the past decade. There have also been active P3 markets in continental Europe and South America, and it is expected that a robust market will develop in Asia in the coming years.

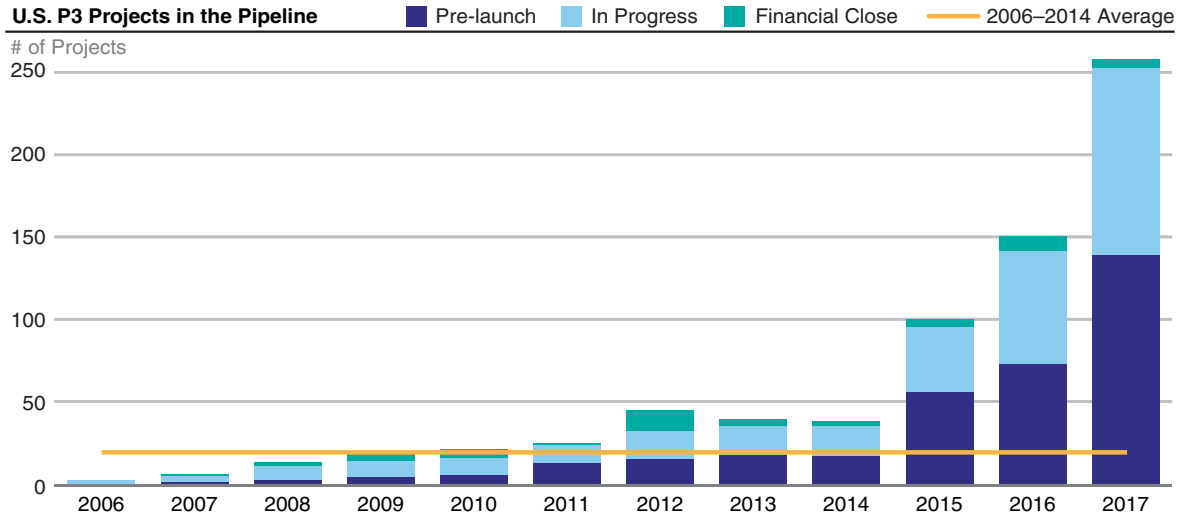
U.K: The U.K. has delivered over 700 projects totaling £55 billion in capital investment through P3s, including investments in schools, hospitals, roads, housing, prisons, and military facilities.[16] P3 makes up a small but influential part of overall infrastructure procurement, and the national government has continued to study and evolve the model. The government established guiding principles in 1992 in the Private Finance Initiative (PFI) under which most P3 projects have been delivered and, after extensive review, it updated those principles in 2012 with Private Finance 2 (PF2) to improve transparency, procurement efficiency, flexibility, and value for money.

Australia: Australia has been a pioneer in P3 procurement. Annual project development varies significantly from year to year, with an average of seven projects completed annually between 2004 and 2015, primarily in social infrastructure and transportation.[17] Under the National PPP Policy and Guidelines, the Australian, state, and territory governments will consider P3 for any project with a capital cost over A$50 million.[18] P3s have been adopted most widely in New South Wales and Victoria, where they account for about 10% of total government infrastructure procurement.[19] One review of Australian P3 procurement found that P3 projects experienced 1% cost overruns on average compared to 15% for traditional projects. P3s were also found to be completed 3.4% ahead of time on average while traditional projects were completed 23.5% behind schedule.[20]

Canada: Since they were first introduced in the early 1990s, over 200 P3s have been completed in Canada. The provinces of British Columbia and Ontario have been the leaders, and nearly every province has completed at least one P3 project. British Columbia established Partnerships BC in 2002–2003 and adopted a policy (repealed in 2017) that any project over C$50 million supported by provincial money was required to use P3 delivery unless there was a compelling reason not to. Partnerships BC leads procurements on the behalf of public agencies in the province and has standardized contract documentation to significantly reduce transaction costs. There has been some movement away from P3 in recent years as the national P3 agency, PPP Canada, was shut down to be replaced by the Canada Infrastructure Bank, an entity with some similar responsibilities but a larger budget and mandate. In addition, Alberta declared a moratorium on P3s in 2015. Nonetheless, Canada remains among the most active P3 markets globally with 276 active P3 projects totaling C$125 billion and an additional 78 projects in the pipeline.[21]

FIGURE 5

The number of U.S. P3 projects in the pipeline began a dramatic rise in 2015 and by the end of 2017 had grown to more than ten times the 2006–2014 average of 19 projects.



Notes: Project counts reflect the year-end project status. This excludes projects that were classified as cancelled, on hold, moved forward without private financing, were a stake sale, or were refinancing. The 2006–2014 average line represents the average number of projects that were in pre-launch or in progress during those years.

Source and Analysis: The Brattle Group

Visualization: Bay Area Council Economic Institute

P3 Adoption in the U.S.

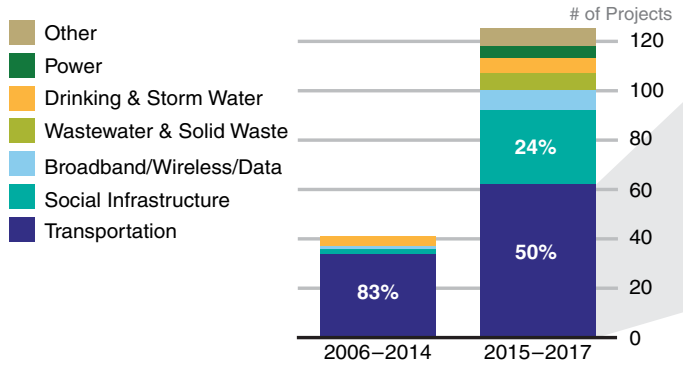
California's infrastructure investment deficit mirrors a national deficit, and jurisdictions across the country are trying new methods of procurement. Starting from a low base, the use of public-private partnerships for infrastructure is growing across the U.S., across a wide range of sectors, with projects in more than 30 states plus Puerto Rico and the District of Columbia. Over 200 public infrastructure projects are in procurement as P3s ("in progress"), or have been announced by project sponsors as being in development or under active consideration for P3 development ("pre-launch"). At the end of 2017, the number of P3s on the table across the country was more than ten times the 2006–2014 average of 19 projects. The total value of projects in progress has seen parallel growth.[22]

This activity extends far beyond toll roads, with which P3 is often identified. Half of P3 projects in the country are now in non-transportation sectors such as social infrastructure (civic facilities), broadband, water, and power. While roads account for 45% of P3 transportation projects in the U.S., other categories now include airports, rail, light-rail, tunnels, parking facilities, ports, and bridges. Most of these projects include operation and maintenance. And while public-private partnerships are often considered best suited for larger projects, the U.S. is seeing a growing number of smaller-scale projects.[23]

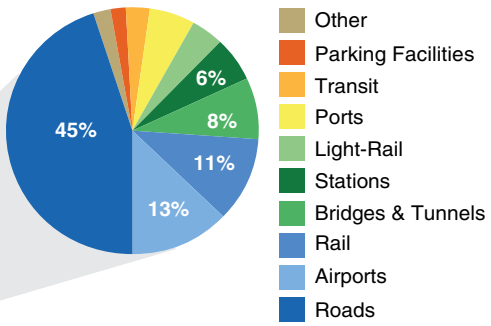
FIGURE 6

Projects in the current P3 pipeline are more diversified across infrastructure asset sectors than in the past, and transportation P3s now extend well beyond toll roads.

U.S. P3 Projects by Infrastructure Asset Sector



2015–2017 P3 Transportation Project Types



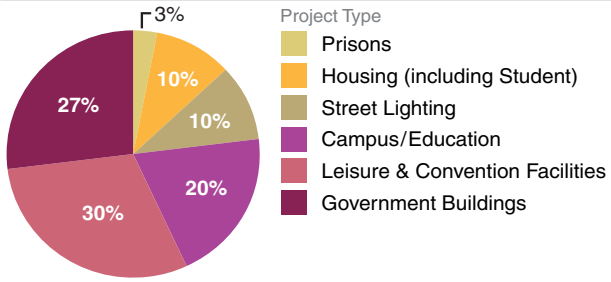
Note: Includes projects that are pre-launch, in progress, or have reached financial close.
Source and Analysis: The Brattle Group

Visualization: Bay Area Council Economic Institute

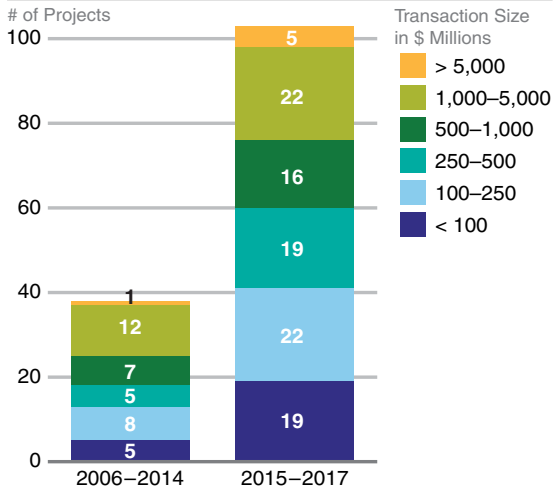
FIGURE 7

Projects in the fastest growing P3 category, social infrastructure, span a range of sectors, and the growth in the number of smaller-scale P3s—jumping from 5 before 2015 to 19 after—is also noteworthy.

Fastest Growing U.S. P3 Sector:
2015–2017 P3 Social Infrastructure Projects by Type



U.S. P3 Projects by Transaction Size

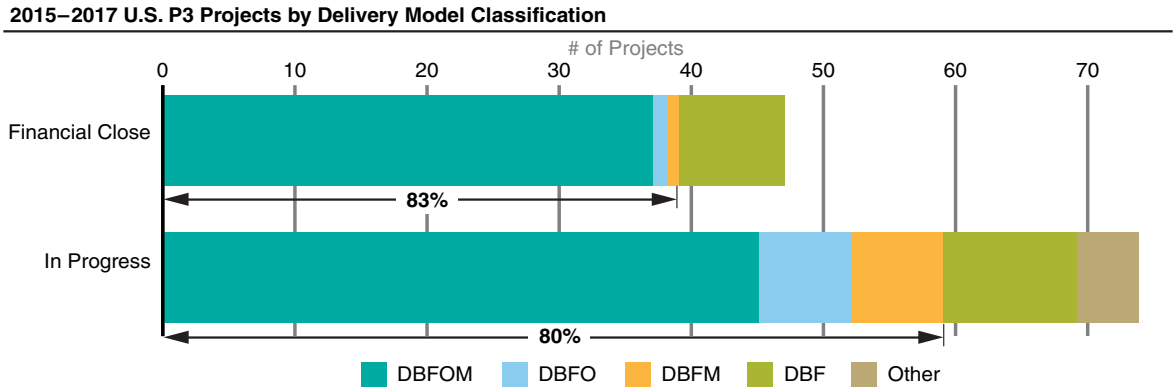


Note: Includes projects that are pre-launch, in progress, or have reached financial close stages; 38% of pre-launch projects, 43% of progress projects, and 98% of financial close projects report transaction size.
Source and Analysis: The Brattle Group

Visualization: Bay Area Council Economic Institute

FIGURE 8

Operation and Maintenance is included in 80% or more of current U.S. P3 projects.



Note: 68% and 90% of transactions report delivery model classification for in progress and financial close, respectively.
Source and Analysis: The Brattle Group
Visualization: Bay Area Council Economic Institute

A New Challenge: Adaptation to Climate Change

As California works to repair aging assets and build new infrastructure to meet the needs of a growing population, public agencies are increasingly considering how climate change will impact their assets. Given the mismatch between capital needs and available resources, the public cannot afford to make investments that climate change will render obsolete. Rising sea levels, more frequent and severe droughts and floods, increasing heat waves, and declining snowpack, among other challenges, will have dramatic impacts on infrastructure needs and the performance of built systems.[24] Several of the projects highlighted in this report will incorporate climate change impacts into their designs, such as the SR-37 modernization north of San Francisco Bay (see discussion in Chapter 2). There is a growing recognition across the board that major projects will need to include an assessment of potential climate impacts in the future.

The private sector will also need to account for climate risks if P3 is to deliver on the promise of producing more effective life-cycle management of major capital projects. In theory, P3 partners that have at risk long-term capital and contracts 30+ years long should be incentivized to design and build infrastructure that will be resilient to the impacts of climate change. Ratings agencies are beginning to consider the credit implications of climate risk, although it still remains a minor factor. In the longer term, investors, engineers, and asset managers will need to make climate risk a more significant consideration. The public sector can ensure that contracts and procurements incentivize resilience in project design and can seek to partner with equity investors that hold their investment for the life of the partnership rather than selling it to third parties.

Pioneering efforts are underway to measure and certify resilience to climate change impacts in real estate and infrastructure, and such assessments may help investors and public agencies ensure the sustainability of long-term investments. The U.S. Green Building Council, GRESB, and Green Business Certification Inc., for example, provide tools to assess resilience for infrastructure projects[25] with specialized assessment resources for energy assets[26] and open spaces.[27] Green bond certification may provide another avenue for monitoring and verification of a project's environmental attributes, although green bond projects are often focused on climate mitigation rather than adaptation. These and other tools could provide a common framework for designing and building assets that will withstand climate change.

California's P3 Experience: The Past Five Years

Over the past five years, public agencies throughout California have completed some of the nation's most innovative P3s. These include the first social infrastructure P3 in the country, the two leading U.S. water P3s, and the largest social infrastructure P3. Numerous innovations within these procurements are being replicated in other transactions around the country. This chapter describes the most significant California P3s in recent years and highlights their outcomes and key innovations.

Long Beach Civic Center

Sector: Social Infrastructure

Deal Size: $520 million

Public Agency: City of Long Beach, CA

Concessionaire Team: Plenary Properties Long Beach (t/a Plenary Edgemoor Civic Partners); *Equity Investor,* Plenary; *Design-Build Contractor,* Clark Construction; *O&M Provider,* Johnson Controls.

Timeline: *RFQ,* March 2013; *RFP,* February 2014; *Selection,* December 2014; *Financial close,* November 2016; *Project completion,* June 2019; Contract end, 2059.

Highlights: Faced with the need to upgrade unsafe and obsolete civic buildings, the City of Long Beach challenged the private sector to deliver and operate new state-of-the-art facilities at an annual cost no greater than what the city was paying to maintain its existing buildings. The city and its partner are achieving this goal by allowing the private sector to develop a revenue-generating mixed-use development on a portion of the city-owned land. Communities around the state are now looking to replicate this model.

Project Background: In 2007, the City of Long Beach discovered significant seismic deficiencies in its city hall.[28] The city hall and the neighboring library were nearly 40 years old, expensive to maintain, and no longer served the city's needs. It was estimated that addressing the seismic deficiencies alone would cost $194 million (2013 dollars) which would still leave the city with functionally obsolete buildings. Given budget constraints, the city needed to limit the annual cost it would pay for the delivery, operations, and maintenance of a new complex to the amount it was previously paying to maintain its outdated facilities, with adjustments only for inflation. Not knowing whether that was possible, Long Beach hired Arup Advisory and challenged the private sector to fit the project within the city's existing $13 million annual budget (2012 dollars).

Procurement and Financing: Long Beach issued an RFQ in 2013 and short-listed three respondents. The city issued an RFP in 2014 and selected the Plenary-Edgemoor Civic Partners (PECP) team the same year. Following selection, PECP entered into a 16-month exclusive negotiation period during which PECP and Long Beach negotiated a comprehensive agreement for the $520 million civic center inclusive of a new city hall, a main library, a Port of Long Beach headquarters, a renovated Lincoln Park, and a mixed-use private development. The partnership consists of a 5-year construction period followed by a 40-year operations and maintenance phase. Construction is financed with $239 million in privately placed debt; $213 million in construction loans; $21 million in equity provided by Plenary; and city contributions of cash and land, underwritten by Plenary, totaling $40 million.

Throughout the procurement process and following selection, there has been an extensive public outreach campaign to engage the community in defining the project. This has been seen as a key step to ensure public support for a project that will define the central part of the city and be used by a wide range of stakeholders. The city and PECP team conducted more than 100 community meetings, information sessions, and design charrettes throughout a highly collaborative design process.[29]

Key Innovations: The Long Beach Civic Center is a nationally-recognized model that numerous other communities are now considering. The city's challenge to the private sector to deliver, operate, and maintain new state-of-the-art civic buildings and revitalize its downtown without raising taxes, increasing the impact on the general fund, or impacting its good credit rating was a break-through innovation. Private development will take place on the excess public land, including parcels that result from a more efficient design and layout of the new civic buildings. The land value underwritten by Plenary and the revenue generated from the resulting mixed-use development effectively subsidize the public facilities delivered under the partnership and allow the project to fit within the city's budget. In addition, the city is realizing cost savings by consolidating off-site departments and leases and by incorporating the Port of Long Beach's new downtown headquarters building into the Civic Center, which has allowed the public entities to share certain facilities and reduce costs.

