STAFF REPORT

Sausalito Parks and Recreation Commission

MEETING DATE: August 17, 2016

AGENDA TITLE: Enhanced Maintenance of Bridgeway Medians

LEAD DEPARTMENT: Public Works
Maintenance Division

RECOMMENDED ACTION:

Staff is asking the parks and Recreation Commission to review and comment on the upcoming Enhanced Maintenance Improvements on Bridgeway Corridor medians

SUMMARY

The Department of Public Works has been working with consultants and local community groups to assess the condition of the City of Sausalito's Bridgeway medians and to formulate a program that would improve their appearance, reduce water consumption, and improve the safety for Public Works staff members that are tasked with their maintenance. In order to accomplish those goals, the City is considering an approach that has been jointly discussed with Sausalito Beautiful, Blooming Bridgeway and another local group of residents that has as their focus, improvement of the medians. City Staff would like to take this opportunity to brief the Parks and Recreation Committee on these proposed improvements as another means of keeping the community apprised of what tasks the Department of Public Works is conducting and planning.

Staff's approach will include the hiring of a project consultant with horticultural experience to act as a designer and project manager to assist the City in identifying areas for immediate improvement including the removal of some plants that have grown beyond their effective life and the preparation of the medians for a future replacement program for new plants. Acting as consultant and working closely with the City and local residents, the consultant will also help formulate recommendations for improving the appearance of the medians with proposed planting designs and layouts utilizing

drought tolerant and low maintenance species, and that will not dramatically change the overall appearance or original design intent of the medians as they are found today. The current intent is not to change the overall current appearance of the medians, but to help what already exists and improve upon existing design.

Over subsequent years, with continued support and funding by the Sausalito City Council, City Staff, with the continued assistance of design consultants and potentially outside contractors, will continue the implementation of the design recommendations, with the ultimate goal of completing improvements over the full number of medians while reducing water consumption and on-going maintenance obligations and improving their overall appearance.

DISCUSSION

The Bridgeway corridor is the main access road for visitors and residents to our community and has been an area of focus for many community groups such as Blooming Bridgeway and Sausalito Beautiful, as well as individual residents. These groups have rightly pointed out the less than perfect appearance of some of the medians and the deteriorating condition of the vegetation which has been the result of multiple factors, including staffing challenges, aging and dying plants and the recent past years of drought conditions. These groups have asked that the City focus more attention and find ways to improve the look of the City's medians. As part of that request, the City hired Questa Engineering to assess the current condition of the medians and provide recommendations for improving their condition. In February of 2014, the Sausalito City Council accepted the report of Questa Engineering (attachment 1) that detailed the current conditions of the medians and provided some options for improvement. The estimate for these suggested improvements exceeded $1,000,000.00 and included removal of a significant amount of trees and removal and replacement of other vegetation and other significant modifications to the soil and irrigation systems. Funding to that degree has not been authorized. However, the City Council has agreed that focus should be placed on the medians and improvements should be researched and completed where possible and has provided $40,000 in FY17 and have proposed $40,000 in each of the following two fiscal years. Funds will be used for the purchase of new plants and improving the conditions for the plants to thrive and other improvements that will be identified as work continues. Funding will also allow the City to engage the services of consultants to augment and assist City Staff in coming up with program for the near and on-going maintenance of the medians.

The current direction to improve the medians includes entering into an agreement with a project manager familiar with horticulture and design to assist the City in reviewing the conditions, suggesting design improvements and managing some aspects of the work. Hiring a consultant will be the first step in coming up with a comprehensive program for assessing and then implementing positive change to the appearance and manageability of the medians. City Staff will be integrally involved in every step, including regular meetings and discussions as well as using maintenance staff for a majority of the work.

As noted above, the intent of this project is not to change the appearance of the medians dramatically, but to increase the focus and effort on rehabilitating the current conditions to a much better product.

FISCAL IMPACT

The Sausalito City Council approved budget for FY2017 includes $40,000 for Bridgeway Median Enhanced Landscaping. Staff projects that an agreement with the consulting horticulturist will be in the range of $10,000 for design and project management administration services. The remainder of the funds will be used for the procurement of plants and landscaping materials and for other identified improvements as the project continues. The level of the scope of Work in following years will depend upon continued community and City Council interest and support and the scope of desired improvements for the medians.

RECOMMENDED ACTION:

Staff is asking the parks and Recreation Commission to review and comment on the upcoming Enhanced Maintenance Improvements on Bridgeway Corridor medians

ATTACHMENTS

Attachment 1 – Existing Conditions Assessment, Rehabilitation of Sausalito Bridgeway Medians, Gate 6 Road to Napa Street, Questa Engineering Corp, dated February 24, 2014
Attachment 2 – Median Improvement Proposal from Median Committee

PREPARED AND SUBMITTED BY:

Loren Umbertis
Public Works Division Manager

REVIEWED BY:

Mike Langford
Parks and Recreation Director

Attachment 1

Existing Conditions Assessment, Rehabilitation of Sausalito Bridgeway Medians, Gate 6 Road to Napa Street, Questa Engineering Corp.

STAFF REPORT

CITY COUNCIL OF THE CITY OF SAUSALITO

AGENDA TITLE

Accept Bridgeway Medians Consultant Report dated February 24, 2014

RECOMMENDED MOTION

Motion to Accept the Bridgeway Medians Consultant Report and Direct Staff to Incorporate Recommendations into Priority Calendar and Budget Process

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SUMMARY

With the budget for fiscal year 13/14 the City Council appropriated $10,000 (140-410-4189-450) for a capital project to evaluate the conditions associated with the sycamore and ash trees and other median and planter strip landscaping along Bridgeway between Napa and the northerly City Limits at Gate 6 Road. In August, 2013 Staff solicited proposals for a Landscape Design Services Consultant to gather the necessary information to allow Staff and the Council to develop improvements to the landscaping in that road segment for a subsequent capital project. A copy of the Request for Proposals is attachment 1 to this Staff Report.

On the basis of the proposals received, Staff selected Questa Engineering to perform the desired services. Questa has coordinated with City Staff, reviewed available information, including the Ferry Terminal to Gate 6 Road Path Feasibility Study, conducted field investigations and prepared both draft and final reports (the final report dated February 24, 2014 is attachment 2 to this Staff Report). On the basis of Questa's work, the lack of a suitable planting environment for some of the trees along the segment has been confirmed and recommendations for alternative courses of action provided.

Staff respectfully recommends that the report be accepted and that Staff be directed to incorporate the recommendations into the Council's Priority Calendar and fiscal year 14/15 budget process.

ISSUES

Some of the alternatives to be considered would result in the removal of trees and other landscaping, some would replace plant materials with hardscape in certain locations, and others would replace trees and other plant materials with varieties more suitable for those locations. The integration of these recommendations with elements of the Ferry Landing to Gate 6 Road Path Plan recommendations would be highly effective and, should funding be available, would improve the function and appearance of a significant segment of the Bridgeway corridor studied.

FISCAL IMPACT

No cost is associated with the acceptance of the report. The preliminary estimate of construction cost for the entire project recommended, not necessarily including all of the elements of the Ferry Landing to Gate 6 Road Path Plan, is nearly $1 million dollars (see Appendix D to the report in Attachment 2 to this Staff Report).

STAFF RECOMMENDATIONS AND MOTION

Motion to Accept the Bridgeway Medians Consultant Report and Direct Staff to Incorporate Recommendations into Priority Calendar and Budget Process

ATTACHMENTS:

1. Request for Proposals dated August 26, 2013
2. Existing Conditions Assessment, Rehabilitation of Sausalito Bridgeway Medians, Gate 6 Road to Napa Street, Questa Engineering Corp., dated February 24, 2014

PREPARED BY:

_____

Jonathon Goldman
Director of Public Works and City Engineer

REVIEWED BY:

_____

Loren Umbertis
Maintenance Division Manager

SUBMITTED BY:

_____

Adam W. Politzer
City Manager

REQUEST FOR PROPOSALS

LANDSCAPE DESIGN SERVICES CONSULTANT
REHABILITATION OF SAUSALITO BRIDGEWAY MEDIANS

CITY OF SAUSALITO, MARIN COUNTY, CALIFORNIA

Release Date: August 26, 2013

Closing Date: September 12, 2013

Contact person: Jonathon Goldman, Director of Public Works, City Engineer and ADA Coordinator

DISCUSSION

The City of Sausalito has issued this Request for Proposals ("RFP) in order to select a qualified consulting landscape design professional (the "Consultant") to lead a team to gather necessary design basis information, prepare conceptual plans and specifications for permitting and construction, and provide construction cost estimates for the REHABILITATION OF SAUSALITO BRIDGEWAY MEDIANS PROJECT (the "Project"). The City contemplates handling the permitting of the Project and expects to find the Project categorically exempt from the application of CEQA inasmuch as it constitutes repair of an existing facility with no expansion in use.

Project Description

Acquire from City files and interviews with former City employees information regarding the history of planting of the trees and other plant materials along the Bridgeway right-of-way between Napa and the northerly City Limits at Gate 6/Bridge Road. Evaluate existing conditions with respect to soil depths, irrigation and other parameters affecting the long term viability of the sycamore and ash trees located in the medians and planter strip in that geographic area. It has been reported that in some of the medians, the soils depth for the subject trees is limited to 6 to 8 inches of soil on top of the former asphalt road bed and that in other locations the former asphalt road bed was windowed but only in a limited area and that no deeper soil preparation was performed when the subject trees were planted.

In addition to the findings regarding the long-term viability of the subject ash and sycamore trees, the selected consultant will identify alternatives for rehabilitation of the medians and planter strip within the public right-of-way with the objectives of significant improvements in visual appearance, elimination of the need for irrigation following a 2-year plant establishment period, ease of maintenance including the potential for elimination of mowing and weeding from the maintenance requirements for the area, and elimination of root uplifiting and other forms of damage to installed access improvements for vehicles, pedestrians, and bicycles.