The new facilities are also highly innovative. With a 40-year project timeframe, the PECP team could balance upfront capital costs with investments in designs and technologies that will minimize long-term operating costs. This led to incorporation of a wide range of sustainability measures that minimize environmental impacts and operating costs. The project will reduce greenhouse gas emissions by over 50% and consume only 25% of the electricity used in the existing building. All of the new public buildings will be rated LEED Gold or better.

Results: The project is currently projected to be delivered on time and on budget with an expected mid-2019 opening of the new city hall, library, and Port of Long Beach headquarters. The new Lincoln Park is expected to be completed by the end of 2020, with an improved design that will increase public use and access. If the project continues to perform to plan, it can be expected to revitalize downtown Long Beach, spur new economic growth, and replace unsafe, obsolete facilities with state-of-the-art buildings that meet the city's needs without increasing expenditures in the city's existing budget.

UC Merced

Sector: Social Infrastructure

Deal Size: $1.3 billion

Public Agency: University of California, Merced

Concessionaire Team: Plenary Properties Merced; *Equity Investor,* Plenary (100%); *Design-Build Contractor,* Webcor Builders; *O&M Provider,* Johnson Controls.

Timeline: *RFQ,* September 2014; *RFP,* January 2016; *Selection,* June 2016; *Financial close,* August 2016; *Project completion,* 2018–2020; *Contract end,* 2055.

Highlights: The Merced 2020 Project presents a model for stakeholder engagement. From the start, a vocal public champion and a dedicated multidisciplinary staff team broke down internal barriers to the project, got buy-in from other staff, decision makers, and the community, and proactively addressed obstacles. The design process has featured in-depth collaboration between the private partner and stakeholders to ensure that the project meets their needs.

Project Background: The University of California, Merced first opened for classes in 2005 with 875 students. Over the following 10 years, the campus grew to 6,800 students and 1.2 million square feet of facilities. With a goal of becoming financially self-sustaining and serving a population of 10,000 students, university leadership recognized that it needed in a short period of time to add a wide range of new facilities including academic, administrative, research, recreational, and residential buildings, essentially doubling the size of the student body and the campus. The Bay Area Council Economic Institute first explored the potential for P3 delivery of the campus needs in a 2010 white paper.[30]

Procurement and Financing: The university began by asking campus stakeholders what they needed. As the university defined its needs and its budget, it issued an RFQ in 2014, not knowing what the response would be. It received six responses and settled on a short-list of three teams. All of the initial RFP responses were above the budget the university had established prior to commencing the procurement. After receiving the bids, the campus consolidated some space elements to gain efficiencies and issued a revised RFP requesting best and final offers. Plenary Properties Merced was the only team to submit a bid under the proposed budget, and financial close was reached in August 2016 with construction commencing shortly thereafter in September.

The partnership has a total capital budget of $1.3 billion and will deliver the buildings in three phases beginning in fall 2018, with substantial completion of all facilities by fall 2020. The concessionaire is responsible for maintenance of major building systems within the facilities for 35 years following completion. The project is being financed with $600 million in external university funding (UC system debt), $590 million in developer funding, and $148 million in campus funds. This blend of public and private capital effectively shifts the risk to the concessionaire while minimizing the cost of capital by including a substantial amount of tax-exempt debt. The financing and O&M will be repaid, subject to building performance, through a combination of state general fund allocation and campus funds.

Key Challenges: The key challenge for UC Merced was to fit its ambitious vision for the campus within a limited budget. This became painfully clear when all of the bids it received from the initial RFP exceeded the upset limit. But the university had a clear vision for its needs—as opposed to wants—which allowed it to redefine the

project scope to fit within the available budget and still meet the community's core goals. Where other procurements might have failed at this point, UC Merced's flexibility and extensive community outreach allowed it to move forward.

Key Innovations: The Merced 2020 Project, the first and to date only social infrastructure P3 in the U.S. of over $1 billion, is notable for a number of key innovations in stakeholder engagement, procurement, and delivery. The university began engaging stakeholders early in the process, led by Chancellor Dorothy Leland, who championed the project from the beginning. A dedicated team from across the campus worked to advance the project and to educate the Regents as well as other staff, labor, and the broader campus community. The group anticipated potential obstacles and structured the partnership to minimize those impacts. The university continued this engagement following the RFP, engaging expert architects to serve as an interface between the P3 design team and the university to ensure that the facility design meets stakeholder needs. This led to changes in the design of laboratory and food service facilities as the design progressed—but within the project's initial budget parameters.

The performance-based procurement was designed to accelerate delivery of the project, maximize innovation to fit the project within the university's limited budget, and ensure long-term budgetary certainty regarding maintenance costs. The RFP asked respondents to develop a given number of assignable square feet rather than gross square feet, which allowed the teams to be creative in meeting the campus' goals without dictating how the buildings were to be constructed. The university provided respondents with area data sheets specifying the type, variety, and quality of space they needed to meet university objectives, as well as specifying certain operating parameters such as temperature and the type of light. This gave teams a clearer idea of how the campus wanted its spaces to function without dictating exactly how those goals were to be met. The RFP also had each of the teams provide early construction drawings and designs for each of the first buildings delivered during the procurement, so that they would be prepared to begin construction immediately following financial close and meet the ambitious schedule.

The project is also innovative in its requirement that the developer incorporate strategies that will enable the campus to meet its meet its goal of achieving triple net zero status (zero net energy, zero landfill waste, and zero net greenhouse gas emissions). Sustainability was scored in the procurement, ensuring that teams would factor these goals into their design. The approved design will result in at least LEED Gold status for all buildings, and it includes stormwater capture and aquifer recharge features.

Results: The campus is under construction and on track to be completed on time and on budget. The procurement is already considered a model for its ability to reach financial close in a short period of time and meet the campus core needs on a tight budget.

Rialto Water & Wastewater Partnership

Sector: Water & Wastewater

Deal Size: $172 million

Public Agency: City of Rialto, CA

Concessionaire Team: Rialto Water Services; *Equity Investors,* Ullico Infrastructure Fund and Table Rock Infrastructure Partners; *O&M Provider,* Veolia North America; *Design-Build Contractor,* AECOM-Lyles Joint Venture.

Timeline: *RFQ,* 2009; *RFP,* March 2010; *Selection,* March 2012; *Financial close,* November 2012; *Project completion,* ongoing; *Contract end,* 2042.

Highlights: In addition to overhauling the city's water and wastewater infrastructure, the Rialto partnership provided an upfront $35 million payment to the city that has catalyzed substantial economic development. The city invested a portion of those

funds in the redevelopment of a former airport site, which is now home to a growing number of distribution centers and other businesses. The city has already earned back the capital it invested in the project, and it expects to create 11,000 permanent jobs when the property is built out.

Project Background: In 2012, Table Rock Infrastructure Partners closed the first water and wastewater P3 of its kind in Rialto, a city of 110,000 people 40 miles east of Los Angeles. The city's water and wastewater system was in need of a major upgrade. At the same time, the city was facing broader economic challenges. Unemployment rates were 14% when the Rialto partnership was signed, the city had laid off 20% of its staff, and new jobs were a central focus of the city council. Recognizing these needs, the city decided to enter into a long-term partnership that would fund rehabilitation of the utility and provide an up-front payment to the city in order to spur economic growth.

Procurement and Financing: Rialto initiated a two-phased procurement with an RFQ in 2009, followed by an RFP in 2010, and selection of the Table Rock team in 2012. Table Rock and the city negotiated a 30-year water and wastewater partnership agreement and reached financial close in November 2012. Table Rock and majority equity investor Union Labor Life Insurance Company (Ullico) Infrastructure Fund raised $172 million for repair of the utility system, an upfront payment to the city, funding of reserves and rate stabilization accounts, and other purposes. The financing consists of 15% equity and 85% privately placed debt. Table Rock's subcontractor, Veolia North America, took full responsibility for operations and maintenance of the system for the 30-year term of the partnership.

Key Challenges: Financing the Rialto partnership was a challenge, due to the city's tenuous financial situation and the recent bankruptcy of neighboring San Bernardino. Furthermore, as the first water and wastewater partnership of its kind in the country, there were few precedents to reassure potential investors. The robust financial structure of the partnership eased these concerns, and the up-front and annual payments provided a plausible path for the city to address its financial difficulties and remain a strong partner for the life of the contract.

Key Innovations: The Rialto water and wastewater partnership creates a unique alignment between the private partner and the city administration, employees, and utility workers. The city retains ownership of all assets, water rights, and rate-setting authority, as well as a seat at the table in long-term management of the system. The city's utility director, as well as other staff and elected officials, approve annual budgets, oversee major capital projects, and approve monthly cash movements. All existing workers were written by name into the contract and guaranteed employment. The majority of the equity was invested by the Ullico Infrastructure Fund, meaning that labor not only has a controlling vote in all of the concessionaire's decisions, but also that financial returns pay union pension retiree benefits. Finally, all financial upsides from performance improvements in the system flow back to the city, while returns to the private partner are fixed for the life of the agreement, thus creating no incentive for the private partner to either cut corners or drive up rates.

Results: The Rialto partnership has delivered strong results for the utility and the city as a whole. The major capital projects are all completed or in the process of completion, resulting in a major rebuild of seriously degraded assets. Utility operations have performed well for the first five years, and a new proactive asset management plan is in place for identifying and prioritizing repairs and upgrades as they arise. Financial performance has been better than planned, and the City of Rialto has received 32% in excess performance dividends in the first 5 years, allowing it to defer rate increases, fund a conservation program, and add a dedicated utility director.

The economic development investment made by Table Rock has also enabled Rialto to make stormwater, street, and sewer improvements to support the redevelopment of the city's airport property, which is now home to a growing number of businesses including multiple distribution centers. This investment has helped establish 5,000 new permanent jobs to date, with a total of 11,000 new permanent jobs expected by 2019. The city has already earned back the capital it invested in the project, and it now has the benefit of a larger tax base for the foreseeable future.

Long Beach Courthouse

Sector: Social Infrastructure

Deal Size: $492 million

Public Agency: Administrative Office of the Courts (AOC)

Concessionaire Team: Long Beach Judicial Partners; *Equity Investors,* Meridiam (60%) and QIC Global Infrastructure (40%); *Design-Build Contractor,* Clark Construction; *O&M Provider,* Johnson Controls.

Timeline: *RFQ,* November 2008; *RFP,* June 2009; *Selection,* June 2010; *Financial close,* December 2010; *Project completion,* November 2013; *Contract end,* 2048.

Highlights: The Long Beach Courthouse was the first social infrastructure P3 in the United States. The delivery team pioneered a design process that would deliver the project on time and on budget while ensuring that it met the unique demands of the judges, sheriffs, and public that use it. Despite intensive collaboration with stakeholders, the project was delivered two years faster than the comparable San Bernardino Justice Center that was delivered under traditional procurement.

Project Background: In 2007, the Judicial Council of California produced a feasibility study for replacement of the old courthouse in Long Beach, using a P3 approach that was new for the U.S. at the time. The existing courthouse was physically deficient, overcrowded, unsafe, and had issues with mold, leaks, termite infestations, and general disrepair. Renovation of the existing facility was considered but deemed prohibitively expensive due to the costs of gutting the building and temporarily relocating the courthouse activities.

In addition to the risk and schedule benefits of P3, the guaranteed maintenance of the new facility by the private sector partner for the life of the contract was an important consideration for California's Administrative Office of the Courts (AOC), given the large amount of deferred maintenance throughout the court system.

Procurement and Financing: In 2008, the Administrative Office of the Courts issued an RFQ, and five of the eleven responding proposals were placed on the short-list. Three responded to the RFP issued in June 2009, and in 2010 Long Beach Judicial Partners, LLC (LBJP) was selected to deliver the project. LBJP delivered the 530,000 square foot, $492 million courthouse and is responsible for operations and maintenance for 35 years following completion. The project was financed with $49 million in equity and $443 million in seven-year, floating-rate mini-perm loans[31] for the construction period. Those loans were refinanced with 34-year fixed rate bonds in 2013. Availability payments to LBJP began after occupancy of the facility. The payments are subject to deductions in the event that the buildings are not operated or maintained according to the required performance standards.

Key Challenges: The volatility of the capital markets following the financial crisis in 2008–2009 was a major challenge in financing the project and delivering it in a timely manner. Given the financial uncertainty, long-term debt was not an option at the time. In order to move the project forward, LBJP chose to use short-term loans that would finance the construction period and give the team a period of several years during which they could refinance the loans with longer-term debt. While this approach exposed LBJP to refinancing risk, it prevented significant delays that other comparable projects at the time experienced.

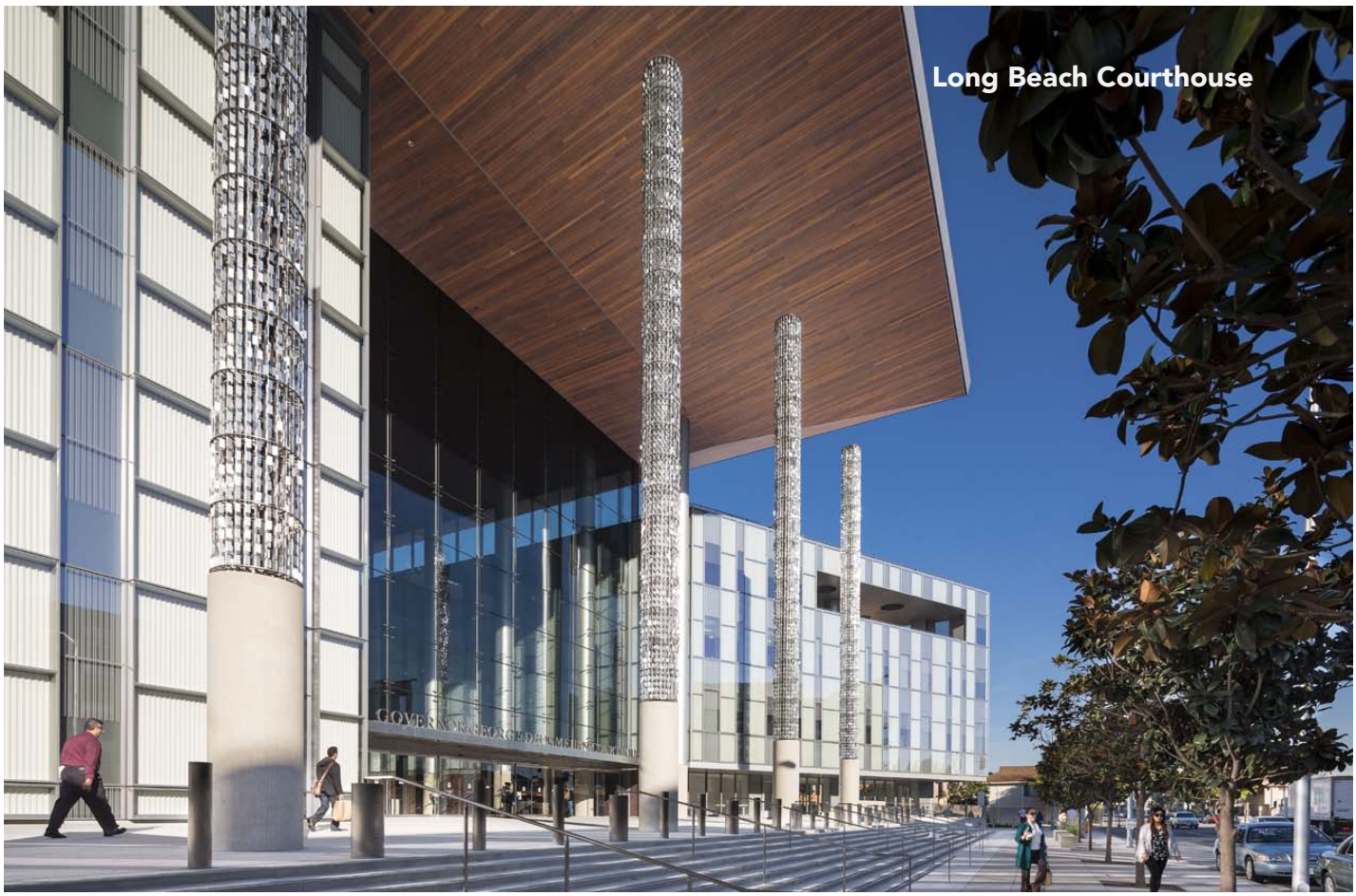
Key Innovations: The Long Beach Courthouse was the first true social infrastructure public-private partnership in the U.S. A particular concern for the LBJP team was ensuring that the facilities would meet the approval of the judges, sheriff, and court administrators that would be using it in the following decades. The team built three courtroom mock-ups to test interior designs and layouts, two more mock-ups than were required by the contract. Judges and other officials were invited to test the plywood mock-ups, and LBJP conducted a mock

trial in the test facility before construction began on the 31 courtrooms. This avoided costly changes later in the process and ensured that the facilities were well suited to the unique requirements of the stakeholders. LBJP used a similar process with the Sheriff's Department for the holding cells.

Results: The courthouse project was successfully completed in August 2013, ahead of schedule. LBJP completed the project on budget, with no disputes or claims, and used less than half of the $10 million allowance for AOC-directed change orders. The operations and maintenance phase has been successful to date, and repeated post-completion surveys show a high level of satisfaction with the facility.

There has been debate about whether the P3 approach delivered value for money for AOC. The Legislative Analyst's Office (LAO) issued a critical analysis of the P3 delivery in 2012, arguing that the project was not well suited to P3 and that the original value for money analysis overstated the cost savings. As a result, the LAO argued that the P3 delivery ultimately produced a higher cost for the state.[32] The AOC refuted the LAO's criticism, arguing that the value for money analysis was a rigorous process in line with best practices, and stood by the conclusion that the P3 delivery benefited the state.[33]

Perhaps a more useful assessment of the value of P3 delivery in this case is a real-life comparison with the San Bernardino Justice Center, which is a facility of similar size and quality that was delivered in the same construction market at a similar time. The San Bernardino project used Construction Manager at Risk (CMR) delivery. The Long Beach Courthouse was delivered 23 months faster due to the integrated nature of the procurement and the flexibility of the private financing market. The projects had similar costs per square foot, but the Long Beach project was reported to have higher quality mechanical and electrical equipment and a more flexible configuration that allows for conversion of leased space into additional courtrooms in the future.[34]



Long Beach Courthouse

Presidio Parkway

Sector: Transportation

Deal Size: $365 million

Public Agency: Caltrans and San Francisco County Transportation Agency

Concessionaire Team: Golden Link Partners; *Equity Investors,* HOCHTIEF (50%) and Meridiam (50%); *Design-Build Contractor,* Kiewit Flatiron JV.

Timeline: *RFQ,* February 2010; *RFP,* May 2010; *Selection,* January 2011; *Financial close,* June 2012; *Project completion,* July 2015; *Contract end,* 2045.

Highlights: The Presidio Parkway provides a unique opportunity to compare P3 against traditional procurement approaches within a single project. The first phase was delivered under a traditional design-bid-build (DBB) contract and experienced cost overruns and delays. The second phase used a P3 approach and was delivered on time and on budget, with the exception of landscaping work which was delayed by disagreements between public agencies.

Project Background: Doyle Drive is a 1.6 mile stretch of Highway 101 through San Francisco, which provides access to the Golden Gate Bridge and Marin County. It was originally built in 1936, and upgrades to improve safety and capacity on the roadway were debated for decades before the San Francisco County Transportation Authority and Caltrans selected the Presidio Parkway option in 2006. By that time, significant portions of the existing Doyle Drive structures had reached the end of their useful life and required upgrades to reduce seismic risk and improve traffic safety. The Presidio Parkway project included construction of six traffic lanes, expanded shoulders, two 1,000 foot tunnels, and other elements.

Procurement and Financing: The Presidio Parkway was delivered in two phases, with the first phase delivered through traditional design-bid-build starting in 2009. Phase I was scheduled to be completed by early 2011 but experienced significant delays and cost overruns due to change orders before its eventual completion in June 2013. Caltrans assessed delivery options for Phase II, which includes roughly double the amount of physical construction work as Phase I. A value for money analysis found the P3 alternative to be the most cost effective. An RFQ for the Phase II P3 was issued in February 2010, and a short-list of three teams was selected in October. In January 2011, the project was awarded to Golden Link Partners. The winning bid represented over 30% cost savings relative to the owner's estimates.

The partnership has a 33-year term, including three years for construction and 30 years for operations and maintenance. Total capital cost of the project is $365 million financed with 42% TIFIA loans, 45.5% bank loans, and 12.5% equity. The project is paid for through a combination of milestone payments during the construction phase and availability payments through the duration of the contract.

Key Challenges: From the outset, the Presidio Parkway generated controversy. The California Legislative Analyst's Office disagreed with the value for money analysis, challenging many of the assumptions and the cost savings that proponents argued the P3 would deliver. The Professional Engineers in California Government (PECG)—a public-sector union which has strongly opposed all P3 development—challenged the P3 procurement, arguing that it violated California's Streets and Highway Code and filing suit to block the P3. The lawsuit was eventually dismissed, but it delayed the project by over a year and added tens of millions of dollars in construction delay costs.

The challenges did not end there. The project required coordination with a wide range of local, state, and federal agencies, which would have likely caused delays regardless of the delivery method. Most significantly, the National Park Service and the Presidio Trust own the right-of-way—rather than the lead procurement agency, Caltrans—and coordination among these agencies has consequently been very challenging. There has been particular disagreement over the quality of the soil and

other landscaping components associated with the tunnel-top park to be delivered as part of the parkway project. This disagreement, among others, has caused substantial delay in the completion of the project's final landscaping. The highway itself reached substantial completion on schedule.

Key Innovations: The Presidio Parkway was a technically and politically challenging project that incorporated notable innovations in procurement, construction, design, and operations and maintenance. One of the key innovations was the split delivery of the two phases of the project, one under traditional design-bid-build and other under P3. This fit the two major construction phases and was necessary due to the timing of the passage of the State's enabling legislation. As a consequence, it provided a unique side-by-side comparison of project delivery models as discussed below. The construction phase of the Presidio Parkway required significant innovation and careful management to keep the existing thoroughfare open while the new assets were being built. Finally, the design of the project has been recognized for its creativity, integrating expanded transportation infrastructure naturally into the urban landscape and providing residents and visitors with new parkland, recreational opportunities, and educational resources.

Results: A major driver of the P3 delivery for Phase II of the project was cost and schedule certainty. The statewide pre-procurement review of Caltrans' DBB projects over $300 million had found average cost overruns of 76%.[35] Phase I of the project delivered through design-bid-build experienced a delay of 30 months and a cost overrun of 24% relative to the owner's original project budget. The Phase II P3 achieved substantial completion of the Doyle Drive replacement on time in July 2015 but, as noted above, the landscaping portion of the project has experienced significant delays due to disagreements between Caltrans and the Presidio Trust. This impacted the $185 million milestone payment, resulting in a lawsuit by the concessionaire and eventually a $91 million settlement in their favor, due largely to the fact that the delays were driven by the public sector. Nevertheless, due to the significant cost savings achieved in the bidding process, even with this additional cost Phase II will be completed within the owner's original project budget. The remainder of the landscaping work is expected to move forward in 2018.

The delays in the landscaping portion of the Presidio Parkway P3 delivery point to the importance of resolving jurisdictional and contract specification issues where multiple public agencies have ownership or approval rights. That key coordination and design/permit approval issues were not resolved up front has significantly delayed the project. The project also shows that carefully defining of contractual outcomes is essential. Responsibility for those decisions should be carefully defined at the beginning and to the greatest extent possible, so that contractual ambiguity does not cause project delay during the delivery phase.

Carlsbad Desalination Plant

Sector: Water

Deal Size: $992 million

Public Agency: San Diego County Water Authority

Concessionaire Team: Poseidon Water; *Equity Investors,* Stonepeak Infrastructure Partners; *Design-Build Contractor,* Kiewit; *O&M Provider,* IDE Technologies.

Timeline: *Water purchase agreement approved,* November 2012; *Beginning of construction,* December 2012; *Project completion,* December 2015; *Contract end,* 2045.

Highlights: The Carlsbad Desalination Plant has delivered over 30 billion gallons of drought-proof drinking water during its first two and a half years of operation. The San Diego County Water Authority has already seen the benefits of transferring risk to a private partner in the first years of operation. An algae bloom and elevated water temperatures caused disruptions at the plant in 2016–2017, with the private partners isolating the public from financial risk and making necessary upgrades to the plant at no cost to the public.

Project Background: The San Diego County Water Authority (SDCWA) is in the process of reducing its reliance on water from the Metropolitan Water District (MWD) of Southern California—the regional wholesaler that relies primarily on imported water—from 91% of its supply in 1991 to 13% by 2035.[36] The cost of water purchased from MWD has increased steadily over time and SDCWA plans to add a variety of local water sources to lower long-term costs and create a local, drought-proof supply. Desalination was viewed as a critical part of that local water supply, but SDCWA had never built or operated a desalination facility, which made alternative procurement approaches that transfer risk an attractive approach to improve price certainty and ensure long-term operations and maintenance performance.

Procurement and Financing: The Carlsbad Desalination Plant is a 50 MGD reverse osmosis facility developed and partially owned by Poseidon Water, now a subsidiary of infrastructure investment firm Brookfield Infrastructure Partners. Unlike many P3s where a public agency procures and owns the infrastructure directly, Poseidon developed the project privately and holds a Water Purchase Agreement (WPA) with the San Diego County Water Authority, the sole off-taker for the project. In addition to the desalination plant, Poseidon and contractor Kiewit-Shea Desalination built a 10-mile 54-inch pipeline that connects the plant to a regional hub facility on SDCWA's existing system, enabling optimal distribution of product water.

The desalination facility at Carlsbad was first proposed in 1998. Poseidon completed feasibility studies, environmental review, and approvals from numerous local, state, and federal agencies throughout the 2000s. The WPA was approved by SDCWA in November 2012 and the facility began operations in 2015. The project was financed 82% through the California Pollution Control Financing Authority with tax-exempt private activity bonds for the plant and tax-exempt governmental purpose bonds for the pipeline. The remaining 18% of the project was financed with equity.

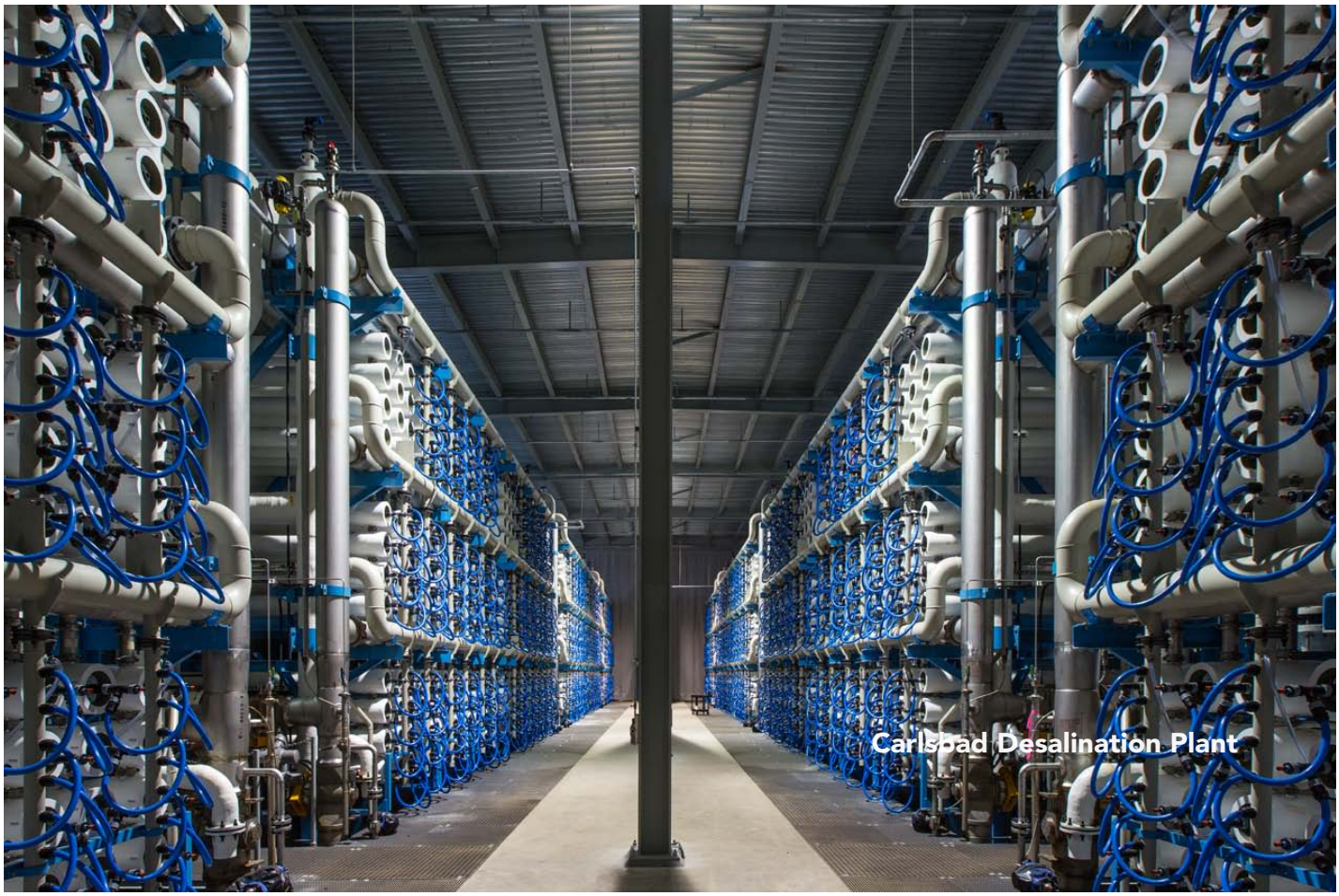
During the 30-year water purchase agreement, SDCWA buys water from Poseidon at a pre-defined price—$2,202–$2,439 per acre-foot in 2017–2018, depending on the volume delivered—with risk for delivering water at a given quality transferred to Poseidon.[37] Despite the higher price of this water relative to existing sources, SDCWA views the desalination facility as adding essential diversity to its water supply portfolio as it works to reduce reliance on imported water. SDCWA has the right to purchase the project for the outstanding equity return after the tenth year of operation, and at the end of the contract, it may purchase the plant for $1.

Key Challenges: Seventeen years elapsed from the time the Carlsbad plant was first proposed until the end of construction. Desalination facilities must complete a complex set of approvals including a review under the California Environmental Quality Act (CEQA), a tidelands lease from the State Lands Commission, a coastal

development permit from the Coastal Commission, and discharge and drinking water permits from the Regional Water Quality Control Board. These processes provided the opportunity for opponents to object, and Poseidon had to defend against multiple legal challenges filed by project opponents before the project was able to move forward with financing and construction. The legal challenges were primarily focused on potential impacts on marine organisms and the facility's energy consumption. Poseidon was eventually successful in defending the project's approvals.

Key Innovations: The Carlsbad Desalination Facility is the largest and most technologically advanced seawater desalination plant in the Western Hemisphere. The plant is the largest source of local supply in San Diego county and serves nearly 10% of regional water demand. Poseidon has implemented a first-of-its-kind greenhouse gas emissions program that offsets all of the incremental emissions associated with electricity used by the facility.

Results: The Carlsbad Desalination Plant was completed on schedule in December 2015. While the plant operated mostly according to plan in the first contract year, algae blooms and higher water temperatures caused disruptions to operations in the following year. As a result, Poseidon delivered 40,000 acre-feet of water in 2016–2017, 18% less than the 48,000 acre-feet minimum in the WPA,[38] requiring the private parties to continue funding debt and operating costs, pay penalties, and make improvements to the plant's treatment system and membranes at their own expense. Since these improvements were completed last year, the plant performance has met the parties' expectations. Representatives from SDCWA have noted that the contractual protections have isolated its ratepayers from the challenges the plant has experienced. In most other forms of procurement, the public would have been responsible for debt and operating costs associated with water that was not delivered and making the upgrades needed to bring the plant online.



Carlsbad Desalination Plant

University of California, San Francisco Neurosciences Building

Sector: Social Infrastructure

Deal Size: $167 million

Public Agency: University of California, San Francisco

Concessionaire Team: *Fee Developer,* Edgemoor/ McCarthy Cook Partners; *Design-Build Contractor,* Clark Construction.

Timeline: *RFQ/RFP,* March 2008; *Selection,* July 2008; *Financial close,* April 2010; *Project completion,* April 2012; *Contract end,* 2042.

Highlights: UCSF used an innovative lease/leaseback structure for its Neurosciences Building which shifts risk for delivering the facility to a private partner while maintaining access to low-cost, tax-exempt bonds. This provides the university with the lowest life-cycle cost for the project.

Project Background: The University of California has used a variety of public-private partnership structures to deliver more than 81 projects including medical office buildings, research facilities, student housing, and other assets.[39] These include ground leases, ground lease/leasebacks, developer build-to-suit, and master leases, among others. One recent project was the UCSF Neurosciences Building on the Mission Bay campus, which was completed in 2012. The goal of the project was to improve collaboration and more efficiently move trials from labs to clinical settings by combining research programs into a single building.

Procurement and Financing: UCSF initiated the procurement in March 2008, selecting the Edgemoor/ McCarthy Cook Partners team in July, and reaching financial close following the design process in 2010. The project was financed with tax-exempt debt through a conduit issuer and nonprofit 501(c)(3) specifically created for the project to access tax-exempt financing. The university leases land to the 501(c)(3) which in turn provides a sub-ground lease to the P3 partner. The Edgemoor team designed and built the facility for a fixed price, schedule, and lease rate and is responsible for operations and maintenance of the building for 30 years post-completion. The P3 team owns the building for the duration of the contract and leases it back to the university. At the end of the partnership, ownership of the building reverts to the university.