The City maintains the subject medians and planter strip and at the present time expends significant resources repairing the irrigation, removing dead wood and dead trees, mowing and trimming the seasonal grasses and other plant materials present, and weeding. These demands on labor and budget, along with the City's efforts to limit the use of herbicides results in poor weed management and

cumulatively poor appearance of a significant visual resource to residents and visitors in Sausalito. The Blooming Bridgeway organization has successfully partnered with the City in replacing some plant materials along the northerly reaches of the area of interest, and may serve as a model for how the contemplated improvements are implemented going forward.

It is anticipated that the Consultant's scope of services for the Project will include the following phases and tasks:

Phase I -- Design

- Review Project goals and requirements
- Gather and evaluate available information including interviews
- Evaluate existing conditions by coordinating with City staff and digging exploratory holes, observing irrigation operations, and assessing tree health, vigor, age, and other arboreal metrics
- Report on the long-term viability of the existing sycamore and ash stock, recommend treatment where warranted, provide cost estimates for said treatment, and recommend removal where warranted along with cost estimates for said removals
- Prepare conceptual plans, elevations, visualizations and specifications for alternatives to the existing plant, tree (in the event that the sycamores and ashes should be removed), and irrigation elements in the medians and planter strip
- Prepare order of magnitude cost estimates for construction of the alternatives
- Compare the alternatives on the basis of construction cost, operation and maintenance costs (including irrigation and maintenance), and visual appearance criteria
- Provide a proposed schedule and budget for preparation of construction plans, specifications and cost estimates for one or more of the alternatives evaluated
- Design team coordination meetings (2)
- Client meetings (2)
- Project Management and coordination

The City will take the products of Phase I and, with Staff concurrence seek City Council approval to authorize preparation of construction plans, specifications and cost estimates for one or more of the alternatives evaluated.

FORM OF AGREEMENT

The City requires the form of agreement for the desired professional services included in Attachment "A" to this RFP. Proposed modifications to the attached must be submitted as part of Consultant's proposal in response to this RFP. Proposed modifications will be considered in evaluating the proposer's responsiveness to the RFP.

SUBMITTAL IN RESPONSE TO THE RFP

Please submit a proposal, including a statement of qualifications, fee schedule, budget estimate (including proposed reimbursable expenses), and schedule for the various elements of the Project listed above with the starting point being Consultant's receipt of Notice to Proceed. The schedule of work must be included in the proposal in order to accomplish the plan deadlines. All tasks and sub-tasks must meet their individual deadlines and overall project deadline.

COVER LETTER

A cover letter must be provided transmitting the proposal for consideration. The cover letter must be signed by the person or persons authorized to negotiate a contract for proposed services with the City of Sausalito. The cover letter must confirm the consultant's willingness to enter into an agreement under the form attached, or indicate the proposed modifications.

STATEMENT OF QUALIFICATIONS

Identify the principal in charge and proposed project manager for the consultant or prime consultant, as well as the principal in charge of each sub-consultant proposed as part of the team. Please list the prime consultant's experience acquiring municipal and regulatory agency approvals on similar projects in the last five years, or detail similar experience with other agencies. Please list the construction cost of each such project, the area of the structure, and the calendar time from concept to project completion as well as the staff time (level of effort) for each similar milestone on the project. Please identify an owner's representative and alternate contact for each project and telephone and email addresses for each.

COMPENSATION

In addition to a fee schedule, please propose the basis for compensation proposed for each project Phase or Task as listed above. The City prefers to compensate on a Lump Sum basis, but will consider other alternatives.

FORMAT AND CONTACT FOR QUESTIONS

Proposals are requested electronically in parts of 3 MB or less no later than 5:00 p.m. on Thursday, September 12, 2013. Please send to jgoldman@ci.sausalito.ca.us and request a delivery receipt. If paper submittals are necessary, please provide three (3) copies of the proposal no later than 5:00 p.m. on Thursday, September 12, 2013. Proposals should be placed in an envelope marked: **"BRIDGEWAY MEDIANS DESIGN PROPOSAL"** and addressed to:

Jonathon Goldman
Director of Public Works, City Engineer and ADA Coordinator
City of Sausalito
420 Litho St
Sausalito CA 94965-1933

NOTICE

All proposals, whether selected or rejected, become the property of the City of Sausalito upon receipt. The cost of proposal preparation shall be borne by the proposer and shall not be reimbursed by the City of Sausalito. Proposals must be signed by a person authorized to bind or obligate the prime consultant in order to receive consideration.

SELECTION PROCESS AND AWARD CRITERIA

The City of Sausalito will evaluate all proposals submitted on the basis of the criteria established in Section 3.30.510 of the Sausalito Municipal Code, specifically, "proposals will be evaluated based on a combination of factors that result in the best value to the City, including, but not limited to:

1. Understanding of the work required by the City
2. Quality and responsiveness of the proposal
3. Demonstrated competence and professional qualifications necessary for satisfactory performance of the work required by the City
4. Recent relevant experience in successfully performing similar services to similar clients
5. Proposed methodology for completing the work
6. References
7. Background and related experience of the specific individuals to be assigned to the project
8. Proposed compensation, rates and basis of the proposed compensation (e.g. lump sum, time and expenses, reimbursable against a budget, or time and expenses not to exceed, cost plus fixed fee, etc.)
9. Proposed level of effort and schedule
10. Commitment regarding the continuity and level of involvement of key personnel."

The City reserves the rights to (A) select no consultant and either re-solicit, self-perform or defer the project, (B) award work on project element basis and not as a single award encompassing the entire project (e.g., award only the Design element).

The City of Sausalito reserves the right to award a contract to the firm that presents the proposal which, in the sole judgment of the City, will best serve the community's interest.

The City of Sausalito reserves the right to reject any and all proposals, to waive minor irregularities in proposals, or to negotiate any modifications to the scope, schedule or budget with the successful firm.

CITY OF SAUSALITO

PROFESSIONAL/CONSULTING SERVICES AGREEMENT

This **PROFESSIONAL/CONSULTING SERVICES AGREEMENT**, (this "Agreement") is made and entered into this ___ day of _____, 2013, by and between the **CITY OF SAUSALITO**, a municipal corporation (hereinafter "City") and _____ (hereinafter "Consultant").

In consideration of the mutual promises contained herein, the parties hereto agree as follows:

Section 1. Scope of Work

Consultant shall provide City with the services described in Exhibit A which is attached hereto and incorporated herein by this reference as though set forth in full, and summarized as:

[insert summary of scope here]

The duties and services required of Consultant under this Agreement and pursuant to this Section 1 are referred to throughout the remainder of this Agreement as "the Work."

Section 2. Responsible Individual.

The individual directly responsible for the performance of the duties of Consultant is _____. Consultant represents and warrants that the execution of this Agreement has been approved by Consultant and that person executing this Agreement on behalf of Consultant has the full authority to do so.

Section 3. Work Schedule.

Consultant shall be available to work as many hours as required to complete the Work immediately upon receipt of the signed Agreement from the City and shall complete each task in a timely manner as specified. Consultant shall not be held responsible for delays caused beyond its reasonable control.

Section 4. Compensation.

In consideration of the performance of the Work described in Section 1 pursuant to the schedule set forth in Section 3, Consultant shall be compensated on a time- and materials reimbursable basis, subject to the Rate Schedule in Exhibit B which is attached hereto and incorporated herein by this reference as though set forth in full, and against a budget of _____ **DOLLARS ($_____)** which shall include Consultant's reimbursable expenses and markup

and shall not be exceeded without the express approval of the City as provided for in Section 5 below. Consultant acknowledges and agrees that the compensation to be paid to Consultant under this Section 4 represents the full amount due and owing to Consultant in connection with performance of the Work.

Section 5. Amendments.

In the event City desires to retain Consultant for the performance of additional services, or wishes to delete any services in connection with this Agreement, specifications of such changes and adjustments to compensation due Consultant therefore shall be made only by written and signed amendment to this Agreement.

Section 6. Independent Contractor - Subcontractors.

It is specifically understood and agreed that in the making and performance of this Agreement, Consultant is an independent contractor and is not and shall not be construed to be an employee, common law employee, agent or servant of City. Consultant shall be solely liable and responsible to pay all required taxes and other obligations, including, but not limited to, withholding and Social Security. Consultant acknowledges and agrees that he/she is not entitled to the benefits of civil service status and/or the rights and privileges enjoyed by civil service employees and Consultant hereby waives any and all claims to such rights and/or privileges.

Section 7. Consultant's Responsibility.

It is understood and agreed that Consultant has the professional skills necessary to perform the Work, and that City relies upon the professional skills of the Consultant to do and perform the Work in a skillful and professional manner in accordance with the standards of the profession. Consultant thus agrees to so perform the Work.

Acceptance by City of the Work, or any of it, does not operate as a release of the Consultant from such professional responsibility. It is further understood and agreed that Consultant has reviewed in detail the scope of the work to be performed under this Agreement and agrees that in his professional judgment, the Work can and shall be completed for a fee within the amounts set forth in Section 3 of this Agreement.

To the extent required by the California Labor Code, Consultant shall pay not less than the latest prevailing wage rates to workers and professionals as determined by the Director of Industrial Relations of the State of California pursuant to California Labor Code, Part 7, Chapter 1, Article 2. The applicable wage determinations are available at the State of California Department of Industrial Relations at http://www.dir.ca.gov/dlsr/pwd/index.htm.

Section 8. Hold Harmless and Indemnification.

Consultant shall indemnify, defend and save City, its officers, elected and appointed officials, employees, contractors and agents harmless from and against any and all liability, claims, suits, actions, damages and/or causes of action of any kind arising out of any bodily injury, personal injury, property damage or in violation of any federal, state or municipal law or ordinance or other cause in connection with the activities of Consultant, or on account of the performance or character of the Work or otherwise related to its performance of this Agreement to the extent that any such liability, claims, suits, actions, damages and/or causes of action arises out of the intentional, negligent or willful misconduct of the Consultant.

Section 9. Insurance.

Consultant shall take out and maintain during the life of this Agreement:

(a) Commercial General Liability and Automobile Liability insurance in an amount not less than $1,000,000 combined single limit applying to bodily injury, personal injury and property damage; and

(b) Professional Liability insurance in the amount of $1,000,000 per claim and $1,000,000 aggregate.

With the exception of professional liability, the liability policies are to contain, or be endorsed to contain, the following provisions:

> The City, its officers, elected and appointed officials, employees, contractors and agents are named as a Named Insured under the coverage afforded with respect to the work being performed under the Agreement.

Section 10. Nondiscrimination.

There shall be no discrimination against any employee who is employed in the Work, or against any applicant for such employment because of race, religion, color, sex or national origin. This provision shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

Section 11. City Personnel Conflict of Interest.

No officers, member, or employee of City and no member of the governing body of City who exercises any functions or responsibilities in the review, approval of the undertaking or carrying out of the project, shall participate in any decision relating to this Agreement which affects his personal interest or the interest of any corporation, partnership, or association in which she is,

directly or indirectly interested; nor shall any such officer, member or employee of City have any interest, direct or indirect, in this Agreement or the proceeds thereof.

Section 12. Consultant Conflict of Interest.

Consultant covenants that it presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of its services hereunder. Consultant further covenants that in the performance of this Agreement, no persons having any such interest shall be employed.

Section 13. Assignment.

Consultant shall not assign any interest in this Agreement, and shall not transfer any interest in the same (whether by assignment or novation) without the prior written consent of City.

Section 14. Ownership of Documents.

Consultant agrees that all documents produced in the performance of this Agreement shall be the sole property of the City including all rights therein of whatever kind and whether arising from common or civil law or equity. The Work shall be used solely for the project for which it was originally intended.

Section 15. Termination.

City may terminate this Agreement at any time without reason stated or required by giving written notice of the same and specifying the effective date thereof, at least seven calendar days before the effective date of such termination. If the Agreement is terminated by City as provided herein, Consultant shall be paid for all effort and material expended on behalf of the Work under the terms of this Agreement, less any charges against Consultant as otherwise provided herein, up to the effective date of termination, except that upon notification of such termination, Consultant shall immediately cease to undertake any duties under the Agreement not yet underway, and shall limit its further activities up to the effective date of termination to those duties necessary to wind up work then underway.

In Witness Whereof, City and Consultant have executed this Agreement as of the date first written above.

City of Sausalito	**Consultant**
_____	_____
By: Adam W. Politzer	By:_____
Its: City Manager	Its:_____

Approved as to Form:

_____

By: Mary Anne Wagner, Esq.

Its: City Attorney

Existing Conditions Assessment

Rehabilitation of Sausalito Bridgeway Medians

Gate 6 Road to Napa Street

QUESTA ENGINEERING CORP.

Existing Conditions Assessment

Rehabilitation of Sausalito Bridgeway Medians

Gate 6 Road to Napa Street

Submitted to

Jonathon Goldman
Director of Public Works
City of Sausalito
420 Litho St.
Sausalito, CA 94965-1933
Email: jgoldman@ci.sausalito.ca.us

Submitted by

Questa
1220 Brickyard Cove Road, Suite 206
Point Richmond, California 94801
Tel: (510) 236-6114
Fax: (510) 236-2423
www.questaec.com

Jeff Peters, Principal in Charge, Consulting Soil Scientist
Margaret Henderson, ASLA, CA Landscape Architect 1689
Oliver Reyes, Staff Landscape Architect
Chris Lyle, Staff Geologist

In Association with:

Ed Gurka, Consulting Arborist

Questa Project #1300148

February 24, 2014

TABLE OF CONTENTS

INTRODUCTION

This study evaluates existing conditions and provides recommendations for the rehabilitation of the Bridgeway medians. The medians are the gateway to Sausalito, beginning at Gate 6 Road near the City's northern border, and extending south to Napa Street. This study evaluates options for replacing or rehabilitating the existing streetscape utilizing low-water use landscaping that is attractive, low maintenance, and sustainable.

Bridgeway is a gateway to the community, and the selection of appropriate plant species, as well as efficiently managing the existing landscape, is critical to provide an aesthetically pleasing streetscape that is welcoming and attractive, as well as viable and sustainable in an era with limited public resources for maintenance.

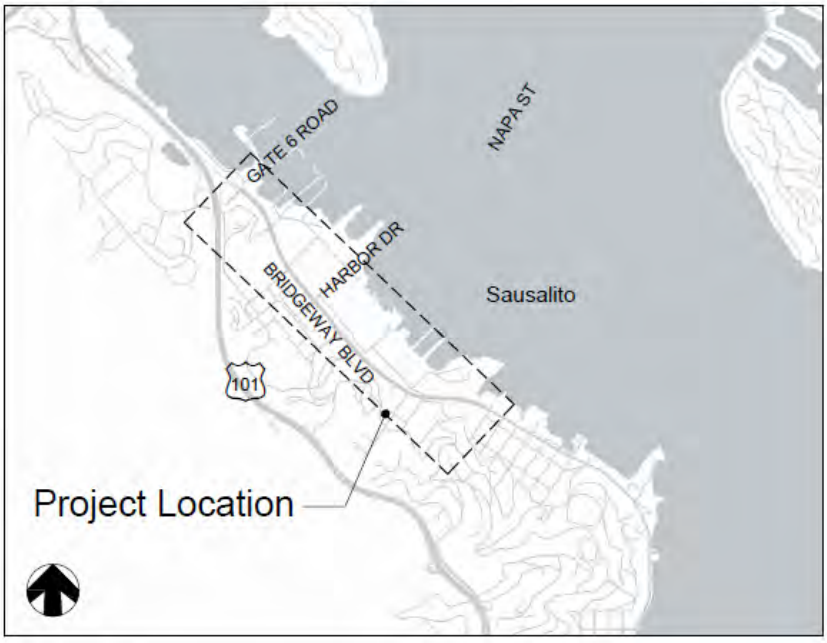
Existing soil conditions within the medians are very challenging and limit selection, growth and long term success of plant materials. In most of the median areas, shallow soil depth over old or partially demolished asphalt provides a challenging medium for plant success, especially trees. Other plant stressors include over-compaction, lack of root aeration, infertility, and even potential drainage and local salinity problems.

The Study evaluates growth and health of the two canopy tree species along the medians: Ash and *Platanus racemosa* (Sycamore), including evaluation of tree health and longevity, including strategies for long term/phased replacement of tree canopy (**Appendix A**, Arborist's Report).

Other factors for median renovation include irrigation system functionality and efficiency; suitability of existing pavement within the medians and options for restoration with pervious pavement, and placement of a one foot wide "safety strip" at the median perimeter; shrub and groundcover selection to enhance gateway elements, priorities and costs.

There are several key issues that are critical to project success:

The project goal is a blueprint for improvement in visual appearance and reduction in irrigation and maintenance requirements for the medians and City-owned right of way (ROW), with strategies for long-term renovation or replacement of unhealthy canopy trees.



STUDY AREA

The study area includes seven medians and adjacent right of way on Bridgeway.

BACKGROUND

City staff currently maintains the Bridgeway medians and planter strip and the City expends significant resources repairing the irrigation, removing dead wood and dead trees, mowing, weeding and trimming the seasonal grasses and other plant materials. These demands on labor and budget, along with the City's efforts to limit the use of herbicides results in poor weed management and cumulatively poor appearance of a significant visual resource to residents and visitors in Sausalito.

The purpose of this study is to evaluate health and long-term viability of the existing landscaping, with a focus on the trees within the medians and trees along the City's Bridgeway Path, as well as identify alternatives for rehabilitation of the medians and planter strip within the public right-of-way with the objectives of significant improvements in visual appearance, elimination of the need for irrigation following a 2-year plant establishment period, ease of maintenance including the potential for elimination of mowing and weeding from the maintenance requirements for the area, and elimination of root uplifiting and other forms of damage to installed access improvements for vehicles, pedestrians, and bicycles.

In 2011, the *City of Sausalito Ferry Terminal to Gate 6 Road Path Feasibility Study* was completed, identifying route options for bicycle and pedestrian improvements to provide a nonmotorized route through Sausalito. Study Segments 5 and 6 identified a preferred route along the east side of Bridgeway. Path improvements would require removal of existing trees to accommodate a multiuse path, and suggested that trees removed as part of the path project be replaced at a rate of two trees for each one removed, with replacement trees located as close to the original location as is safe.

EXISTING CONDITIONS ASSESSMENT

The existing conditions assessment was completed by reviewing city files and developing a base map of the study area, interviews with current and former City staff, meeting with representatives of Blooming Bridgeway, and field investigation of soils, irrigation, drainage, tree health and other site conditions. Plan sheets describing existing conditions are contained in **Appendix B**.

The following evaluation tables provide a description of the seven medians, including size and general appearance, as well as an assessment of the following conditions:

- Soil conditions present within each median, including potential limitations to successful plant establishment;
- Predominant shrub and groundcover vegetation within the median, including general health, condition, maintenance, and size;
- Trees within the median, including general growth pattern, tree health, vigor and maintenance issues;
- Trees in City ROW, including general growth pattern, tree health, vigor and maintenance issues;
- Irrigation system, including basic components and functionality;
- Pavement, including extent, condition and type of pavement within the medians; and
- Maintenance issues identified by City staff, such as overgrowth of vegetation into travel lanes, lack of safety strip or workspace for maintenance personnel, and time- consuming maintenance tasks.