Key Challenges: UCSF was facing pressure to deliver the neurosciences building quickly or be at risk of losing funding for the project. Land and a major gift had been donated for the project under the condition that it be completed by a certain date which was rapidly approaching.[40] The campus had recently experienced cost overruns and delays on capital projects and needed to be sure that it wouldn't have the same issues with the neurosciences building project. The P3 structure allowed the campus to accelerate delivery and meet the deadlines.

Innovation: The delivery approach used for the neurosciences building and a number of other UC projects differs from traditional P3 deliveries which include private financing. The 501(c)(3) financing structure allows UC to shift a portion of the risk for delivering the assets while still retaining its access to tax-exempt debt, resulting in a highly competitive life-cycle cost. However, it should be noted that incorporating public financing reduces the effectiveness of the risk transfer to the private partner. The university is responsible for paying back the financing regardless of whether the developer delivers on its long-term operations and maintenance obligations. Furthermore, without an equity investment in the project, the developer has less "skin in the game" and less incentive to ensure long-term project performance. In privately financed P3s that have not performed to plan, private investors have lost their investments and the public has been able to acquire the assets at a reduced cost. Nonetheless, the Neurosciences Building provides a notable innovation in P3 delivery that minimizes financing costs, demonstrating that P3 projects need not follow a single design template.

Results: The Neurosciences Building was completed on time and on budget in 2012 and is now in its sixth year of operation. The $167 million, 237,000 square foot building includes laboratories and clinical spaces and provides work space for more than 600 researchers and staff. In the first years of the contract, UCSF has experienced improved transparency of operating costs and positive responsiveness to service requests.[41] The University of California is now using the same structure to deliver multiple student housing projects.

2

California Pipeline: The Next Five Years and Beyond

California has a number of P3 projects, either in active procurement or in the planning stage, that are expected to be completed in the next five years. Beyond that, there are also a number of large projects that are either considering P3 delivery or that entail the type of scale, complexity, and schedule challenges that a contractually-defined, performance-based P3 procurement is particularly well suited to address. This chapter provides brief descriptions of these projects and the benefits that P3 could bring to their delivery.

Projects in Development, Planned, or Under Consideration

LAX Automated People Mover (APM) and Consolidated Rent-A-Car Center

Los Angeles World Airports (LAWA) recently reached financial close on a $4.5 billion, 2.25 mile electric train system P3 that will connect three stations within LAX to a consolidated rental car facility and intermodal transportation center with access to the Metro light-rail system. LAWA issued an RFQ in June 2016, short-listing all five teams that responded but ultimately receiving bids from three respondents. In early 2018, LAWA selected for the 30-year contract the LAX Integrated Express Solutions (LINXS) team led by Fluor, Balfour Beatty, and three other equity members. Groundbreaking is expected in 2018, and the project is scheduled to be operational in early 2023. LAWA will make a series of milestone payments throughout the design and construction processes plus availability payments over the life of the operations phase of the contract. Payments will come from a combination of airport repayment bonds, existing airport revenues, and passenger facility charges.

LAX Automated People Mover

LAWA is also delivering the Consolidated Rent-A-Car Center (CONRAC) through a public-private partnership. The estimated $1 billion facility will be located 2 miles east of the airport and connected by the APM. Four teams were selected for the short-list in 2017, and the RFP was issued in April 2018. Final selection is expected in late 2018, with project completion by 2023.

Napa Civic Center

For more than a decade, the City of Napa has been considering ways to replace its undersized city hall and consolidate city offices into a single modern facility. The City issued an RFQ for the project in 2015 and an RFP to the three short-listed teams in 2016. In May 2017, the city council selected Plenary as its preferred partner and subsequently entered into a two-year exclusive negotiating period with the developer during which the team is working with the community to design the project.[42] The project consists of a four-story, 130,000 square foot combined city hall and public safety building, along with a new fire station and a parking structure. A mixed-use complex with a hotel, condominiums, and retail space will be developed on the previous city hall location. The commercial development and related tax revenue will reduce the general fund impact of the new civic center. The estimated $110 million project is expected to break ground in early 2019, with a two-year construction period.[43] Plenary Properties Napa will operate and maintain the facility for 30 years following completion. This project has the potential to demonstrate that P3s are not limited to mega projects but can also help smaller communities address their infrastructure needs.

Los Angeles Convention Center

For years, the City of Los Angeles has pursued various plans to modernize and expand its downtown convention center. In 2015, the city was advancing a traditional delivery path, selecting a team to design the renovated facility, and intending to issue $470 million in tax-exempt bonds to finance the project.[44] Later in the year, the City received a report that it had commissioned from Arup Advisory, which concluded that a public-private partnership including a reimagined, mixed-use project with public and private development would reduce the impact on the general fund and increase the project's economic development potential.[45] The city subsequently issued a Request for Information from potential developers in 2016.[46] Currently, Los Angeles is in negotiations for P3 delivery of the modernization project with AEG, the owner and developer of the Staples Center and current manager of the convention center facility, and with Plenary Group.[47]

Los Angeles Civic Center

In 2017, the City of Los Angeles approved a master plan that would fundamentally reshape the civic center area of downtown, which is considered to be underutilized and disconnected from surrounding neighborhoods. The city also wants to reduce its office leasing space costs by building new city-owned facilities. The first phase of the six-part plan involves replacing the former Los Angeles Police Department Parker Center headquarters with a 27-story city office building. Construction on the $500 million project is expected in 2018–2020 and could be delivered by a public-private partnership.[48] Subsequent phases implemented gradually through 2032 would replace City Hall South, the LA Mall, the 911 Call Center, Metro Detention Center, and City Hall East with a mix of residential and commercial space, government offices, parking structures, and parks. Many of the projects are expected to be delivered as public-private partnerships or entirely delivered, owned, and financed by private partners.

Sonoma County Government Center

Sonoma County's administrative center in the city of Santa Rosa was built in phases starting in the late 1950s. Many of the buildings are now reaching the end of their useful life after decades of deferred maintenance. The existing 470,000 square foot campus is spread over 82 acres in an inefficient manner that limits the ability of the current buildings to accommodate a growing workforce. The administrative buildings housing the board of supervisors, county administrator, county permitting, auditor-controller-treasurer-tax collector, county clerk, transportation and public works, and internal service departments need replacement. The county jail and the sheriff's office have better conditions in their current buildings and are likely to remain in those facilities.

Sonoma County is exploring options for replacing the existing administrative buildings. The Long Beach Civic Center appears to be an attractive model for financing and delivering the estimated 500,000 square foot, $350–450 million administrative campus, although the county is still in the preliminary planning phases and is working to develop business cases. The county expects that a more compact administrative center could free up 20–29 acres for mixed use development and reduce the cost of the new county buildings, ideally limiting the annual outlay to their current expenditures on building maintenance and leasing of private office space. The private development could also help alleviate the housing shortage in Sonoma County that has been particularly pronounced since the wildfires in 2017.

Napa Civic Center

Exploratory conversations with potential P3 technical advisors are currently underway, and the County will soon engage with developers to learn more about the model and get feedback on what is being considered in the program. It plans to issue an RFI in the summer of 2018. If that all proceeds according to plan, the County would expect to issue an RFQ in 2019. There is also a possibility that Sonoma County would partner with the City of Santa Rosa to jointly develop a P3 for delivery of the County's administrative buildings and the City's new civic center, which is similarly in need of modernization.

San Vicente Pumped Storage Project

The San Diego County Water Authority (SDCWA) and the City of San Diego are jointly considering development of a pumped storage facility near San Vicente Reservoir. The $1.5–2 billion project would involve construction of a new reservoir above the existing reservoir, connected by a tunnel system and power turbines. Water would be pumped into the upper reservoir during off-peak hours, when electricity is inexpensive, and released to generate electricity during peak hours. The energy storage would help stabilize the electrical grid, which has become challenging to manage with the advent of higher levels of intermittent renewable energy such as wind and solar. These resources generate variable output as the wind and solar radiation fluctuate, impacting the grid's voltage and frequency and, in the absence of storage, less efficient gas turbine plants are required to run in stand-by mode in case they are needed to rapidly respond to changes in the electricity supply. SDCWA issued an RFP for the 500 MW facility in 2017 and from the five responding teams the Tenaska-Diamond Generating Corp. Joint Venture was selected for exclusive negotiations.[49] A lengthy environmental review and licensing process with the Federal Energy Regulatory Commission must be completed before the project can proceed.

Santa Clara Valley Water District

The Santa Clara Valley Water District has initiated P3 procurement for an indirect potable reuse project to provide an additional water supply for Silicon Valley and to recharge the local aquifer. Overpumping of the aquifer has led to subsidence which can disrupt underground utilities. The main components of the $650 million project are a 24 MGD reverse osmosis water treatment plant and an 18-mile, 48-inch pipeline from the plant to the Los Gatos recharge ponds. The district issued an RFQ for the project in 2016 with dual tracks for P3 and progressive design-build delivery of the project. (For the progressive design-build, separate RFQs were issued for the plant and the pipeline.) The District short-listed teams on both tracks and spent the majority of the next year and a half considering which track it would pursue. In October 2017, the board voted to proceed with the P3 track. The two originally short-listed teams will be joined by three additional teams in responding to an RFP expected to be issued in the summer of 2018. The District is pursuing a progressive P3 (see Chapter 3 for more discussion of progressive P3s) with qualifications-based selection of a P3 partner by the end of 2018 so as to accelerate completion of CEQA, permitting, and entitlements, and bring the project to completion at the earliest possible date. The district is also seeking to achieve an acceptable risk allocation with the private sector, reliable operations, effective maintenance, and optimized life-cycle costs.

Central Contra Costa County Sanitary District

The Central Contra Costa County Sanitary District is a special district providing wastewater collection and treatment for nearly 500,000 residents northwest of San Francisco. The District currently relies on imported natural gas for 90% of the power demand at its wastewater treatment plant. The greenhouse gas emissions from the plant hover around the threshold at which they would be required to offset emissions through California's cap and trade program. The District's new energy policy seeks to reduce those emissions, achieve net zero energy, and reduce energy costs. In May 2017, the District issued a Request for Interest to search for a private partner to design, build, finance, operate, and maintain a bioenergy facility that would supply renewable energy for most of the wastewater treatment plant's energy needs. The RFI received responses from eight teams, and the District has stated that it intends to issue an RFP after reviewing responses to the RFI.[50]

Santa Clara County Civic Center

Santa Clara County is considering various financing and delivery options for renovation and expansion of its civic center, which occupies 55 acres in the city of San Jose. The project would modernize the existing administrative, law enforcement, and judicial buildings in line with the county's master plan. The county authorized a mixed-use P3 on the civic center campus, issued an RFP in 2012, and in 2016 entered into a Master Development Agreement for the project with Lowe Enterprises.[51] The partnership would result in 1.15 million square feet of new county facilities in addition to the mixed-use development. The County is currently preparing an environmental impact report for the project.

LA Metro

The Los Angeles Metropolitan Transportation Authority (LA Metro) is in the early stages of perhaps the most ambitious P3 program in the country. The Office of Extraordinary Innovation (OEI) was established within the agency to catalyze adoption of new procurement approaches, partnerships, and technologies for improving mobility in the region. While LA Metro has enormous resources available to it with the passage of Measure M—the sales tax passed by LA County voters in 2016 that will provide $120 billion for transit projects over 40 years—there are still funding constraints, given the scale of the region's transportation needs. Finding ways to deliver projects more efficiently and with appropriate risk transfer in such a large capital program could produce numerous benefits. At the same time, LA Metro wants to accelerate projects because the benefits of Measure M are needed as soon as possible in order to provide residents with alternatives to existing traffic congestion.

OEI is leading a major change management process at LA Metro that will reshape business as usual throughout a large and complex organization. CEO Phillip Washington is driving this change, which is being implemented by OEI and the rest of the Metro staff. One of OEI's priorities is to develop public-private partnerships that can accelerate projects. Getting such a large organization to deliver projects differently takes time. Having a champion at the top with a clear vision of the benefits and challenges of implementing P3 is a major benefit. OEI is also educating staff and other stakeholders through P3 seminars with global experts and outreach to the board and labor unions.

While staff are beginning to identify projects for P3 delivery internally, LA Metro has primarily turned to the private sector to identify P3 opportunities through unsolicited proposals. LA Metro is currently moving forward with two major projects for P3 delivery, both of which came from unsolicited proposals. The West Santa Ana Branch is a new 20-mile light-rail project that would extend from Cerritos in southeastern LA county to downtown Los Angeles. The budget is $4 billion and the project was planned to be delivered in two phases; however, LA Metro believes that both phases can be delivered as one project through a P3. LA Metro is currently working on the draft Environmental Impact Statement/Environmental Impact Report and is assessing the feasibility of P3 delivery for the full project. An RFQ is possible sometime in 2019.

The second project is the Sepulveda Transit Corridor, which seeks to add a viable transit option to the heavily-congested I-405 corridor from the San Fernando Valley to the west side of LA and LAX. LA Metro is studying various high-capacity rail transit options for this project, which is expected to cost around $8 billion. The feasibility study is scheduled to conclude in the summer/fall of 2019. LA Metro plans to deliver this project through a Project Development Agreement (PDA) that would bring on a private-sector developer early in the process to help create a financially viable project. An RFQ for the PDA is expected in late 2018.

Huntington Beach Desalination

The proposed Huntington Beach desalination plant is a 50 MGD reverse osmosis facility that would provide a local, drought-proof source of water for 400,000 Orange County residents. The $625 million facility located on the site of a power plant is being developed by Poseidon Water. Like the Carlsbad Desalination Plant developed in San Diego county by Poseiden, the Huntington Beach project was first proposed in 1998 and has experienced development delays due to opposition from coastal environmental NGOs. In 2015, the Orange County Water

District board of directors approved a Water Reliability Agreement term sheet for the purchase of the facility's full 50 MGD capacity. The project received approval from the State Lands Commission in fall 2017 and is awaiting final approval from Santa Ana Regional Water Quality Control Board and the California Coastal Commission. Poseidon is optimistic that it will receive its final permits by mid-year 2019.

San Francisco Broadband

The City of San Francisco is in the early stages of a P3 procurement to develop a city-wide, fiber-based network for delivering Internet service. San Francisco worked with consultants to develop a blueprint for the system and assess delivery options in 2017, ultimately selecting P3 delivery for the network that, once completed, will be leased to retail service providers. The city expects to fund a portion of the project through milestone payments and to share the revenue with the P3 partner during the operations phase of the partnership. It is expected that the term of the construction and service agreement will be 15 years. The city issued an RFQ in January 2018 and short-listed three teams to bid in the RFP stage.

San Diego Association of Governments: Otay Mesa East Port of Entry and Downtown Bus Stopover and Multiuse Facility

The San Diego Association of Governments (SANDAG) is considering two projects for P3 delivery. The more advanced project is the Otay Mesa East Port of Entry. Since 2008, the agency has been considering options to create a tolled express point of entry to provide a faster border crossing option and reduce the economic losses from congestion and associated wait times. The State of California has already purchased the right of way and is building the road leading to the point of entry. SANDAG is currently working on an innovation analysis which will assess various designs and provide a preliminary estimate of traffic projections, project costs, and revenues. The agency is open to private sector involvement although there are complications associated with a cross-border project. Most notably, given that it is a border crossing, U.S. Customs and Border Patrol must provide staffing. National security will necessarily be the overriding concern, which makes it difficult to include contractual incentives that guarantee throughput. This situation does not preclude P3 delivery, but it does reduce the ability to transfer risk to a private partner during the operational phase as well as the ability of that partner to guarantee improvements in processing wait times.

The other SANDAG project with P3 potential is the proposed downtown San Diego Bus stopover facility to provide an off-street location where buses would park between runs. Currently, buses park curbside, reducing on-street parking. SANDAG has identified a preferred location for the facility and is in the process of acquiring the site. The agency is assessing P3 delivery of the project including the potential to incorporate the facility into a mixed-use development that also includes residential, office, and retail space.

Long-Term Opportunities

TJPA Transbay Program

The Transbay Joint Powers Authority (TJPA) was formed by the City and County of San Francisco and regional transportation authorities to design, build, finance, and operate an intermodal transportation hub in San Francisco. The Transbay Program has two phases. The first phase involves construction of the new Salesforce Transit Center, which is scheduled to be completed in the summer of 2018. Phase two involves extension of Caltrain and high-speed rail service into the Transit Center. Caltrain service currently terminates at the intersection of Fourth and King streets, and in Phase 2 TJPA will extend that rail service approximately 1.5 miles into the Transit Center in downtown San Francisco and build a new underground rail station at Fourth and Townsend. Funding dependent, Caltrain service into the Transit Center could start as early as 2027, while high-speed rail service into downtown San Francisco is scheduled to commence by 2029, according to the Draft 2018 California High-Speed Rail Authority Business Plan.