Existing Conditions Assessment
Median 1
Gate 6 Road to Napa Street

Median 1: Gate 6 Road to Ebbtide Avenue **Size: 4350 ft²**	
General Description	Narrow, long (~4' x 420', ~4' x 240') planting areas at left turn lanes planted with ornamental grasses (*Pennisetum* 'Tall Tails'). Small wider (~12' x 140') planting area between with shrub mix and 2 ash trees.
Soil Conditions	0.5'-1.0' depth at narrow strips. 1.5' depth under trees. Unable to locate windowed road bed area, possibly blocked by roots.
Median Planting-Shrubs/Groundcovers	*Pennisetum* in narrow areas. 2275 ft² Mix of *Agapanthus, Dietes*, and *Nandina* under ash trees. 1175 ft² Small mass of *Lavandula* just south of ash trees. 270 ft²
Median Planting-Trees	2 *Fraxinus* (ash) trees, approx. 20" caliper. Large surfacing roots.
Trees E/S Bridgeway	21 Sycamore within 3-4 foot wide continuous planting strip
Trees W/S Bridgeway	4 *Prunus* (flowering plum) at Gate 6 Road intersection. 5 Redwoods on hill, mixed woody vegetation.
Irrigation System	Spray heads on 12" risers. Backflow preventer and control valves located off median at east sidewalk.
Hardscape/Pavement	Brick pavers at nose of median at Ebbtide Ave. 125 ft²
Maintenance Issues	*Pennisetum* overgrowing curbs, requires cutting back. Shrubs are small, widely spaced, do not appear to require trimming, but bare areas between should have compost/mulch cover.

Existing Conditions Assessment
Median 2
Ebbtide Avenue to Coloma Street

Median 2: Ebbtide Avenue to Coloma Street Size: 7,400 ft²	
General Description	Entirely turfgrass, except for a small area of pavers at Coloma St, and closely planted ash trees. ~760' total length.
Soil Conditions	0.5-1.0' top soil over former asphalt road. At tree locations, silty sandstone bedrock underlying 1.5' top soil, 0.5-1' clayey sand w/ gravel, and 1' silty sand w/ gravel.
Median Planting-Shrubs/Groundcovers	Turfgrass in good condition. 7330 ft²
Median Planting-Trees	16 *Fraxinus* (ash) trees, 8"-24" caliper. 15-20' spacing. No apparent curb lifting.
Trees E/S Bridgeway	6 *Eucalyptus* on alternate sides of path, 4 Sycamores within path area, 2 *Sycamore* in planter strip.
Trees W/S Bridgeway	8 Sycamore in planting strip, Pine.
Irrigation System	Pop-up spray heads, 2 control valves, no BFP observed.
Hardscape/Pavement	Small brick paver area at Coloma St nose. 30 ft²
Maintenance	Turfgrass care. Weeding, mowing.

Existing Conditions Assessment
Median 3
Coloma Street to Harbor Avenue

Median 3: Coloma Street to Harbor Avenue Size: 4,500 ft²	
General Description	Narrow (~4' x 50', 3.5' x 300') planting areas at left turn lanes planted with ornamental grasses (*Pennisetum*) and some sea lavender (*Limonium*). Wider (~12' x 275') planting area between with shrub mix and 7 *Sycamore* trees.
Soil Conditions	0.5-1.5' top soil over former asphalt road. Crowned along spine. At tree locations, silty sandstone bedrock underlying 1.5' top soil and 1' clayey sand w/ gravel.
Median Planting-Shrubs/Groundcovers	*Pennisetum* in narrow areas. 1280 ft² Mix of *Ceanothus, Erigeron, Abelia, Calla* under trees. 3140 ft² Small mass of *Lavandula* just north of trees. 440 ft²
Median Planting-Trees	7 Sycamore trees, 6"-14" caliper. No apparent curb lifting.
Trees E/S Bridgeway	23 Sycamore: 4 e/s path, 4 w/s path, 15 in path. 4 trees removed., 2 *Eucalyptus*.
Trees W/S Bridgeway	Cedar, lawn, Stone pine (not maintained by City)
Irrigation System	Pop-up spray heads. 1 control valve box in center of median. No BFP observed at this median.
Hardscape/Pavement	Small brick paver area at Coloma St nose. 40 ft² Small brick paver area at Harbor St nose. 25 ft²
Maintenance	*Abelia, Ceanothus*, and *Erigeron* plantings are large for the given space and require shearing to maintain safety strip along curb. *Pennisetum* overgrowing median curbs.

Existing Conditions Assessment
Median 4
Harbor Avenue to Nevada Street

Median 4: Harbor Avenue to Nevada Street **Size: 7,700 ft²**	
General Description	Narrow (~3' x ~115') planting area at left turn lane at Harbor Ave planted with mix of *Pennisetum, Limonium, Erigeron*, and *Calla.* Remainder of median is wider (~12' x 545') planting area with various shrub mixes and 15 Sycamore trees.
Soil Conditions	0.5-1.5' top soil over former asphalt road. Crowned along spine. At tree locations, silty sandstone bedrock underlying 1' top soil and 1.5' clayey sand w/ gravel.
Median Planting-Shrubs/Groundcovers	*Pennisetum, Limonium, Erigeron*, and *Calla* in narrow area. 675 ft² Mix of *Nandina, Berberis, Dietes*. 800 ft² Mix of *Ceanothus, Arctostaphylos, Dietes, Westringia*. 5530 ft² . Small mass of *Lavandula, Erigeron*. 440 ft²
Median Planting-Trees	16 Sycamore trees, 3"-20" caliper. No apparent curb lifting.
Trees E/S Bridgeway	7 small trees in hedge. Loquat and Pine.
Trees W/S Bridgeway	Lawn, pine, pepper (not maintained by City)
Irrigation System	Pop-up spray heads. 1 control valve box in center of median. No BFP observed at this median, possibly located at corner of Harbor Ave.
Hardscape/Pavement	Small brick paver area at Harbor St nose. 10 ft² Small brick paver area at Nevada St nose. 75 ft²
Maintenance	*Westringia* plantings are large for the given space and require shearing to maintain safety strip along curb. *Dietes* overgrowing median curbs. Bare areas between plants should have compost/mulch cover. Brick pavers uneven and weedy.

Existing Conditions Assessment
Median 5
Nevada Street to Olive Street

Median 5: Nevada Street to Olive Street **Size: 15,100 ft²**	
General Description	Longest median, ~1390'. Planted with *agapanthus* and some *dietes* mixed in, except for a pavers at the intersections, and a small area (~11' x 25') of flowering groundcover (*Osteopermum*) at Olive St. 32 *Sycamore* trees spaced at 25'
Soil Conditions	0.5-1.5' top soil over former asphalt road. Crowned along spine. At tree locations, silty sandstone bedrock underlying 1.5' top soil and 1.5' clayey or silty sand w/ gravel.
Median Planting-Shrubs/Groundcovers	Large mass planting of mostly *Agapanthus,* some *Dietes*. 14,350 ft² Area of flowering groundcover (*Osteopermum*) at Olive St. 300 ft²
Median Planting-Trees	32 Sycamore trees, 6"-12" caliper. No apparent curb lifting.
Trees E/S Bridgeway	Mixed hillside vegetation: Stone pine, Cypress, Liquidambar, Camphor, Live oak, Maple, Eucalyptus.
Trees W/S Bridgeway	Mixed hillside vegetation: Pyracantha, Cypress, Acacia, 6-8 Locust.
Irrigation System	Spray heads on risers. 2 control valve boxes and 2 backflow preventers observed at this median. 1 BFP off median at west sidewalk.
Hardscape/Pavement	Narrow brick paver area (~3' x 100') at Nevada St. left turn lane. 370 ft² Small brick paver area (~9.5' x 10') at Nevada St nose. 95 ft²
Maintenance	*Agapanthus* appears to not require much maintenance. Bare areas between plants should have compost/mulch cover. Brick pavers have weeds in joints, algae growth on surface, some unevenness.

Existing Conditions Assessment
Median 6
Olive Street to Easterby Street (2 Islands)

Median 6: Olive Street to Easterby Street (2 Islands) Size: 3,300 ft²	
General Description	2 small islands. ~250' between Olive St - Spring St and 135' between Spring St and Easterby St. Mixed shrub plantings, brick pavers at left turn lanes, no trees.
Soil Conditions	0.5'-1.5' dry, loose top soil over former asphalt road. Crowned along spine.
Median Planting-Shrubs/Groundcovers	Olive St-Spring St – Disorganized mix of shrubs (*Berberis, Buddleia, Ceanothus, Erigeron, Lavandula, Pittosporum).* 2,140 ft². Spring St-Easterby St – weedy grass groundcover and 1 *Fremontodendron* shrub. 500 ft²
Median Planting-Trees	None
Trees E/S Bridgeway	Mixed hillside vegetation: *Eucalyptus,* Pine, Oak.
Trees W/S Bridgeway	North of Spring Street: 6 Sycamore in small 3' x 3' tree wells, uplifting sidewalk. Sidewalk not ADA compliant. South of Spring Street: 1 Sycamore in tree well, 3 *Melaleuca*, 1 *Magnolia* and 3 Mayten in triangle at Easterby intersection.
Irrigation System	Olive St-Spring St – Pop-up spray heads. 1 Backflow preventer and 1 control valve located in center of median. Spring St-Easterby St – None
Hardscape/Pavement	Narrow brick paver area (~3.5' x 50') at Olive St left turn lane, 350 ft² Small brick paver area (~4.5' x 5.5') at Spring St nose, 25 ft² Narrow brick paver area (~3.5' x 90') at Spring St left turn lane, 350 ft²
Maintenance	Plantings require shearing to maintain safety strip along curb. Bare areas between plants should have compost/mulch cover. Brick pavers have some weed growth in joints, algae growth on surface.