TJPA is in the process of assessing financing and delivery options for Phase 2 of the Transbay Program and is open to creative solutions that will accelerate the project, maximize innovation, and mitigate delivery risk. While P3 delivery is an option, there are also challenges. The 1.5-mile rail segment being developed by TJPA will be a

relatively small part of Caltrain's 52-mile line, and it may provide limited benefit to guarantee long-term operations and maintenance on only a small portion of the larger system. TJPA is considering several delivery options and is open for industry input and ideas on how the project can benefit from alternative delivery options. In June 2018, Bay Area voters approved Regional Measure 3, which raises tolls on state-owned bridges in the region to generate new transportation funding. The measure will provide $325 million for Phase 2, which could be sufficient to advance the project to shovel-ready status.

SR-37

California State Route 37, the 21-mile highway that extends from Vallejo in Solano county, through Napa and Sonoma counties, to Novato in Marin county north of San Francisco, experiences severe congestion during commute hours and is threatened by flooding as sea levels rise. Part of the highway was underwater for an extended period following the winter storms of 2016. By 2050, rising sea levels could regularly submerge the roadway, and by 2100 it could be permanently underwater.[52] Since early 2017, Solano, Napa, Sonoma, and Marin counties have been working together with Caltrans and the Metropolitan Transportation Commission to study the options for SR-37, and a corridor study was completed in February 2018. There is a recognition that tolling is likely to be necessary, given that the four counties would need to pool available resources for 50–60 years to fund the project in the absence of tolling, by which time flooding would make portions of the road unusable.

The four counties along with Caltrans and the Metropolitan Transportation Commission recently started work on the Project Initiation Document, the precursor to the CEQA process, for Segment B of the project (the nine-mile middle stretch of the highway from Sears Point to Mare Island). This process will provide more specific costs for the estimated $1–2 billion project. No decisions on delivery or financing

Figure 9

The 2018 corridor study divides SR-37 into three segments reflecting current changes in the number of lanes: Segment A is a four-lane expressway, Segment B is a two-lane conventional highway, and Segment C is a four-lane freeway.

Source: Sonoma County Transportation Authority

have been made, and the agencies are prioritizing the environmental process at the moment, but P3 delivery is being considered for Segment B (one of three sections of the roadway) together with a range of other options. There have been proposals to toll the road in the past, including an unsolicited privatization proposal from United Bridge Partners. Regional Measure 3, approved by Bay Area voters in June 2018, will provide $100 million for the SR-37 modernization project, enough to fund a significant portion of the environmental work and prepare the project to be put out to bid. However, before an SR-37 P3 delivery could move forward, P3 enabling legislation for highway projects in California will be needed.

High-Speed Rail

California high-speed rail is an ambitious project that eventually aims to span 800 miles from Sacramento to San Diego with up to 24 stations. The most recent estimates put the cost of the San Francisco to Anaheim segment at $77 billion.[53] The 119-mile Central Valley segment of the project is currently under construction. The California High-Speed Rail Authority is proposing to complete that segment and environmental review for all remaining segments by 2022.[54] From the outset, an expectation of private participation has been built into the project's plan, addressing concerns that the level of public funding is insufficient to see the project to its completion. To attract private proposals, however, public investment in the core infrastructure is required.

In 2015, the California High-Speed Rail Authority issued a Request for Expressions of Interest (RFEI) to develop as a public-private partnership the "initial operating segment" of the project from Merced to Burbank. An RFEI typically does not initiate a formal procurement but rather is used to assess interest and solicit feedback from the private sector. Thirty teams from 10 countries responded to the RFEI.[55] While there was enthusiasm for delivering portions of the project as a P3, there were also concerns from the private sector. Most importantly, the lack of public funding sufficient to pay for the segment of the project subject to the RFEI was seen as a major hurdle. The estimated $31 billion price tag was also seen as potentially too large for a single P3. The Authority's *Draft 2018 Business Plan* notes that it is exploring P3 delivery for segments of the line, especially the Pacheco Pass tunnels which present significant cost and schedule risk due to their complexity.[56] In 2017, the German train operator Deutsche Bahn was awarded a contract to serve as "early train operator" for the initial phase of the project to link San Francisco with Bakersfield, assisting the Authority with planning, design, and implementation services that will serve to attract at-scale private investors.

Dumbarton Corridor Transit

The San Mateo County Transit District (SamTrans) is considering a range of options to improve mobility between Alameda county in the East Bay and San Mateo county and other parts of the Peninsula area south of San Francisco. There is growing congestion along the Dumbarton Bridge corridor stemming from the rapid growth of employment on the Peninsula and constrained housing options. SamTrans is considering a range of new bus and rail options to address these challenges, including new transit services utilizing the Dumbarton rail bridge. The rail bridge was originally built in 1910 but fell out of use and was damaged by a fire in the 1990s. There have been multiple studies and proposals for its rehabilitation over the past two decades, but none of them have advanced.[57] SamTrans, which owns the bridge, partnered with Facebook in 2016–2017 to study transportation options along the corridor. With its main campus neighboring the bridge and a desire to improve transportation options for its employees, Facebook funded the $1.2 million study. In June 2018, Facebook entered into a development agreement with SamTrans and Plenary Group to develop an improvement plan for the corridor.[58] SamTrans estimates that the project would cost approximately $1 billion. While it is still early in the process, it is possible that Facebook could privately finance a portion of the project and form a consortium to deliver it.

The Dumbarton corridor transit project could be indicative of a broader interest in transportation partnerships between private companies—especially large employers in the technology industry that are interested in improving access to their campuses—and public entities that are facing increasing infrastructure pressures. While it is unclear how the Dumbarton

corridor or other such projects would be delivered and financed, there could be an opportunity for procurement innovation and more significant public-private cost sharing in these partnerships.

Second Trans-Bay Tube

San Francisco Bay Area Rapid Transit (BART) District officials are in the early stages of studying a second Transbay tube for the portion of the rail system linking the East Bay and San Francisco. In 2018, BART officials approved a study of the project, which is expected to cost a minimum of $12–15 billion. The route of the crossing will be analyzed in detail, as well as opportunities to share its cost and use with high-speed rail and commuter trains such as Caltrain and Amtrak's Capitol Corridor. This could allow Caltrain to connect to the East Bay and Capital Corridor trains to extend into San Francisco. Other options, which have not been formally discussed, could allow access to the tube for commercial truck traffic, which could take trucks off already-burdened bridges and help generate revenue to support P3 development.

Decisions on whether and how to build the project are still years away. However, BART officials are tentatively aiming to have the second tube in service by 2030.[59] The existing tube is already approaching capacity, but modernization of the train control system and the purchase of 775 new train cars will increase the number of seats in the fleet by 60%, providing sufficient capacity through 2030. While specific delivery options are not yet on the table, BART has previously considered P3 delivery for parking, and there is interest in alternative procurement in parts of the organization. A project of this scale and complexity is well suited to P3, especially if the agency and its partners want to avoid cost escalation and meet the 2030 in-service target.

Water Reuse Projects

Water agencies throughout California are increasingly looking at water reuse for improving long-term water sustainability and diversifying local supplies, particularly in Southern California where local agencies want to reduce their reliance on imported water, whether from the Colorado River or the State Water Project. Many of these agencies purchase imported water from the regional wholesaler, Metropolitan Water District of Southern California, and they are concerned both about the sustainability of that supply and wholesale water rate increases over which they have no control.

Water recycling and reuse can provide a cost-effective, drought-proof supply of local water, and a number of agencies throughout the state are considering or actively pursuing projects. Currently, only indirect potable reuse is allowed in California, but direct potable reuse is being studied and could provide a more cost-effective reuse solution for water agencies. Many in the industry see this as a major P3 opportunity in the next 5–10 years, particularly given that many agencies have limited experience in procuring and operating these costly and complex projects. As the Santa Clara Valley Water District has concluded, it may make sense for agencies to shift the risk for such projects to a P3 partner that is better positioned to manage it.

California WaterFix

California WaterFix is one of the state's largest and most controversial projects. The State Water Project (SWP) and the Central Valley Project (CVP) deliver water from Northern California to millions of users across the state, including farmers and major population centers in the Bay Area and Southern California. One of the key challenges with these projects is movement of the water through the Delta. Currently, water is conveyed into the northern Delta from Northern California rivers and pumped from the south end of the Delta to Southern California. This presents several challenges. First, the pumping has serious impacts on the Delta ecosystem and the endangered species that inhabit it. Second, the 1,100 miles of levees within the Delta are vulnerable to earthquakes, rising sea levels, and saltwater intrusion, which put water supplies for millions of Californians at risk.

Solutions to this challenge have been in development for decades. The currently proposed project would divert water from the Sacramento River and deliver it through two 35-mile tunnels to state and federal pumping plants in the south Delta. It would also include environmental mitigation projects to improve the health of the Delta ecosystem. The project was originally intended to have two main tunnels, but after San Joaquin Valley farmers voted not to support it, there

was discussion of downsizing to a single tunnel, which would lower the estimated project cost from $17 billion to $11 billion. The Metropolitan Water District voted in April 2018 to take on a larger share of the project (65%, or $10.7 billion) to build both tunnels and potentially lease capacity to Valley farmers at a later date to recover the additional capital outlay.

California WaterFix would be funded by end users and is likely to be financed and delivered through traditional public means. It is currently envisioned that the WaterFix project will be managed under contract with the California Department of Water Resources through a proposed Joint Powers Authority made up of public water agencies involved with the project.[60] However, there have also been innovative proposals for alternative delivery and financing approaches, including delivering all or a portion of the project through a public-private partnership. There have been no formal assessments of that option, but the project is well suited to P3 delivery, given its size and complexity. With its cost overruns and delays, traditional delivery risks significantly higher costs and a longer timeline to completion.

Stormwater Projects

While both water and wastewater infrastructure haven't always been properly funded, stormwater infrastructure has been almost completely neglected in many places. Stormwater is a major source of water pollution, but it can also serve as a local water supply source if it is collected and treated. Part of the challenge has been with California law. Proposition 218, passed by voters in 1996, requires public votes for any new taxes or fees. Water and wastewater rate changes are exempt from public votes, instead requiring more than 50% of taxpayers or ratepayers to protest any fee or tax change related to those services. Stormwater fees were subject to a full public vote, making it much more challenging to pay for stormwater infrastructure. In October 2017, however, the governor signed SB 231, which defined stormwater as sewer infrastructure, opening the door for public agencies to establish stormwater fees and begin addressing runoff. Taxpayer groups have vowed to challenge any attempts to implement stormwater fees without public votes. This can be expected to slow, but not stop, the trend toward increased investment in stormwater infrastructure.

To address stormwater challenges, public agencies have a range of options, from traditional engineering solutions, such as diverting runoff to cisterns, to green infrastructure solutions, such as rain gardens, green roofs, and wetlands that can be distributed throughout urban landscapes to retain stormwater and recharge it into groundwater. These solutions can prove to be more cost effective than traditional gray approaches, and they provide other community benefits such as reduction in the urban heat island effect, improved air quality, and improved aesthetics. Public agencies on the East Coast have begun using public-private partnerships to implement green infrastructure programs: Maryland's Prince George's County, Chester, Pennsylvania, and DC Water have all used P3 contracts to shift risk to private partners for delivering, financing, and maintaining green infrastructure projects. While the former two are more traditional P3 contracts, the DC Water Environmental Impact Bond is short-term, tax-exempt financing that correlates investor returns directly to the water retention of the green infrastructure projects. These agencies are finding that green infrastructure P3s can reduce the per-acre cost of implementation and can dramatically lower the cost of complying with EPA consent decrees.[61]

As California cities and counties ramp up stormwater spending, there is an opportunity to reduce costs, accelerate delivery, and ensure long-term maintenance through P3 contracts. LA County is considering a parcel tax based on a property's impervious surface, which would fund a portion of the estimated $20 billion cost to comply with Clean Water Act regulations over the next two decades. The county and other public agencies with major runoff projects may consider the successful stormwater P3s on the East Coast as a model for reducing compliance costs and developing new local water supplies.

Sustainable Groundwater Management Act Implementation

California's Sustainable Groundwater Management Act (SGMA) was passed in 2014 to monitor and manage the state's groundwater resources. For many years, California was one of the few western states that did not regulate groundwater resources, which led to unsustainable consumption and declining groundwater

levels in many basins. SGMA's requirements are being phased in over time. The law required that Groundwater Sustainability Agencies (GSAs)—the entities responsible for managing a basin's groundwater resources in cooperation with local, county, and other partners—be formed in the state's high- and medium-priority basins by July of 2017. Those agencies are required to bring their basins into sustainability by 2040–2042.

SGMA implementation is still in its early phases, but over time GSAs will not only need to monitor and manage groundwater extraction but will also need to develop infrastructure to capture, transport, recharge, and store groundwater. New reuse and desalination facilities may be needed in some areas. The Groundwater Replenishment System, a partnership between the Orange County Sanitation District and the Orange County Water District, can treat and recharge 100 MGD of effluent into local aquifers per day. While not delivered as a P3, this is a large-scale example of the type of projects GSAs may need to implement in addition to significant new conveyance to move water to overdrafted groundwater basins. There is limited water available for recharge in many basins, especially in the Central Valley and Southern California, a situation that is likely to require new infrastructure to channel excess runoff from other areas into the major water delivery systems and deliver them to those basins.[62]

The GSAs are newly formed, with no experience in procuring and financing infrastructure projects or expertise in operating and maintaining the type of assets that will be needed. Some member entities of GSAs, such as irrigation districts, do have experience with procurement and asset management, but there is likely to be an overall shortage of the experience needed to deliver these projects. This makes them a natural fit for P3, where the private partner can assume the risk for designing, building, financing, operating, and maintaining water infrastructure while leaving ownership and control with local managers and communities. It is still too early to determine whether any GSAs will embrace P3 delivery, but it could be a significant opportunity as implementation of the SGMA evolves.

Watershed Protection & Restoration

Water suppliers are increasingly recognizing rivers, forests, and wetlands as important infrastructure assets alongside the treatment plants, pipes, and pump stations that make up their water systems.[63] Protecting and restoring this natural infrastructure is often a more cost-effective strategy than attempting to provide gray (i.e., built or "hard") infrastructure alternatives to replace the water treatment, flood control, and other services that ecosystems provide.[64] Cities such as San Francisco, Portland, Seattle, and New York have saved hundreds of millions of dollars by protecting their watersheds and avoiding the expense of building water filtration plants. Especially as climate change makes floods and droughts more frequent, and as more extreme weather exacerbates water quality challenges, water suppliers will be well served to invest in natural infrastructure assets.

There are a number of innovative investment strategies being developed across California to increase investment in natural infrastructure. The Pacific Forest Trust is working with state agencies and the California legislature to ensure that users of the state's water system contribute to the cost of repairing and maintaining natural infrastructure in key source watersheds, in addition to the dams, canals, and pumps. The revenue generated by surcharges would pay for conservation and restoration of critical forests, meadows and streams throughout the watershed on both private and public land. These projects could be financed through a combination of State Revolving Funds, Water Infrastructure and Innovation Act (WIFIA) loans, and tax-exempt revenue bonds and could be implemented by landowners on private lands and through traditional delivery on public lands. While not a true P3, the Pacific Forest Trust effort represents an innovative approach to bringing public and private parties together to invest in important water supply infrastructure.

The Forest Resilience Bond (FRB) being developed by Blue Forest Conservation(a public benefit corporation) resembles a traditional public-private partnership in its use of private financing to restore and maintain public forests and watersheds. Projects using FRB financing will reduce wildfire risk, protect water supply and downstream water infrastructure, improve air quality,

and create sustainable jobs in rural communities. Beneficiaries of the restoration work, such as the U.S. Forest Service, water and electric utilities, and state governments, will make cost-share and pay-for-success payments over time (up to 10 years) to provide investors with competitive returns based on the project's success. The Blue Forest team is pursuing an initial cohort of pilot projects that will be launched between 2018 and 2020. The initial pilots will be relatively small in size—in the range of 10,000 acres and $10 million raised per project—with a goal of scaling these up to larger projects in the same watersheds.

Climate Adaptation Projects

While the watershed protection and restoration projects cited above represent a distinctive strategy for adapting to climate change, there will also be a significant need to adapt, expand, and relocate the existing built systems that make up California's transportation, communications, energy, water, wastewater, flood control, and other infrastructure. There are numerous efforts underway to study and respond to the impacts that climate change will have on infrastructure throughout the state. The Bay Conservation and Development Commission (BCDC) is leading efforts in the Bay Area to assess and prioritize the region's vulnerabilities and to develop implementation and financing strategies, focusing in particular on how sea level rise will impact the transportation network and disadvantaged communities. BCDC is currently working to develop an assessment of vulnerabilities and implementation pathways by 2019. Implementation of the resulting projects will be led by agencies throughout the region. While the projects have yet to be defined, many involved in early-stage planning efforts, including the leadership at BCDC, believe that P3 can play a significant role in reshaping infrastructure to manage the impacts of climate change. This is a longer-range opportunity to watch.

Building a Stronger California P3 Market

California has been a P3 pioneer in the U.S. and has a significant number of projects in procurement and planning stages. But there is still more that can and should be done to build a robust P3 pipeline. Other states and nations are active in this field, and California must evolve its procurement processes if it is to maintain and build the infrastructure needed to support economic and population growth. This chapter highlights the procurement innovations, best practices, and policy reforms that can make P3 delivery a more effective tool for addressing California's long-term infrastructure challenges.

Procurement Innovations

The P3 model has evolved and diversified substantially over the past decade, driven in part by the innovative procurements and approaches demonstrated in the California partnerships highlighted in the preceding chapters. As the state continues to drive innovation in the market, there are a number of emerging trends in P3 delivery that provide state and local agencies with a diversity of tested procurement options to fit their projects. There are also valuable lessons learned from the past five years that can improve the efficiency and likelihood of success in future P3 projects.

P3 Offices and Programs

Historically, most P3s have been one-off projects—a single highway, building, or water system. In some cases such as UC Merced, a public entity has bundled numerous buildings together into a single procurement, but few organizations have implemented a sustained shift toward P3 delivery on the scale that has occurred internationally. Recently, a number of public agencies in the United States have established P3 offices or programs that are working to attract and implement a range of projects. Denver and Washington, D.C. have created such offices. In California, the most notable example is the Office of Extraordinary Innovation within LA Metro.

A broader P3 program may not be justified in all public agencies, especially in smaller organizations with a limited number of large capital projects, but there can be substantial benefits for agencies that have complex large-scale infrastructure needs. First, given the wide range of people and functions involved in a complex procurement, it can be challenging to make widespread changes to well-established institutional patterns and processes. Internal resistance to such changes can slow or derail P3 projects. Having a group dedicated to coordinating across multiple functions, breaking down silos, and ensuring project success can overcome barriers in advance of a specific project. Having a dedicated P3 office and undertaking a series of P3 projects also allows a public agency to build the capacity to execute transactions and avoid the public-sector mistakes that often result in project delays and cost overruns. The competencies required to procure a P3 (financial, risk structuring, risk management) are different from the

skills required in traditional procurements (construction management, engineering). Building P3 skills and transactional capacity reduces the learning curve and costs of each subsequent transaction.

A dedicated P3 office or program can also send important signals to the private sector and the broader public. It signals to the private sector that the public agency is serious about developing real projects and won't abandon a project partway through the procurement. This improves the likelihood that the public agency will attract high-quality responses to its procurement requests. A concerted shift toward broader P3 procurement also provides the public agency with a greater opportunity to educate the public on the benefits of P3 ahead of a particular project, dispelling common myths and emphasizing instead the value P3 can deliver to taxpayers and ratepayers.

Unsolicited Proposals

Unsolicited P3 proposals are a way for the private sector to formulate and submit project concepts that they identify as a good fit for P3. A public entity's legal authority to engage with an unsolicited proposal varies based on each state's legislation, but in theory a public entity could choose to reject the proposal outright, adopt the concept and initiate a procurement, or accept the proposal and enter directly into negotiations with the proposing entity. Unsolicited P3 proposals are a relatively new concept in the U.S. and have not been widely used to date. The most active unsolicited programs are in Washington, D.C., Los Angeles (LA Metro), Pennsylvania (PA Department of Transportation) and Puerto Rico. Denver is also formulating an unsolicited proposal policy as it develops its P3 office.

There are differing views on the best approach to engaging with unsolicited proposals. LA Metro's Office of Extraordinary Innovation sees its unsolicited proposal program as a way to source projects the private sector will actually be interested in delivering, rather than spending resources on developing procurement requests that may not receive robust responses. After deciding that an unsolicited proposal is worth pursuing, LA Metro plans to begin competitive procurement processes for each project. The private sector is often willing to spend the time and resources to propose a project that will require a competitive procurement in order to have the opportunity to win the project even if selection is uncertain. In some cases, where the public entity can demonstrate that there is no benefit to a competitive procurement—for example, because there are no other providers capable of delivering the project—it may be more cost-effective to directly enter into negotiations with the proposer, although the public entity must ensure that it has adequate cost protection, transparency, and support from experienced advisors.

Progressive P3

Historically, most capital project procurements have involved some element of price competition within the selection process. Respondents to an RFP produce some level of design and a bid for completing the design work or construction of an asset. While still a relatively small percentage overall, there are an increasing number of "progressive" procurements both for P3 and design-build deliveries. In a progressive design build (PDB), the procuring authority makes a selection based on qualifications, choosing the team that is best positioned to deliver the project based on the firm's track record of success and key personnel. Once selected, the PDB team progresses through various stages of design in close consultation with the public partner, using a transparent cost build-up and risk register that is vetted for reasonableness by a third party advisor. Many of the construction scopes are bid out, leaving space for substantial competition within the process. A progressive P3 combines progressive design build with the finance, operations, and maintenance scopes involved in regular P3 delivery.

There are several reasons why public agencies might choose to use progressive processes. First, it requires significant time and expense to prepare for a hard bid procurement. The project must be sufficiently defined so that respondents have the detail needed to produce an accurate bid. Second, once the agency has selected a bid, it loses some degree of control over how the project is designed from that point. Substantive client-driven changes can result in costly change orders once a bid is accepted. A progressive process provides greater opportunity for collaboration throughout the design process. Third, while a hard bid P3 provides greater up-front cost certainty, because bids are submitted

before design is complete, bidders' prices typically have built into them a significant contingency (an amount added to the estimated hard costs of the project that reflects the uncertainty inherent in committing to a price before design is complete). If a hard bid project does not use all of the contingency, the private partner keeps that money. In a progressive process, the selected team continues to reduce contingency as design advances until the guaranteed maximum price is set, reducing contingency typically from 8–10% in a hard bid to 3–5% in a progressive process.

In general, a hard bid process works best for well-defined projects with key components sufficiently resolved so that the private partner does not need to include excessive contingency in its bid. Projects that are less well defined and require significant public input in the remaining design or are at risk for major changes during the procurement are generally better suited to progressive procurements. For example, if an airport terminal project is procured as a hard bid but a major airline drops out partway through, it would be costly and challenging to redesign the project after a team has been selected based on its bid for a fundamentally different project. Or if a design meets contractual performance standards but does not appeal to the public, the resulting change orders can be expensive. One way for the public to avoid this outcome is to hire an expert representative that can interface with the design team and ensure that the project aligns with the public's goals as is being developed.

There are also challenges in progressive processes that, if not addressed up front, could result in the public sector not receiving the best value for money. Many in the industry emphasize the importance of maintaining competitive tension in a procurement as long as possible. It is widely believed that the public loses leverage once a process is narrowed down to a single team. In a progressive process, the public by definition gives up this leverage at the start in exchange for the other benefits described above. Competitively bidding all subcontractor scopes can retain a significant element of competition within each component of construction, although not at the top contract level. Earlier involvement may allow the private partner greater flexibility to innovate in the design. However, this depends on whether the public partner is open to such innovation.

The most essential element of a progressive process is building a strong foundation of trust that can carry through to the project's delivery. Without this trust foundation, the inevitable changes in cost and risk allocation that occur during the progressive process will create conflict. Key to this trust is an early effort to align objectives, set expectations, and agree on key decision-making processes. Another key is a third-party facilitator who can run partnering meetings on a regular basis to set goals, review progress on previous commitments, and address issues as they arise. Finally, engaging expert technical advisors on the public side to review the progressive cost build-up and ensure that all elements are in line with market prices can build trust with the public.

Public Staffing and P3 Team Interaction

Each P3 is unique, and the procurement and contract should be structured to meet the public sector's project-specific goals. However, there are a number of traits that characterize successful P3 projects. One common factor is the presence of a senior, high-profile public champion for the project who can help it weather the inevitable political challenges. Senior leadership should be ideally supported by a dedicated public-sector implementation team that interfaces with the private partner and cultivates support throughout the organization. Any time a large organization with ongoing responsibilities undertakes something fundamentally new, there can be internal resource challenges and/or inertia associated with existing culture and organizational practices that may impede the adjustment to new processes. Forming a dedicated team, which is trained and incentivized to move the project forward and is empowered to make needed adjustments to internal practices, will greatly improve the chances of project success. Relying on a mix of staff that retain ongoing responsibilities and demands from their other spheres makes implementation more challenging.

Supporting staff resources with the right outside consultants is also important. While there is a wide range of advisors offering P3 expertise, relatively few have a demonstrated track record of successfully advancing projects to financial close, and an even more select pool have played an integral role in moving prominent P3 projects to close in California.

Once a partner is selected, the ongoing governance structure is of central importance. It is crucial to set objectives and establish a shared decision-making framework at the outset of the project. Though it may sound soft in the context of hard asset infrastructure delivery, the preemptive time and focus that all parties commit to the intensive establishment of shared outcomes, open-book implementation practices, and expedited decision-making roles and protocols cannot be overvalued. A dedicated launch workshop or workshops following selection can establish a partnership foundation that accelerates decision-making, aligns execution, and expedites trouble-shooting among all the parties for the life of the project. Regular meetings, clear communication protocols, and even a third party facilitator can be beneficial to ensuring effective interactions between the public and private teams throughout project delivery.

Stakeholder Engagement

The P3s completed in California over the past 5 years demonstrate an increasing focus on early and ongoing engagement of the broader stakeholder community affected by a P3 project. This reflects a growing sophistication among public agencies in understanding the importance of building a process that can withstand the inevitable political challenges. These projects demonstrate the importance of consulting with staff, elected decision makers, the public, labor unions, and other key stakeholders, before the project begins to identify obstacles, and educating them on the need for the project and the value of the P3 delivery. Numerous projects have gone to procurement only to fail along the way due to objections from public sector unions, internal political struggles, public misunderstanding or opposition, or disagreements with other agencies. Among the examples are the cities of Fort Worth, Texas, and Columbia, South Carolina, which issued RFQs for water and/or wastewater P3s, only to pull them back after issuance. This kind of inconsistent approach can be damaging to those cities' and to other cities' abilities to procure projects in the future, as the private sector may no longer take those procurement requests seriously. Successful projects such as UC Merced anticipated potential challenges early in the process, educated key constituencies, held numerous workshops with the public, and engaged with labor unions to develop an O&M scope that would be mutually beneficial.

The projects described in the previous chapters also demonstrate that it is crucial to engage other public agencies that play a major role in approving or managing the project. A clear example of this is the Presidio Parkway, which required particularly complex coordination with numerous agencies. This led to significant project delay and lawsuits, although the highway portion of the project was still delivered on time and on budget. Public sponsors should carefully detail project outcomes and working processes for any projects that span multiple jurisdictions with associated governance complexity.

Value for Money Analysis

Value for Money (VfM) analyses are typically conducted prior to a P3 procurement to compare the costs and risks of P3 delivery to those of alternative approaches such as design-bid-build or design-build. While VfM analyses are useful in establishing a high-level understanding of the value P3 delivery brings (or does not bring), they can also be a source of disagreement and project delay. Especially where there are internal political disagreements over the delivery strategy, the VfM analysis is often the primary focus of the conflict, with proponents of P3 arguing for one set of assumptions and opponents arguing for another. Such conflicts tend to arise primarily at the very early stages of a procurement, when project scope and risks are not adequately defined.

There is increasing recognition that while VfM analyses are an important step in assessing delivery options, they should not be the only or even the primary decision-making tool when evaluating a P3 project. It is far more useful for a public sponsor to understand the overarching reasons for doing a P3 (e.g., limited experience with a given activity or technology, project acceleration, etc.) and educate stakeholders on those key drivers in order to achieve consensus on the desired outcome.

Procurement and Contract Best Practices

Increasingly, public agencies are issuing Requests for Information, Requests for Expressions of Interest, and Requests for Qualifications at an early stage in order to solicit feedback from the private sector on how to best define a project and to assess interest from potential partners. There is value to early interaction with the market, but a project must also be well enough defined to issue an RFI or RFQ. When a public sponsor issues an RFI on a highly undefined project, it is unlikely to get useful answers from the private sector, receiving instead answers that begin with "It depends.…"

Once the public agency is prepared to issue a Request for Proposal and select a team, it should focus on outcomes and performance criteria rather than the specification of particular technologies, materials, or capital sources. Cost savings generated through innovative design collaboration between all parties are dependent on the owner not being overly prescriptive with its preliminary designs, thus allowing sufficient scope for innovation and ultimately enabling the selected P3 partner to bring innovative concepts to the project. Similarly, the public agency can benefit from focusing on life-cycle project costs throughout the process, rather than any one cost element in isolation. To this end, it is beneficial for all parties to allow short-listed teams to preview the RFP and provide feedback to the sponsor prior to issuance, so that they can identify ways to encourage innovation on both acceleration and life-cycle cost.

In the contractual phase, while there are numerous best practices that help deliver value for the public, a central goal of the contract should be to ensure that the public is effectively transferring the risk that it is paying for to the private partner. A common criticism of P3 projects is that they have not really shifted significant risk to the private sector. The public sponsor should work with its advisors to develop specific, enforceable Key Performance Indicators (KPIs) with defined penalties for underperformance, in order to ensure that the private party is held accountable for asset performance over the life of the contract. Remedies for underperformance, from minor penalties up to default and public take-over of the project, should be clearly outlined.

Enhanced Infrastructure Finance Districts

Enhanced Infrastructure Finance Districts (EIFD) contain a range of powers that allow one or more public entities to finance infrastructure projects. The districts can be established by one or more cities, counties, or special districts and managed under Public Finance Authorities (PFAs) governed by boards appointed by the founding agencies. PFAs develop an investment plan which can be funded by a range of funding streams as long as they do not constitute a tax. This can include tax increment from land value increases, assessments, fees, and federal, state, and private funding streams. PFAs have the authority to deliver and manage infrastructure projects through P3 arrangements.

EIFDs are sometimes viewed as a successor to California's redevelopment program, which allowed cities and counties (to a lesser extent) to capture the growth in property tax from agencies that provided services in the area designated for investment. The primary source of revenue for redevelopment was from school districts. Since the property tax from most school districts is part of the state school finance system, this was revenue that was diverted from the general fund. That explains why Governor Brown and the Legislature ended the practice in 2011, in order to provide more long-term funding to local governments and to address short-term state budget deficits.

EIFDs have similarities but also have significant differences from redevelopment. While they allow municipalities to use tax increment financing (growth in the property tax) for capital improvements, they are unlike redevelopment because cities can only capture the proportion of the property tax increase that belongs to them already. They can use the increment that belongs to parties that are participating on the board, with the exception of schools. EIFDs also make it easier to procure infrastructure across multiple jurisdictions. The statute simplifies the process of establishing and governing a multi-jurisdictional agency, encouraging cities, counties, and other entities to collaborate on projects that benefit a wider geographic area.

Three EIFDs have been formed to date but have not proceeded to implementation, so it is not clear whether

they will use their public-private procurement authority. West Sacramento is using an EIFD to redevelop a 4,000 acre area, implementing a range of transportation and other improvements to spur investment and new housing.[65] The City of La Verne, east of Los Angeles, established an EIFD to revitalize blighted portions of downtown around a planned light-rail station. That EIFD's Infrastructure Financing Plan identifies 14 projects at an estimated cost of $33 million.[66] Finally, the City of San Diego formed an EIFD in February 2017 to accelerate infrastructure improvements in the Otay Mesa area in the southern part of the city. The $1.2 billion in projects there are focused primarily on transportation and parks.[67]

EIFDs could be a useful tool in combination with P3 delivery. Their cross-jurisdictional aspects could help address the state's multi-jurisdictional infrastructure needs, particularly in smaller communities that don't have the capacity or funding to undertake large projects on their own. A P3 entity could, for example, address the water challenges among smaller Central Valley communities through an EIFD that brings new infrastructure and treatment solutions to multiple towns at once. This could bring a project to a scale that would interest private P3 partners and could spread the fixed costs of building and operating a system across more homeowners so as to improve affordability. An EIFD could also be used to deliver Long Beach Civic Center-style transactions in which private development subsidizes P3 delivery of public infrastructure projects. In that case, the Public Finance Authority governing an EIFD could procure infrastructure improvements from a P3 partner, using tax increment revenues as a portion of the funding stream for an availability payment.

Policy Reforms

California has a growing P3 market, especially in the social infrastructure space, that will likely continue even in the absence of major policy reforms at the state or federal levels. P3 could play a larger role in meeting the state's infrastructure needs, however, and the following reforms would help unlock that potential.

State-Level Authorizing Legislation

The most commonly cited state-level policy reform is broad P3 enabling legislation, most notably for highway projects. As discussed in Chapter 1, the most recent enabling legislation for highway projects expired in January 2017. Currently, Caltrans and regional transportation agencies are not authorized to enter into P3s for highway projects. New enabling P3 legislation has been strenuously opposed by a public sector union, Professional Engineers in California Government (PECG), which also aggressively fought the Presidio Parkway project with a lawsuit that added to costs and delayed the project for a year.