Existing Conditions Assessment
Median 7
Easterby Street to Napa Street

Median 7: Easterby Street to Napa Street Size: 13,750 ft²	
General Description	~1200' long. Entirely turfgrass and Sycamore trees (~12.5' x 950'), except for a small area of *Agapanthus* (~8' x 25') at Napa St, and brick pavers at left turn lanes.
Soil Conditions	0.5-1' depth over former asphalt road. At tree locations, silty sandstone bedrock underlying 1' top soil, 1-2' clayey or silty sand w/ gravel.
Median Planting-Shrubs/Groundcovers	Turfgrass in good condition. 12,500 ft² *Agapanthus* mass planting in good condition, but overgrowing curbs. 210 ft²
Median Planting-Trees	23 Sycamore trees, 3"-14" caliper. No apparent curb lifting.
Trees E/S Bridgeway	Mixed hillside vegetation: Black *Acacia, Eucalyptus*, Stone Pine.
Trees W/S Bridgeway	Mixed vegetation: *Acacia, Pyracantha*, Cherry
Irrigation System	Pop-up spray heads, 2 control valves, 2 backflow preventers.
Hardscape/Pavement	Narrow brick paver area (~4' x 130') at Easterby St left turn lane, 650 ft² Narrow brick paver area (~4' x 100') at Napa St left turn lane, 400 ft²
Maintenance	Turfgrass care. Weeding, mowing. Brick pavers have some weed growth in joints, algae growth on surface.

PROJECT CONCEPTS

Renovation of the Bridgeway medians includes several options, with varying expenditures, aesthetics and maintenance needs. Renovation of the landscape should be completed using Bay-Friendly landscape Principles, which were developed to provide guidance for sustainable landscape practices (https://www.bayfriendlycoalition.org/):

- *Landscape Locally*; recognizes that built landscapes are a part of the larger ecosystem of the San Francisco Bay watershed and that they can contribute to its health if designed and maintained using sustainable practices.

- *Landscape for Less to the Landfill*; means that we should reduce waste by choosing the right plants, avoiding invasive plant species, using recycled and salvaged products in the landscape and by composting, mulching and grasscycling plant debris.

- *Nurture the Soil*; soils are living ecosystems and when landscape practices allow the soil food web to thrive it can filter pollution, store water, provide plant nutrients, and help plants resist pests naturally.

- *Conserve Water*; means using a holistic approach of creating drought resistant soils with compost and mulch, selecting plants naturally adapted to summer-dry climates, using stormwater, greywater and recycled water in the landscape as much as possible and using efficient irrigation systems that include self adjusting, weather-based controllers.

- *Conserve Energy*; by reducing the need for mowing and shearing, by shading buildings and paved areas, using efficient outdoor lighting, and buying local landscape products.

- *Protect Water & Air Quality*; through maximizing permeable surfaces and minimizing stormwater runoff, using integrated pest management, minimizing the use of synthetic pesticides and avoiding overuse of fertilizers, reducing fossil fuel consumption, and planting trees to remove CO2 and absorb air pollutants.

- *Create Wildlife Habitat*; recognizes that biodiversity is crucial to the health of natural ecosystems and that by using native plants and increasing the diversity of plant palettes, our built landscape can provide food, water and shelter for birds, butterflies, beneficial insects and other creatures.

It should be noted that often, Bay-Friendly landscapes have a different aesthetic than traditional groomed and manicured landscapes with mowed turf and/or trimmed and pruned shrubs. Using Integrated Pest Management (IPM) that allows some presence of “weeds” or pests to occur in a managed landscape, and use of native species (that may go dormant during late summer and fall), or extensive use of mulch and boulders instead of living plants may generate public response. Community outreach and education is therefore a critical component of the landscape renovation process.

Options for landscape renovation include:

- **Soils (S).** Options include:

S1 Placement of compost mulch topdressing
S2 Aeration and replacement of site soils, either in planting pit or in entire median (median soils replacement is prohibitively expensive)

- **Shrubs and Groundcovers**. Options include:
  P1 Supplement individual dead, dying or overgrown vegetation with selected individual plant

P2 Remove and replace existing groundcover vegetation with drought tolerant and native grasses and groundcovers

P3 Remove and replace all existing groundcover vegetation with a combination of non-vegetative surface such as mulch and boulders with selected native shrub and groundcover planting (40-50% live plants)

P4 Remove vegetation and hydroseed with native grass and flower mix (requires periodic mowing, may look unkempt)

- Trees. Many of the existing trees suffer from the lack of a suitable planting environment, since portions of the medians were build on existing pavement. The 2011 Study also recommended soil improvement using Structural soil. This concept should be revisited for cost reasons. Options include:

  T1 Aeration/pruning/root management, as well as selective removal of dead, unhealthy or hazardous trees on a case-by case basis, with or without replacement with a new tree
  T2 Removal of groups of trees and replacement with tree species that are appropriate for site conditions
  T3 Removal of Path trees and replacement with 2 trees per tree replaced, 25 foot spacing, per 2011 Pathway Study

- **Irrigation System (I)**. Due to the existing shallow depth to pavement, it is recommended that extensive renovation of the existing system components be avoided. Options include:

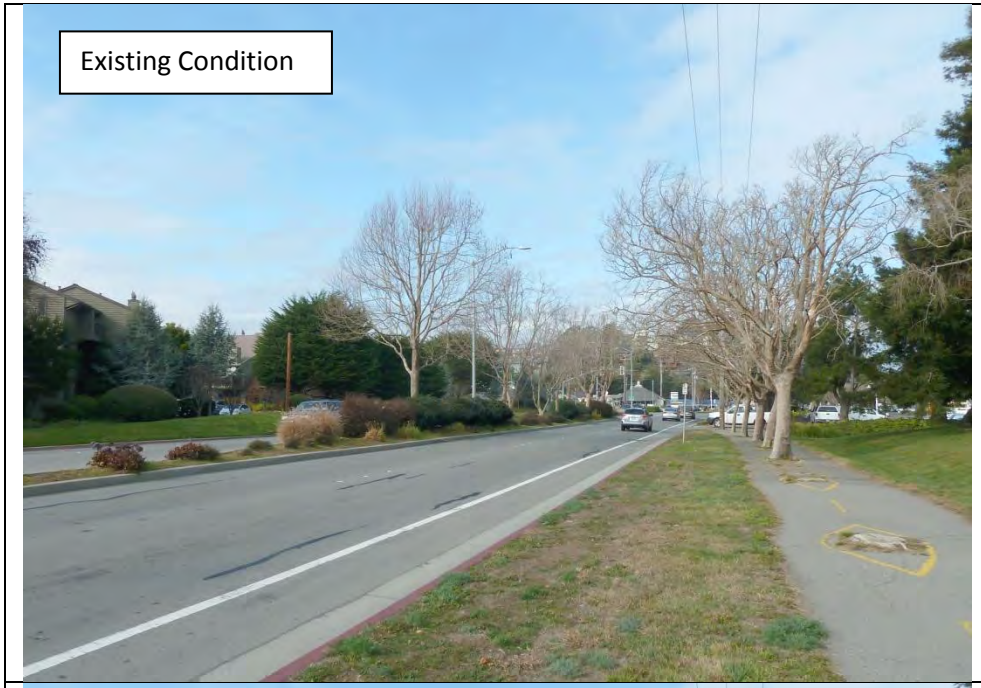
  I1 No changes to existing system. Continue repair as needed, decrease irrigation application as new areas are renovated.

I2 Retrofit existing irrigation spray heads with multi emitter drip heads or low flow spray emitters.
I3 Discontinue irrigation at site.

• **Hardscape/Pavement (H)**. Options include:

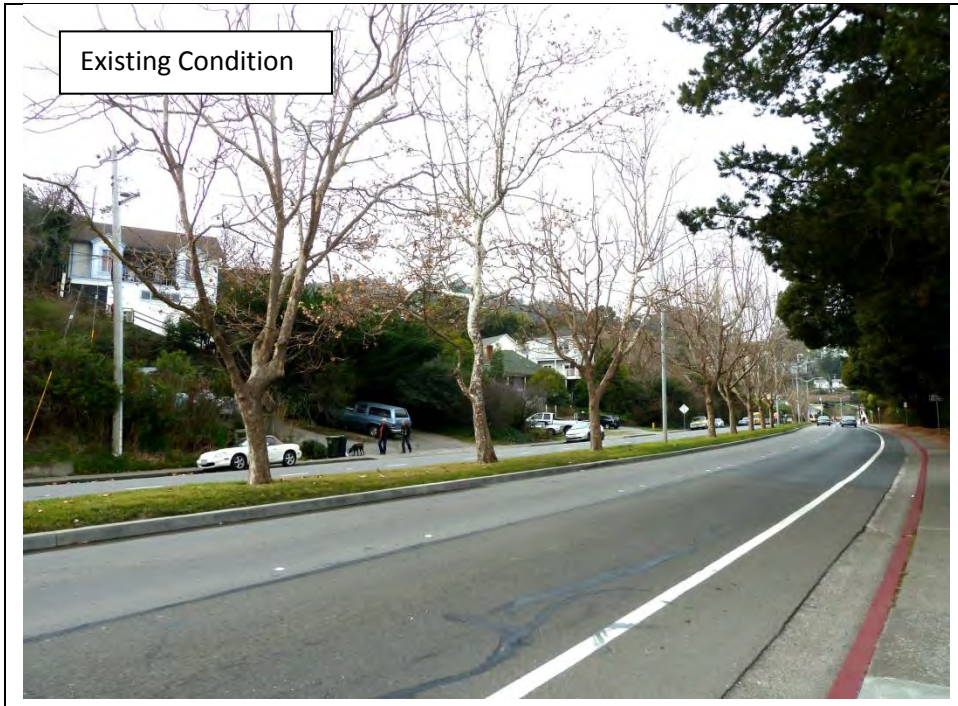
H1 Continue to maintain existing brick hardscape elements.
H2 Install 1 ft. perimeter safety strip at edge of median island.
H3 Increase permeable pavement with pavers, stones, decomposed granite or other permanent non-vegetated surface.