At this writing, enabling legislation has been introduced in the state legislature but has not advanced.[68] Some projects described in Chapter 2, such as SR-37, will not be able to move forward as P3s without that legislation, and Caltrans and many regional agencies are not currently considering new P3 projects due to the lack of authorization. While appropriate transparency and public-sector protections should be built into any enabling legislation, a single group's interests should not preclude the entire state from having the option to choose the procurement approach that can deliver critical infrastructure projects most cost-effectively and efficiently.

Many in the industry, particularly in the public sector, see a potential benefit in clarifying the California Infrastructure Finance Act (California Government Code Section 5956) which authorizes P3s for local government agencies on fee-producing infrastructure. The broad authority provides valuable flexibility to local governments, but the lack of specificity can also create uncertainty within public legal offices and a perception that using Section 5956 may present legal risks for a procurement. Including additional specificity could alleviate such concerns.

While previous attempts to enact broader P3 enabling legislation at the state level have met with significant opposition, primarily by public-sector unions, legislation authorizing individual P3 projects has been successful on a number of occasions. Until more comprehensive legislation is passed, projects may therefore need to rely on individual legislative vehicles to move forward.

State-Level CEQA Reform

The California Environmental Quality Act (CEQA)—signed into law by Governor Ronald Reagan in 1970—requires state and local agencies to study the environmental impacts of their activities and take feasible steps to reduce those impacts. In most cases, a public agency completes its environmental impact review prior to beginning a P3 procurement. Thus, CEQA typically does not directly delay a P3 partner's project delivery, but it does frequently lead to delays in the public sector's ability to advance a project to the point where it can issue an RFQ or RFP.

While CEQA serves a valuable purpose in protecting the environment, streamlining the process is one of the most significant steps California could take in order to bring more projects—using any procurement method—to market and to address the state's critical infrastructure investment shortfall. While a full discussion of CEQA reforms is beyond the scope of this report, easing CEQA requirements for certain types of projects such as renewable energy and infill development, or limiting the number of lawsuits that can be brought against projects that have received CEQA approval and have met mitigation requirements, could accelerate project delivery significantly. Because of political challenges, there is currently little appetite for substantive CEQA reform. In the absence of legislative action, local agencies could reduce CEQA costs by combining multiple similar projects into a single programmatic EIR (e.g., to cover water reuse projects in a particular geography).

State-Level Public-Sector Resources

One open question for California is whether the state could benefit from a center of excellence that can support public agencies in pursuing public-private partnerships. In the wake of the recession, many public agencies have experienced significant decreases in planning staff and resources, making it more challenging for them to lead a complex procurement such as a P3. Organizations such as Partnerships BC in British Columbia have been instrumental in working with public agencies in the province by providing expertise and resources for developing P3s. To date, Partnerships BC has been involved in 52 projects totaling $18 billion in capital investment, and in many cases it directly manages the procurement for public entities. It has also developed standardized RFP documentation, driving down the public transaction costs from millions of dollars per transaction to hundreds of thousands of dollars. In the U.S., transportation-specific state P3 offices have been established in Colorado and Virginia.

Given the size of California's economy and the state's infrastructure needs, a similarly-styled agency capable of leading project delivery on behalf of other public entities is unlikely, as the funding and resources needed to staff such an agency would be considerable. However, creating a smaller office within an existing agency, such as the California Infrastructure Bank, could be a valuable and cost-effective approach that provides standardized procurement documentation, skills transfer to public entities pursuing P3 procurements, and vetting of third party advisors that are skilled in moving projects to financial close.

There have been previous attempts to create this type of office in California. The Public Infrastructure Advisory Commission (PIAC) was established in 2009 to advise the State, the California Transportation Commission, and regional transportation agencies on project selection and to provide guidance on best practices. The impact of PIAC was limited due to its narrow mandate, its reliance on volunteer commissioners rather than a dedicated professional staff, and the shortage of transportation P3s. However, an adequately staffed cross-sector agency with P3 expertise could prove to be a cost-effective source of support and guidance for public agencies considering and implementing partnerships.

Another way the state could build a stronger project pipeline is by providing limited funding for the predevelopment phase of capital projects over a certain size. Many desperately needed infrastructure projects experience delays or fail to move forward due to a lack of public resources and expertise in the predevelopment phase where asset management planning, feasibility studies, and rate studies are needed to guide decision-making. To incentivize and fund the early, highest-risk stage of project development, the legislature could

consider creating a revolving hybrid grant/loan program that is modeled after a private equity approach. A program of this type could be housed in an existing agency with relevant experience such as the California Infrastructure and Economic Development Bank, which already has expertise in providing expedited review of project proposals.

Under such a program, the governing agency would provide incentive grants and low- or no-interest loans to fund early design and engineering, financial feasibility, and stakeholder engagement. The proposed program could fund projects in a wide range of sectors including projects related to climate adaptation. The project sponsor would be required to advance the project according to a defined project schedule. Funds would be disbursed progressively as the public entity meets plan milestones. If the public entity self-performs a project, it would repay 100% of the grant from project funds once the project is financed. If the public entity adopts an alternative method of procurement that involves private capital, the private project developers would be responsible for repaying 2 times to 3 times the grant amount to the state at financial close. In the event that the public entity fails to advance the project in accordance with the agreed-upon timeline, it would be responsible for repaying 50% of the grant from its own funds.

Finally, a reform that has not been widely discussed but should be considered would require that public procurements that receive state funding and exceed a certain cost threshold (e.g., $50 million) provide a high-level analysis of life-cycle project costs, including consideration of alternative delivery approaches and long-term funding of project maintenance. This would directly address a major failing of many large public projects where maintenance costs are not budgeted, resulting in degraded assets and higher long-term costs to the public. This requirement would codify and build on Governor Brown's executive order on life-cycle cost accounting.[69] Such projects might also include a high-level analysis of long-term climate change impacts in order to ensure that major investments continue to deliver intended benefits even as long-term climate patterns shift.

Federal-Level Tax-Exempt Financing

The most significant step that the federal government could take to advance P3 projects in California and around the country is to level the playing field on the cost of debt financing in P3 projects. One of the primary reasons that P3 has expanded more rapidly in Canada and Europe is that public entities in those geographies do not have access to tax-exempt financing. Many public agencies in the U.S. do not consider P3 delivery because they believe the P3 option is more costly due to the lower cost of capital that comes with tax-exempt financing (but not taking into account the savings from accelerated delivery and life-cycle O&M). If an infrastructure project is owned by a public entity and provides public benefit, it should be eligible for the same financing incentives regardless of how it is delivered.

There are several low-cost federal financing programs that can currently be integrated into P3 projects. Private Activity Bonds (PABs), Water Infrastructure Finance and Innovation Act (WIFIA) loans, Transportation Infrastructure Finance and Innovation Act (TIFIA) loans, and the State Revolving Funds (SRF) all provide below-market-rate debt that can be integrated into certain types of partnerships. These are valuable programs, and expanded funding would be a low-cost way for the federal government to reduce project costs and promote more performance-based procurements, especially if the application processes are streamlined to minimize the time and expense of accessing the financing. However, these programs have limited availability, only apply to certain types of projects, frequently have complex and time-consuming application processes, and in the case of PABs are more expensive than traditional tax-exempt financing. A broader expansion of tax-exempt financing would greatly expand the adoption of alternative financing structures.

There have been a wide range of proposals to expand existing financing programs or create new instruments that would level the playing field on the cost of capital for P3 projects. The Trump Administration has proposed eliminating the Alternative Minimum Tax (AMT) for PABs,[70] lifting the state volume cap[71] for "public purpose infrastructure projects" and the nationwide volume

cap for transportation projects, and expanding the types of projects eligible for PABs.[72] The plan has also proposed the provision of additional budget authority for TIFIA, WIFIA, and the Railroad Rehabilitation and Improvement Financing programs. Previous proposals, such as the Obama Administration's Qualified Public Infrastructure Bonds, would have accomplished many of the same goals (eliminating volume cap, removing the AMT penalty, and expanding tax-exempt financing to more projects) albeit under a new program. Regardless of what the program is called, providing expanded tax-exempt financing without an AMT penalty for a broad range of P3 projects serving public uses should be a goal for Congress as it considers how to accelerate infrastructure investment. This includes making public buildings developed using P3 methods eligible for Private Activity Bonds, as proposed in the Public Buildings Renewal Act of 2017 (H.R. 960/S. 326).[73]

The other tax exemption challenge for P3 projects is the treatment of outstanding tax-exempt debt previously issued by a public entity. In certain P3 arrangements, existing tax-exempt debt must be refunded at financial close, which can be very costly. If those bonds are recently issued and not callable until ten years after issue, the cost of refunding them can be prohibitive and can make a P3 uneconomical for a public entity that might otherwise benefit from transferring risk to a private partner. Under certain circumstances, existing tax-exempt debt may be left outstanding under "safe harbor" provisions. The IRS recently introduced new safe harbor procedures which made it easier to preserve tax exemption on outstanding debt.[74]

Under the new procedures, a service provider may hold a contract for up to 30 years or 80% of the life of the asset, as long as the contract does not provide the private party with a share of net profits and the public retains significant control of the managed property, among other requirements. The Trump Administration's infrastructure plan would extend the term of the contract to 95% of the asset life and provide additional remedial action to preserve tax-exemption in the case that a project does not qualify for safe harbor procedures. Additionally, clarifying that safe harbor procedures apply to availability payment P3s and removing any fixed-year (e.g., 30-year) term limitation would be beneficial. These changes would make P3s available to a wider range of public entities that may otherwise find a partnership infeasible due to existing debt.

Federal-Level Flexibility and Incentives for P3 Projects

The federal government could implement a range of measures to incentivize P3 projects, from new funding programs to accelerated approvals. There should be a particular focus on accelerating and incentivizing projects that move quickly to financial close and secure necessary funding. Rewarding state and local agencies for timely decision-making, effective project development, and procurement innovation could significantly expand the P3 pipeline in California. This could be paired with predevelopment assistance in the form of technical assistance or grant funding for feasibility analyses and procurement development for disadvantaged communities or agencies that might not otherwise have the resources or expertise to pursue P3 projects.

The Trump Administration's infrastructure plan includes a number of proposals of this nature that could benefit the California P3 pipeline. The Infrastructure Incentives Program would create new federal grant assistance for projects that incorporate non-federal revenue and utilize innovative delivery approaches that improve efficiency in project delivery and operations. Projects would be required to meet specific milestones and would forfeit the grant funding if they are not met within two years. The plan also proposes to provide greater flexibility for projects with a de minimis federal funding share. While little detail is available, the plan proposes to streamline the review and approval of non-federally-funded projects to the extent that they fall under the jurisdiction of federal agencies. It also proposes additional flexibility, such as the ability to begin utility relocation prior to National Environmental Protection Act (NEPA) approval. Combined with state level reforms, these and other federal efforts could significantly accelerate the delivery of public projects that have secured needed funding and are otherwise ready to proceed.

Conclusion

California's future is bright but requires a clear commitment to more effectively building and maintaining the infrastructure that makes the state an attractive place to live and work. This is a critical time for California's infrastructure; continuing to defer hard decisions will only pass the costs on to future generations, leaving them with a less robust economy than if the state makes prudent investments now. Decision makers at all levels of government should consider how they can remove barriers and create incentives to spur needed investments. Encouraging more widespread adoption of performance-based approaches such as public-private partnerships, where appropriate, is one part of this path forward. More broadly, policy makers and public agencies should embrace life-cycle management strategies for infrastructure assets, account for long-term maintenance in project budgeting, and consider how today's investments will fare in a changing climate.

This report demonstrates how California has pioneered new approaches to infrastructure delivery in the U.S. and is continuing that tradition with a new generation of projects. Whatever terminology is chosen—public-private partnerships, alternative procurement, or performance-based infrastructure—these partnerships can accelerate delivery and optimize life-cycle cost, demonstrating to taxpayers that their dollars are being invested and managed wisely. The challenge for the public sector is not to minimize or maximize private-sector involvement, but instead to ask how the public can get the most for each dollar invested; private partnerships won't always be the answer, but where they do fit, the public and the state can reap important long-term benefits.

The best practices and policy reforms highlighted in this report are a starting point for California's path forward on infrastructure. Moving toward a future where the public and private sectors can collaborate more effectively to make the investments the state needs in a timely and cost-effective manner will require a cultural shift at all levels, but it is a challenge worth embracing.

APPENDIX

Annotated Bibliography on Procurement Performance

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Findings: The study examined 67 projects—from a wide range of sectors, using a range of procurement methods (but not P3), and completed between 2011 and 2014—and found an average cost overrun of 23.75%. Cost overruns ranged from -43% to 271%. There was no significant difference in cost overruns for the various publicly financed procurement methods. The study found that change orders still occurred in DB procurements.

Publication: Terrill, M. and L. Danks. *Cost Overruns in Transportation Infrastructure Projects.* Melbourne: Grattan Institute, October 2016. https://grattan.edu.au/wp-content/uploads/2016/10/878-Cost-overruns-on-transport-infrastructure.pdf.
Findings: The study surveyed 836 traditionally-delivered Australian transportation projects with a value greater than $20 million, all completed since 2001. Overall, projects came in 24% over budget. However, 90% of the cost overruns were explained by 17% of the projects which overran the initial budgets by more than 50%. Cost overruns are likely understated, as there was limited data for 68% of projects where no early-stage cost overruns were assumed.

Publication: Ramsey, David W. and Mounir El Asmar. "Cost and Schedule Performance Benchmarks of U.S. Transportation Public-Private Partnership Projects: Preliminary Results." *Transportation Research Record,* Vol. 2504, 2015, pp. 58–65. https://asu.pure.elsevier.com/en/publications/cost-and-schedule-performance-benchmarks-of-us-transportation-pub.
Findings: This paper reviewed 25 P3 projects completed in the U.S. from 1995 to 2013, ranging in cost from $18 million to $2.1 billion. There was average cost growth of 3.22% and average schedule growth of 1.2%. The authors found this to be superior to traditional cost and schedule overruns associated with DBB projects.

Publication: Baccarini, David and P.E.D. Love. "Statistical Characteristics of Cost Contingency in Water Infrastructure Projects." *ASCE Journal of Construction Engineering and Management,* Vol. 140, Issue 3, March 2014. https://ascelibrary.org/doi/abs/10.1061/(ASCE)CO.1943-7862.0000820.
Findings: The study reviewed 228 traditionally delivered and financed water infrastructure projects in Australia. The authors found an average cost contingency of 8.46% and an average additional cost overrun of 5.12%. Cost overruns due to changes in scope were not included. The authors found that the typical cost contingency in water projects is not sufficient to cover final project costs. If sponsors wish to have a 90% probability that the budget will cover final costs, a contingency of 16% would be required on average.

Publication: Government Accountability Office. *VA Construction: Additional Actions Needed to Decrease Delays and Lower Costs of Major Medical-Facility Projects.* GAO-13-302. April 2013. https://www.gao.gov/assets/660/653585.pdf.
Findings: For major traditionally delivered and financed medical center construction projects, the GAO found cost increases ranging from 59% to 144%, with an average overage of $366 million. Delays ranged from 14 to 74 months with an average delay of 35 months.

Publication: Infrastructure Partnerships Australia. *Performance of PPPs and Traditional Procurement in Australia.* November 1, 2007. http://infrastructure.org.au/wp-content/uploads/2016/12/IPA_PPP_FINAL.pdf.
Findings: This report reviews 21 P3 projects and 33 traditional projects. The cost overrun was 1% for P3 projects and 15% for traditional projects. P3s were found to be completed 3.4% ahead of time on average while traditional projects were completed 23.5% behind schedule. This was particularly pronounced for larger projects.

Publication: Chasey, Allen D., William E. Maddex, and Ankit Bansal. *A Comparison of Public-Private Partnerships and Traditional Procurement Methods in North American Highway Construction.* Arizona State University, March 15, 2012. http://www.pwfinance.net/document/research_reports/3%20TRB%20P3%20study.pdf.
Findings: This paper reviewed 12 large-scale (greater than $90 million) P3 highway projects and compared performance with research on DBB and DB projects. For P3 projects, cost overruns averaged <1% and schedule overruns averaged -0.3%. For DBB projects, cost overruns averaged 13% and schedule overruns averaged 4%.

Publication: Cantarelli, C.C., B. Flyvbjerg, and S.L. Buhl. "Geographical Variation in Project Cost Performance: The Netherlands versus Worldwide." *Journal of Transport Geography,* Vol. 24, September 2012, pp. 324-331. https://www.sciencedirect.com/science/article/pii/S0966692312000774.
Findings: The study examined 806 traditionally delivered and financed projects worldwide and found that the average cost overrun ranged from 19.8% to 35.5% depending on the type of project.