A visual simulation of the site is shown in **Figures 1** and **2,** with and without tree replacement. The simulation shows existing conditions, no tree replacement, and replacement with large trees (Ash shown in illustration) and small trees (Olives), shown at maturity.



QUESTA ENGINEERING CORP
Civil
Environmental
& Water Resources
P.O. Box 70356 1220 Brickyard Cove Road Point Richmond, CA 94807

Figure 1:
Bridgeway at Coloma



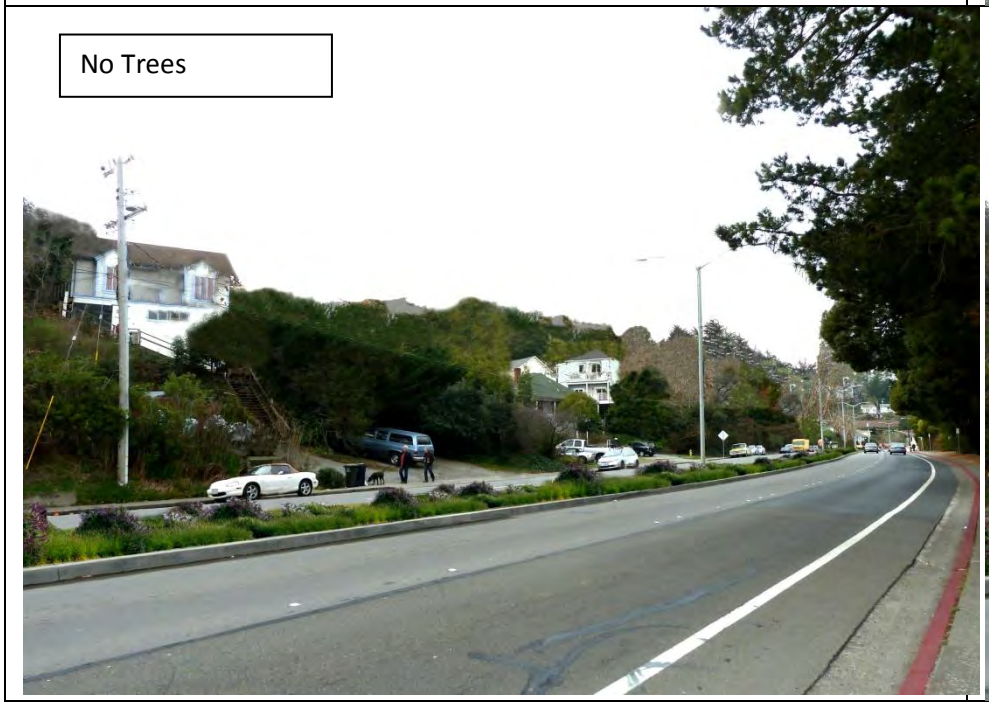


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Figure 2:
Bridgeway at Napa

RECOMMENDATIONS AND PRIORITY ACTIONS

Recommendations and Priority Actions
Median 1
Gate 6 Road to Napa Street

Median 1: Gate 6 Road to Ebbtide Avenue		
Issue	Recommended Action/Option	Priority*
Soil Conditions	S1: Place compost mulch throughout island to reduce weeds and water use	A
Shrubs/Groundcovers	P1: Supplement existing planting as needed.	B
Median Trees	T1: Aeration/Pruning/Root management: 2 Ash Trees	B
Trees E/S Bridgeway	T3: Species Replacement of all trees These trees are in a planter strip, most will be affected by future Bridgeway Path Implementation Project	C (Implement as part of Path Project)
Trees W/S Bridgeway	T1: Aeration/Pruning/Root management	C
Irrigation System	I2: Retrofit spray heads with multi drip emitters or low volume (e.g. MP Rotator) heads. Decrease use of supplemental irrigation as drought tolerant plants and mulch is replaced.	A
Hardscape/Pavement	H2: Provide 1-ft. perimeter safety strip for maintenance.	C

*Priority A: High Priority (Safety or security hazard, dead or diseased plants, high cost to maintain, high water use, public concern etc)

Priority B: Medium Priority (Inefficient maintenance, outgrown conditions, excessive water use, woody plants, etc)

Priority C: Low Priority (unattractive or mature plants that may die back in the future; project can be incorporated into future capital project)

Recommendations and Priority Actions
Median 2: Ebbtide Avenue to Coloma Street

Median 2: Ebbtide Avenue to Coloma Street		
Issue	Recommended Action/Option	Priority*
Soil Conditions	S1: Place compost mulch throughout island to reduce weeds and water use	A
Shrubs/Groundcovers	P2: Replace turf with native grass plantings, or P3: Replace turf with mulch, boulders and plant groupings	B
Median Trees	T1: Aeration/Pruning/Root management Ash	B
Trees E/S Bridgeway	T3: Species Replacement of 4 trees in path (safety hazard) T3: Select removal of individual trees, 2 trees in planter strip	A C
Trees W/S Bridgeway	T1: Select removal of individual trees, *Sycamore* in planter strip	C
Irrigation System	I1: Use existing system to establish plants, then discontinue I2: Replace heads with low volume spray emitters, reduce/discontinue use	B
Hardscape/Pavement	H2: Provide 1-ft. perimeter safety strip for maintenance.	B

*Priority A: High Priority (Safety or security hazard, dead or diseased plants, high cost to maintain, high water use, public concern etc)

Priority B: Medium Priority (Inefficient maintenance, outgrown conditions, excessive water use, woody plants, etc)

Priority C: Low Priority (unattractive or mature plants that may die back in the future, project can be incorporated into future capital project)

Recommendations and Priority Actions
Median 3: Coloma Street to Harbor Avenue

Median 3: Coloma Street to Harbor Avenue		
Issue	Recommended Action/Option	Priority*
Soil Conditions	S1: Place compost mulch throughout island to reduce weeds and water use	A
Shrubs/Groundcovers	P3: Replace 3300 SF overgrown shrub mix with native grasses/groundcovers	B
Median Trees	T1: Aeration/Pruning/Root management of 7 Sycamore trees	B
Trees E/S Bridgeway	T3: Select removal of individual trees Remove 15 Sycamore trees in path (safety hazard) Removal of 8 additional trees not in path area	A C
Trees W/S Bridgeway	No action	
Irrigation System	I2: Retrofit spray heads with multi drip emitters to supply replacement shrubs. Discontinue/reduce irrigation.	A
Hardscape/Pavement	H1: Maintain existing median pavement, consider creation of pedestrian refuge improvements with additional paving as part of future crosswalk improvements. H2: Provide 1-ft. perimeter safety strip for maintenance.	C

*Priority A: High Priority (Safety or security hazard, dead or diseased plants, high cost to maintain, high water use, public concern etc)

Priority B: Medium Priority (Inefficient maintenance, outgrown conditions, excessive water use, woody plants, etc)

Priority C: Low Priority (unattractive or mature plants that may die back in the future, project can be incorporated into future capital project)

Recommendations and Priority Actions
Median 4: Harbor Avenue to Nevada Street

Median 4: Harbor Avenue to Nevada Street		
Issue	Recommended Action/Option	Priority*
Soil Conditions	S1: Place compost mulch throughout island to reduce weeds and water use	A
Shrubs/Groundcovers	P3: Selective replacement of existing mixed shrubs with native grasses/groundcovers	B
Median Trees	T1: Aeration/Pruning/Root management of 16 Sycamore trees	A
Trees E/S Bridgeway	T3: Select removal of individual trees 7 small trees in hedge	C
Trees W/S Bridgeway	No action.	
Irrigation System	I2: Retrofit spray heads with multi drip emitters to supply replacement shrubs. Discontinue/reduce irrigation.	A
Hardscape/Pavement	H3: Consider replacement of uneven pavers with other permeable pavement. H2: Provide 1-ft. perimeter safety strip for maintenance.	B

*Priority A: High Priority (Safety or security hazard, dead or diseased plants, high cost to maintain, high water use, public concern etc)

Priority B: Medium Priority (Inefficient maintenance, outgrown conditions, excessive water use, woody plants, etc)

Priority C: Low Priority (unattractive or mature plants that may die back in the future, project can be incorporated into future capital project)

Recommendations and Priority Actions
Median 5: Nevada Street to Olive Street

Median 5: Nevada Street to Olive Street		
Issue	Recommended Action/Option	Priority*
Soil Conditions	S1: Place compost mulch throughout island to reduce weeds and water use	A
Shrubs/Groundcovers	*Agapanthus* in good condition. Place mulch/boulders to supplement landscape	A
Median Trees	T2: Species Replacement of 32 Sycamore	A
Trees E/S Bridgeway	T3: Select removal of individual trees, as needed	C
Trees W/S Bridgeway	T3: Select removal of individual trees, as needed	C
Irrigation System	I3: Reduce/discontinue irrigaton	A
Hardscape/Pavement	H2: Provide 1-ft. perimeter safety strip for maintenance.	A

*Priority A: High Priority (Safety or security hazard, dead or diseased plants, high cost to maintain, high water use, public concern etc)

Priority B: Medium Priority (Inefficient maintenance, outgrown conditions, excessive water use, woody plants, etc)

Priority C: Low Priority (unattractive or mature plants that may die back in the future, project can be incorporated into future capital project)

Recommendations and Priority Actions
Median 6: Olive Street to Easterby Street (2 Islands)

Median 6: Olive Street to Easterby Street (2 Islands)		
Issue	Recommended Action/Option	Priority*
Soil Conditions	S1: Place compost mulch throughout island to reduce weeds and water use	A
Shrubs/Groundcovers	P3: Replace overgrown shrubs with mix of shrubs/mulch and boulders	C
Median Trees	No trees.	
Trees E/S Bridgeway	T3: Select removal of individual trees, as needed	C
Trees W/S Bridgeway	T3: 6 Sycamore in small 3' x 3' tree wells, uplifting sidewalk. South of Spring Street: 1 Sycamore in tree well. Sidewalk not ADA compliant. Replace trees as part of sidewalk repair/renovation. Consider Mayten or Melaleuca, used as nearby trees.	A
Irrigation System	I3: Reduce/discontinue irrigation	A
Hardscape/Pavement	H2: Provide 1-ft. perimeter safety strip for maintenance.	C

*Priority A: High Priority (Safety or security hazard, dead or diseased plants, high cost to maintain, high water use, public concern etc)

Priority B: Medium Priority (Inefficient maintenance, outgrown conditions, excessive water use, woody plants, etc)

Priority C: Low Priority (unattractive or mature plants that may die back in the future, project can be incorporated into future capital project)

Recommendations and Priority Actions
Median 7
Easterby Street to Napa Street

Median 7: Easterby Street to Napa Street		
Issue	Recommended Action/Option	Priority*
Soil Conditions	S1: Place compost mulch throughout island to reduce weeds and water use	A
Shrubs/Groundcovers	P2: Replace with native grass mix, or P3: Replace with shrub/groundcover mix at trees	A
Median Trees	T2: Species Replacement of 23 Sycamore trees	A
Trees E/S Bridgeway	T3: Select removal of individual trees as needed	C
Trees W/S Bridgeway	T3: Select removal of individual trees as needed	C
Irrigation System	I1: Use existing system to establish plants, then discontinue I2: Replace heads with low volume spray emitters, reduce/discontinue irrigation	A
Hardscape/Pavement	H2: Provide 1-ft. perimeter safety strip for maintenance.	B

*Priority A: High Priority (Safety or security hazard, dead or diseased plants, high cost to maintain, high water use, public concern etc)

Priority B: Medium Priority (Inefficient maintenance, outgrown conditions, excessive water use, woody plants, etc)

Priority C: Low Priority (unattractive or mature plants that may die back in the future, project can be incorporated into future capital project)

PRELIMINARY PLANT PALETTE

A preliminary plant palette prepared by Blooming Bridgeway is included in **Appendix C**, and includes a mix of native and drought tolerant species. The preliminary project design should specify plants that include a mix of low-water use, drought tolerant native and ornamental species that are suitable for the shallow soils conditions and adapted to the Sausalito microclimate. Tree replacement species should be developed in consultation with an arborist to select native and/or low water use trees that can adapt to site conditions regarding soil suitability, placement options and shallow depth to pavement.

PRELIMINARY COSTS

Preliminary, planning level cost estimates are presented in **Appendix D** for installation of the project elements, including mobilization, traffic control, demolition, site preparation, minor earthwork, utility conflict resolution, landscape planting, temporary irrigation system rehabilitation, and tree replacement using smaller tree-like shrubs and adaptable small trees.

This preliminary cost estimate assumes full renovation of center medians including tree, shrub and groundcover replacement, except as noted in the recommendations. The Ferry Terminal to Gate 6 Pathway Study recommended a replacement ratio of two to one for pathway trees, and replacement of soils with structural soils in the planting holes. Per their report this was estimated to be $5.00 per square foot. This is used as the cost basis for replacement of pathway trees along the east side of Bridgeway.

This estimate assumes tree replacement of the Sycamore trees with smaller trees and/or tree-like shrubs within the medians at a one-to-one ratio, while retaining and rehabilitating the select groups of ash and sycamore trees recommended in the Arborist's report. The cost for permeable pavement includes an allowance for placement of decorative fieldstone boulders. Project phasing, prioritization, and planting with less than 100% vegetative cover (using more small cobbles, mulch and field stone boulders instead of individual plants) will incrementally reduce project and long term landscape maintenance costs.

The total cost of all of the landscape and tree work, including rehabilitation of the center median with new plantings, and Bridgeway path tree replacement is estimated to be approximately **$988,000.** This includes pathway tree removal and replacement that could be implemented as part of the Bridgeway Pathway project**.**

This estimate includes an allowance for 15% design, 15% construction management, and a 15% contingency. It would be appropriate to determine the desired design aesthetic and vegetative replacement goals, allocate design and implementation budget and to phase this work over a three-to five- year (or more) period. For complete renovation, this could be up to 200,000 per year. Developing approximately 20-30% design concepts should be budgeted at between $20,000 and $25,000.

Appendix A: Arborist Report

Ed Gurka, Consulting Services
San Rafael, California
Mobile: 415.601.5337

ARBORIST FIELD REPORT

TO: Jeff Peters,
Questa Engineering
1220 Brickyard Cove Road, # 206
Point Richmond, CA. 94807

WORK PERFORMED AT:
Bridgeway Avenue landscaped medians beginning at Napa Street and proceeding 1.2 miles to North City limits in Sausalito, California.

DATE: **February 21, 2014**

WORK ORDER: Provide an evaluation and description of Bridgeway Median Street trees for redevelopment consideration.

DESCRIPTION OF WORK PERFORMED:

The Bridgeway medians provide separation from the north to south vehicle traffic along the 1.2-mile main corridor through the City of Sausalito. The 1.2-mile length consists of six medians and two short medians without trees. The focus of this report will be the medians with trees.

The Bridgeway landscaped medians begin at an eastern location of Bridgeway between Napa to Easterby Streets. This median includes twenty three (23) *Platanus racemosa*, California Sycamore trees. The next section preceding north is the Olive to Nevada Street median. This median consists of thirty two (32) *Platanus racemosa*, California Sycamore trees. The next median is the Nevada to Harbor Street median consisting of sixteen (16) *Platanus racemosa*, California Sycamore trees. Along the Bridgeway corridor, proceeding to the north is the Harbor to Coloma Street median. This median consists of seven (7) *Platanus racemosa*, California Sycamore trees. Continuing, the next median is the Coloma to Ebbtide /Gate Five Road median with sixteen (16) *Fraxinus angustifolia*, "Raywood Ash" trees. The final median to the north is the Gate Five to Gate Six Road median with two (2) *Fraxinus angustifolia*, "Raywood Ash" trees.

A notation here is that *Fraxinus angustifolia* "Raywood" may include a variety of Modesto or *F. oxycarpa*. These trees also resemble Fraxinus, excelsior *European Ash* especially the variety of "Fan West". It is very likely that the trees maybe a hybrid variety and resemble the European variety. The *Platanus racemosa,* California Sycamore species are, varieties of "Bloodgood" or "Yarwood".

The median trees with the least vitality are in the Napa to Easterby Street median, 23 California Sycamores, and in the Olive to Nevada Street median, 32 California Sycamore trees. These two medians have a soil depth of from six to 12 inches, and multiple layers of road base surface in the entire length of each median. The soil is heavy clay that becomes very dry in the summer months where irrigation is impenetrable and runs off into the traffic lanes. Root growth vital to canopy development and health is stunted in the harsh environment.

The Nevada to Harbor and Harbor to Coloma Street medians have 24 California Sycamore trees in reasonable condition. These two medians and the Sycamore trees have a soil depth greater than Napa to Easterby and Olive to Nevada Street medians. It is possible to manage this group of trees with a maintenance program that would include an irrigation, fertilization, and pruning program, and periodic inspection to assess additional requirements that may be necessary or to adjust the maintenance program.

Gate Five Road to Ebbtide Street and Ebbtide to the North City limits medians include *Fraxinus angustifolia*, Raywood Ash trees. There are 16 trees on the Gate Five to Ebbtide median and 2 trees on the Ebbtide to North City limits median. The Raywood Ash trees appear to be in reasonably good condition despite their harsh environment. Soil is heavy clay and there is a roadbed beneath the trees' root system. The Ash trees have adapted to these conditions, and each of the trees' roots systems have connected or grafted to one another forming root plate reliant to each other.

It is not advised to remove individual trees without affecting the neighboring trees. A management program that includes pruning for thinning and wind loading correction, fertilization, watering, and insect and disease monitoring would benefit their condition and improve tree health.

This concludes the basic general overview of existing trees in the Bridgeway section of the landscaped medians.

RECOMMENDATION AND CONSIDERATIONS:

The report is based on the International Society of Arboriculture class one evaluation performed February 21, 2014.

The two medians with the most abnormal Sycamore trees are Napa to Easterby, and Olive to Nevada Streets medians. Of the 42 once existing trees, 10 have been removed. The remainders are in poor condition with limb dieback and sparse canopies. These trees may not reverse their condition with any amount of maintenance work. It is not advised to remove selected trees and replant individual trees without affecting the trees next to one another. To compound the difficulty, replacement planting would require soil amendments and subsurface pavement removal, adequate irrigation, and fertilization to establish the replacement trees. An option to replacement trees would be to remove existing trees, remove pavement in sections of the medians where trees were removed, amend the soil, and replant with suitable species of trees and knowledgeable research to select suitable trees. The final selection should include a variety of species in opposition to a monoculture.