Publication: The Conference Board of Canada. *Dispelling the Myths: A Pan-Canadian Assessment of Public-Private Partnerships for Infrastructure Investments.* January 2010.
Findings: This report reviewed 55 projects in the "second wave" of Canadian P3s, including projects in the health care, transportation, social infrastructure, and water sectors. The study found that P3s in Canada performed better than traditional delivery methods, producing cost savings ranging from 0.8% to 61.2%.

Publication: National Audit Office. *Performance of PFI Construction*. October 2009. https://www.nao.org.uk/wp-content/uploads/2009/10/2009_performance_pfi_construction.pdf.
Findings: This NAO report reviewed 114 UK projects across all sectors. The NAO found that 69% of P3 projects delivered to the contracted timetable and 65% performed to the contracted price; 63% of traditional projects were on schedule and 54% on budget; 94% of P3 projects were delivered for less than 5% over the contracted price; and the majority of overages were caused by changes initiated by the client.

Publication: Flyvbjerg, Bent, Mette K. Skamris Holm, and Søren L. Buhl. "How Common and How Large Are Cost Overruns in Transport Infrastructure Projects?". *Transport Reviews*, Vol. 23, No. 1, 2003, pp. 71–88. https://pdfs.semanticscholar.org/2e52/a61f619c2b8919c193a95477fd9485b0a356.pdf.
Findings: This paper reviewed 258 traditionally delivered and financed transport projects across 20 countries and found significant cost overruns. The average cost escalation for rail was 45%, for tunnels and bridges 34%, and for roads 20%. The authors found that cost estimates were highly misleading and had not improved over the preceding 70 years.

Publication: Mott MacDonald. *Review of Large Public Procurement in the UK*. July 2002. https://www.parliament.vic.gov.au/images/stories/committees/paec/2010-11_Budget_Estimates/Extra_bits/Mott_McDonald_Flyvberg_Blake_Dawson_Waldron_studies.pdf.
Findings: The Mott MacDonald consultancy reviewed 50 large UK projects delivered through traditional and P3 delivery. The traditionally delivered projects experienced average delays of 17% and budget overages of 47%. The P3 projects experienced average delays of -1% and budget overages of 1%.

Publication: Government Accountability Office. *Transportation Infrastructure: Managing the Costs of Large-Dollar Highway Projects.* GAO/RCED-97-47. February 1997. https://www.gao.gov/assets/160/155775.pdf.
Findings: The GAO reviewed 30 traditionally delivered and financed projects over $100 million in the U.S. and found that 23 of the 30 projects had cost increases ranging from 2% to 211% beyond initial estimates. Half of the projects had cost increases greater than 25%.

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Project Sponsors

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BAY AREA COUNCIL ECONOMIC INSTITUTE

Report to the City Council
Regular City Council - 26 Nov 2019

Agenda Section: **NEW BUSINESS**

Subject: **Consideration to adopt a resolution authorizing the City to enroll in the 100% renewable energy option with Marin Clean Energy and authorizing use of reserves and fund balances for: (1) General Fund Utilities of $5,570, (2) Water Fund Utilities of $5,125, and (3) Wastewater Fund Utilities of $2,645 to cover the additional energy costs for the remainder of Fiscal Year 2019-20.**

CEQA Determination: **Not a "project" as defined by State CEQA Guidelines Section 15378(a); Further, even if deemed a "project", otherwise exempt from CEQA under the common sense exemption set forth in Section 15061(b)(3).**

Prepared By: Erica Ahmann Smithies, Public Works Director and City Engineer

Reviewed By: April Mitts, Finance Director

Approved By: Mark T. Prestwich, City Manager

BACKGROUND

On July 28, 2015, the City Council received a presentation from Marin Clean Energy (MCE), a public, not-for-profit electricity provider that focuses on maximizing the use of renewable energy sources in addition to lower energy rates. It is the intent of MCE to promote the development and use of a wide range of renewable energy sources and energy efficiency programs, including but not limited to solar and wind energy production at competitive rates for customers. Following MCE's presentation, City Council directed staff to pursue a non-binding letter of interest to join MCE.

On December 8, 2015, City Council adopted resolution 2015-150 requesting membership into MCE, authorized the Mayor to sign a request for confidential load data from PG&E, authorized the execution of a Memorandum of Understanding regarding MCE membership, and held a public hearing to introduce and first reading by title only of the ordinance.

On January 12, 2016, City Council adopted ordinance 2016-1 approving the MCE energy joint powers agreement and authorized the implementation of a Community Choice Aggregation Program.

DISCUSSION

The City's electric generation currently utilizes an MCE portfolio of 60% renewable sources such as solar and wind. There have been recent discussions within the community about the possibility of transitioning the City's electric generation use to a 100% renewable portfolio.

MCE's "Deep Green" program provides an opportunity for commercial and residential customers to purchase all the power for the business or home from 100% non-polluting, Green-e Energy certified, wind and solar power produced in California. Other local agencies have transitioned to 100% renewable energy sources included the City of Napa and County of Napa.

On November 6, 2019, the Active Transportation and Sustainability Committee (ATSC) discussed the possibility of transitioning the City to the Deep Green program and reviewed the associated costs estimated to be approximately $20,00 annually, an approximate 4% increase. ATSC members unanimously supported and are recommending the City transition to the Deep Green program.

The proposed action is consistent with the goals of the City's 2040 General Plan Chapter 10 Climate Change Element to combat climate change: *CC6.1 Improve energy efficiency, implement alternative and renewable energy solutions, and reduce greenhouse gas emissions in City and county facilities and operations.*

Napa Climate Now submitted a letter of support and requested it to be included with the staff report.

FISCAL IMPACT

City staff analyzed the additional energy costs incurred at the current 60% renewable energy rate versus 100% renewable energy and determined the approximate increase in cost to the City's operations is $20,000 annually, an approximate 4% increase. The approximate annual increase in cost per fund is as follows:

- General Fund - 42% ($8,353)
- Water Fund - 38% ($7,685)
- Wastewater Fund - 20% ($3,962)

For FY 2019-20 the additional funds needed are as follows:

- General Fund - $5,570
- Water Fund - $5,125
- Wastewater Fund - $2,645

There are adequate funds in the City reserves and fund balances to cover the increase in Fiscal Year 2019-20 and these resources can be programmed accordingly in future fiscal years if there is Council direction to opt in to a 100% renewable program.

RECOMMENDED ACTION

Staff recommends the City Council adopt a resolution authorizing the City to enroll in the 100% renewable energy option with Marin Clean Energy and authorizing use of reserves and fund balances for: (1) General Fund Utilities of $5,570, (2) Water Fund Utilities of $5,125, and (3) Wastewater Fund Utilities of $2,645 to cover the additional energy costs for the remainder of Fiscal Year 2019-20.

ATTACHMENTS

Attachment 1: MCE Resolution
Attachment 2: Resolution No. 2015-150 MCE Membership
Attachment 3: Ordinance No. 2016-1 Approving MCE Ordinance
Attachment 4: Napa Climate NOW_Public Comment

CITY OF ST. HELENA

RESOLUTION NO. 2019-

Resolution authorizing the City to enroll in the 100% renewable energy option with Marin Clean Energy and authorizing use of reserves and fund balances for: (1) General Fund Utilities of $5,570, (2) Water Fund Utilities of $5,125, and (3) Wastewater Fund Utilities of $2,645 to cover the additional energy costs for the remainder of Fiscal Year 2019-20.

RECITALS

A. On July 28, 2015, the City Council received a presentation from Marin Clean Energy (MCE), a public, not-for-profit electricity provider that focuses on maximizing the use of renewable energy sources in addition to lower energy rates; and

B. On December 8, 2015, City Council adopted resolution 2015-150 requesting membership into MCE, authorized the Mayor to sign a request for confidential load data from PG&E, authorized the execution of a Memorandum of Understanding regarding MCE membership and held a public hearing to introduce and first reading by title only of the ordinance; and

C. On January 12, 2016, City Council adopted Ordinance 2016-1 approving the MCE energy joint powers agreement and authorized the implementation of a Community Choice Aggregation Program; and

D. There have been recent discussions within the community for taking the City's electric generation to 100% deep green renewable energy through our current partnership with MCE. The City's electric generation is currently opted in at 60% green energy; and

E. On November 5, 2019, the Active Transportation and Sustainability Committee reviewed the item and unanimously supported the City's move to deep green and renewable energy; and

F. The proposed action is consistent with the goals of the City's 2040 General Plan Chapter 10 Climate Change Element to combat climate change: CC6.1 Improve energy efficiency, implement alternative and renewable energy solutions, and reduce greenhouse gas emissions in City and county facilities and operations; and

G. Moving to 100% deep green is an approximate $20,000 annual increase in utility costs per City fund as follows: General Fund - 42% ($8,353), Water Fund - 38% ($7,685), and Wastewater Fund - 20% ($3,962); and

H. There are adequate funds in the City reserves and fund balances to cover the increase in Fiscal Year 2019/20 and will be programmed accordingly in future fiscal years; and

G. If the item is approved, the City will notify MCE in writing to update the City utility accounts with accordingly.

RESOLUTION

The City Council of the City of St. Helena hereby resolves as follows:

1. Authorize the City to enroll in the 100% renewable energy option with Marin Clean Energy.
2. Authorize use of reserves and fund balances for: (1) General Fund Utilities of $5,571, (2) Water Fund Utilities of $5,125, and (3) Wastewater Fund Utilities of $2,645 to cover the additional energy costs for the remainder of Fiscal Year 2019-20.

Approved at a Regular Meeting of the St. Helena City Council on November 26, 2019 by the following vote:

Mayor Ellsworth: _____
Vice Mayor Dohring: _____
Councilmember Koberstein: _____
Councilmember Chouteau: _____
Councilmember Knudsen: _____

APPROVED: ATTEST:

_____ _____
Geoff Ellsworth, Mayor Cindy Tzafopoulos, City Clerk

CITY OF ST. HELENA

RESOLUTION NO. 2015-150

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ST. HELENA, COUNTY OF NAPA, STATE OF CALIFORNIA, REQUESTING MEMBERSHIP IN MARIN CLEAN ENERGY (MCE)

WHEREAS, the City of St. Helena has been actively investigating options to provide electric services to constituents within its service area with the intent of achieving greater local involvement over the provision of electric services and promoting competitive and renewable energy.

WHEREAS, on September 24, 2002, the Governor signed into law Assembly Bill 117 (Stat. 2002, Ch. 838; see California Public Utilities Code section 366.2; hereinafter referred to as the "Act"), which authorizes any California city or county, whose governing body so elects, to combine the electricity load of its residents and businesses in a community-wide electricity aggregation program known as Community Choice Aggregation ("CCA").

WHEREAS, the Act expressly authorizes participation in a CCA program through a joint powers agency, and on December 19, 2008, Marin Clean Energy (MCE) was established as a joint power authority pursuant to a Joint Powers Agreement, as amended from time to time.

WHEREAS, on February 2, 2010, the California Public Utilities Commission certified the "Implementation Plan" of MCE, confirming MCE's compliance with the requirements of the Act.

WHEREAS, the City of St. Helena fully supports the mission of MCE, which states that the purpose of MCE is to address climate change by reducing energy related greenhouse gas emissions and securing energy supply, price stability, energy efficiencies and local economic and workforce benefits. It is the intent of MCE to promote the development and use of a wide range of renewable energy sources and energy efficiency programs, including but not limited to solar and wind energy production at competitive rates for customers.

WHEREAS, the City of St. Helena fully supports MCE's current electricity procurement plan, which targets for more than 50% renewable energy content.

WHEREAS, in order to become a member of MCE, the MCE Joint Powers Agreement requires the City of St. Helena to individually adopt a resolution requesting membership in MCE and an ordinance electing to implement a Community Choice Aggregation program within its jurisdiction.

NOW, THEREFORE, BE IT RESOLVED AND ORDERED, by the City of St. Helena as follows:

1. Based upon all of the above, the Council requests that the Board of Directors of Marin Clean Energy approve the City of St. Helena as a member of the MCE.

2. The City of St. Helena Manager is hereby directed to forward a copy of this resolution to MCE.

PASSED AND ADOPTED at a regular meeting of the City of St. Helena Council on the 24th day of November, 2015, by the following vote:

Mayor Galbraith: yes
Vice Mayor White: absent
Councilmember Crull: yes
Councilmember Dohring: yes
Councilmember Pitts: yes

APPROVED:

Alan Galbraith, Mayor

ATTEST:

Cindy Black, City Clerk

CITY OF ST. HELENA Incorporated March 24, 1878 Re-incorporated May 14, 1986 STATE OF CALIFORNIA

CITY OF ST. HELENA

ORDINANCE NO. 2016-1

ORDINANCE OF CITY OF ST. HELENA APPROVING THE MARIN CLEAN ENERGY JOINT POWERS AGREEMENT AND AUTHORIZING THE IMPLEMENTATION OF A COMMUNITY CHOICE AGGREGATION PROGRAM

The City Council of the City of St. Helena ordains as follows:

SECTION 1. The City of St. Helena has been actively investigating options to provide electric services to constituents within its service area with the intent of promoting use of renewable energy and reducing energy related greenhouse gas emissions.

SECTION 2. On September 24, 2002, the Governor signed into law Assembly Bill 117 (Stat. 2002, ch. 838; see California Public Utilities Code section 366.2; hereinafter referred to as the "Act"), which authorizes any California city or county, whose governing body so elects, to combine the electricity load of its residents and businesses in a community-wide electricity aggregation program known as Community Choice Aggregation.

SECTION 3. The Act expressly authorizes participation in a Community Choice Aggregation (CCA) program through a joint powers agency, and on December 19, 2008, the Marin Clean Energy (MCE) was established as a joint power authority pursuant to a Joint Powers Agreement, as amended from time to time.

SECTION 4. On February 2, 2010 the California Public Utilities Commission certified the "Implementation Plan" of the MCE, confirming the MCE's compliance with the requirements of the Act.

SECTION 5. In order to become a member of the MCE, the Act requires the City of St. Helena to individually adopt an ordinance electing to implement a Community Choice Aggregation program within its jurisdiction by and through its participation in the MCE.

SECTION 6. Based upon all of the above, the City Council elects to implement a Community Choice Aggregation program within the City of St. Helena's jurisdiction by and through the City of St. Helena's participation in the Marin Clean Energy. The Mayor is hereby authorized to execute the MCE Joint Powers Agreement.

SECTION 7. This ordinance shall take effect on the later of (a) the date the Board of Directors of MCE adopts a Resolution adding the City as a member of MCE, or (b) 30 days after its adoption and, before the expiration of 30 days after its passage, a summary of this ordinance shall be published once with the names

of the members of the Council voting for and against the same in the St. Helena Star, a newspaper of general circulation published in the City of. St. Helena.

The foregoing ordinance was introduced at a meeting of the City Council of the City of St. Helena held on November 24, 2015, and adopted at a meeting held on January 12, 2016, by the following vote:

Mayor Galbraith: yes
Vice Mayor White: yes
Councilmember Crull: absent
Councilmember Dohring: yes
Councilmember Pitts: yes

APPROVED:

Alan Galbraith, Mayor

ATTEST:

Cindy Black, City Clerk

CITY OF ST HELENA
Incorporated March 24, 1876
Re-incorporated May 14, 1888
STATE OF CALIFORNIA

NAPA CLIMATE NOW!
A 350 Bay Area Group

www.350BayArea.org/NapaClimateNow

November 5, 2019

To: Mayor and City Council Members of the City of St. Helena
Members of the Active Transportation and Sustainability Committee

From: Steering Committee, Napa Climate Now!
Dave Kearney-Brown, Lynne Baker, Chris Benz, Leslie Chamblin

Re: Support for St. Helena opting in to 100% renewable energy with Marin Clean Energy

Napa Climate NOW! is writing in support of the City of St. Helena opting in to 100% renewable energy with Marin Clean Energy (MCE).

On June 25, 2019, the St. Helena City Council adopted the "Countywide Commitment to Address Climate Change" proclamation. This proclamation recognizes the effects of climate change on our local residents, economy, and environment—effects to which we can now add "Public Service Power Shutdowns.

The proclamation also states that "decisive near-term action is needed to prevent further global warming." The action you are considering—to move to 100% renewable energy for city operations—is exactly the type of near-term action our communities need to take NOW to reduce our contribution to global warming.

This action is also endorsed by the League of California Cities with their 2018 Environmental Quality Guideline to "increase the use of clean alternative energy."

We are fortunate to have the option of choosing MCE's Deep Green program. Doing so means we use our purchasing power to obtain electricity from wind and solar power, produced in California, without having to install wind or solar ourselves. Better still, half of the Deep Green premium goes toward the Deep Green Renewable Development Fund, which helps fund the build out of local renewable energy projects.

We commend the City of St. Helena for considering opting up to 100% renewable energy and urge you to take this action toward a more sustainable future for your city residents.

Napa Climate NOW!, 315 Greenbach St., Napa, CA 94559