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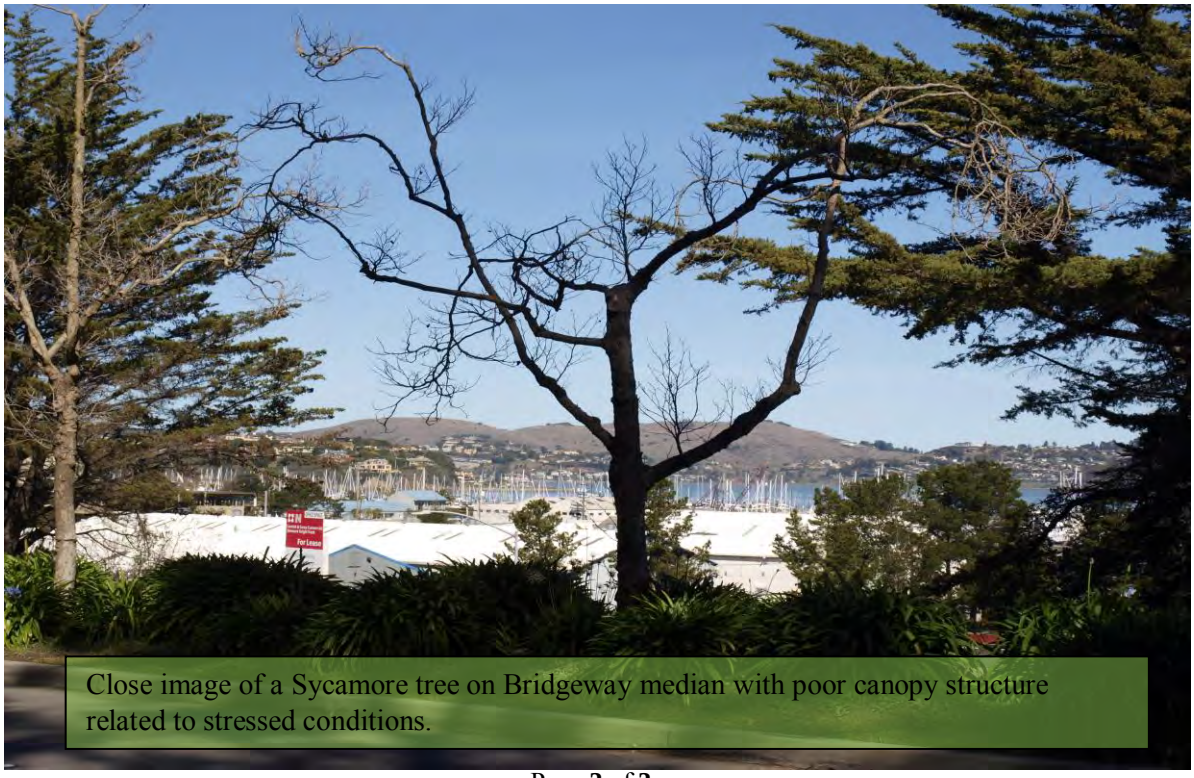
http://www.isa-arbor.com/
American Society of Consulting Arborists, Member, 2000 to present.
http://www.asca-consultants.org/
California Department of Pesticide Regulation, Pest Control Advisor PCA 74846, 1989 to present.
http://capca.com/
City of Sausalito, Municipal Arborist, 1989-2004
Independent Consulting Arborist Services, 2004-present

Olive to Nevada Street median with Sycamore trees before annual foliage appears shows sparce canopy structure.

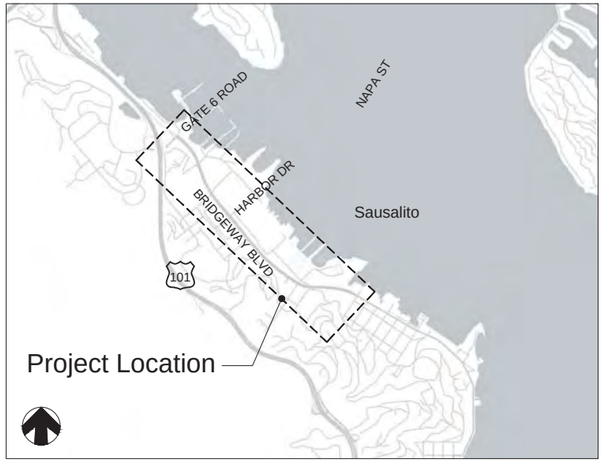


Close image of a Sycamore tree on Bridgeway median with poor canopy structure related to stressed conditions.

Appendix B: Project Plans

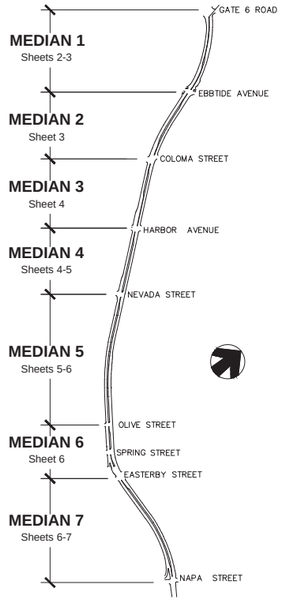
REHABILITATION OF SAUSALITO BRIDGEWAY MEDIANS

Vicinity Map
San Francisco Bay Area



Location Map
Bridgeway - Gate 6 Rd to Napa St

Looking West from Napa St.



Median and Sheet Keyplan

Site Inventory Summary

Soil:

Questa Engineering personnel hand augured holes in the median on the Bridgeway Road between Napa Street and Gate 6 Road in Sausilito, CA on January 7, 2014. Holes were logged for soil profile thicknesses and depth to road baserock. A total of 18 holes where augured and approximately 100 soil probe locations were logged for soil profile and underlying conditions.

Probing of the medians revealed 0.5' to 1.5' of topsoil overlying road baserock. Hand auguring was carried out at locations of previous and deceased trees. This allowed for the soils underlying the baserock that surrounded the holes created for the trees to be penetrated. Under the topsoil was silty sand and/or clayey sand (1-2' thick) and at the bottom of the holes a silty sandstone bedrock was encountered that could not be penetrated (2-3.5' BGS).

Evaluating our observations reveals what had been previously suspects of the existing soil profile. That is, the soil depth within the medians is limited to 0.5'-1.5' on top of the former asphalt bed except in locations adjacent to trees, or where a tree had been previously. In these locations where the former asphalt road bed may have been windowed, soil depth was found to be 2.0'-3.5' on top of the underlying bedrock. From probing adjacent to the trees, we estimate the windowed areas to be about 3' in diameter.

Vegetation:

The Bridgeway medians from Gate 6 Road to Napa St. consist of an incongruous mix of shrub plantings and lawn under an established canopy ash and planetrees.
There are 18 ash trees between Gate 6 Road and Coloma St, and 78 planetrees from Coloma St and Napa St. Compared with a road striping plan from 7/2002 which included existing trees, 13 trees have since been removed, possibly due to poor soil conditions.

With the exception of the median between Nevada St and Olive St planted with agapanthus, much of the shrub plantings have outgrown their planting areas and require shearing to maintain safe access along the curbs for maintenance personnel. There is a great potential in these areas for landscape improvements that would reduce maintenance and water use while improving safety and appearance.

The agapanthus plantings between Nevada St and Olive St were in good condition and did not appear to require trimming to keep the plants from the roadway. Because of the low maintenance and water requirements, this median could be considered a lower priority area for plant replacement.

Between Ebbtide Ave and Coloma St and between Easterby St and Napa St the medians are almost entirely turfgrass and trees. The grass in these medians appear to be in good condition, though replacing the turfgrass with an alternative would reduce required water use and maintenance.

Plants selected for any landscape improvements would need to have tolerance for shallow soil depth, poor drainage, and the street environment.

Hand Auger Soil Exploration Results

Hole #	Topsoil Thickness (feet)	Clayey Sand w/gravel Thickness (feet)	Silty Sand w/gravel Thickness (feet)	Silty Sandstone Bedrock (BGS)	Roadbase (BGS)
HA-1	1.5	-	-	-	At 1.5'
HA-2	1.5	1	1	At 3.5'	-
HA-3	1.5	0.5	1	At 3'	-
HA-4	1.5	-	-	-	-
HA-5	1.5	1	-	At 2.5'	-
HA-6	1	1.5	-	At 2.5'	-
HA-7	1.5	-	1	At 2.5'	-
HA-8	1.5	-	-	-	At 1.5'
HA-9	1.5	0.75	0.75	At 3'	-
HA-10	1.5	0.75	0.75	At 3'	-
HA-11	1.5	-	-	-	At 1.5'
HA-12	1.5	-	-	-	At 1.5'
HA-13	1.5	-	-	-	At 1.5'
HA-14	1	-	1.25	At 2.25'	-
HA-15	1	0.5	0.5	At 2'	-
HA-16	1	-	-	-	At 1'
HA-17	1	1	1	At 3'	-
HA-18	0.5	-	-		At 0.5'

Hand Auger Hole 17

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0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO SCALE – ADJUST ACCORDINGLY

TITLE SHEET
EXISTING CONDITIONS
REHABILITATION OF SAUSALITO BRIDGEWAY MEDIANS PROJECT
GATE 6 ROAD TO NAPA STREET

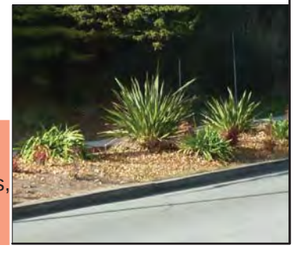
20 0 20 40
SCALE IN FEET
1 inch = 20 feet

LEGEND

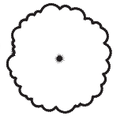
- BFP — BACKFLOW PREVENTER
- CVB — CONTROL VALVE BOX
- HA-1 — SOIL HAND AUGER SITE
- PLANTING/PAVER AREA
- REMOVED TREE
- EXISTING ASH TREE
- EXISTING PLANETREE

Grasses
Pennisetum

Shrubs
Agapanthus,
Dietes,
Nandina



Trees
Fraxinus (Ash)



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SHEET 2
EXISTING CONDITIONS DIAGRAM - MEDIAN 1
REHABILITATION OF SAUSALITO BRIDGEWAY MEDIANS PROJECT
GATE 6 ROAD TO NAPA STREET

RIGHT OF WAY

MATCHLINE - SEE SHEET 2

6 PLATANUS TREES IN PLANTING STRIP

MEDIAN 1

HA-1

2 REDWOOD TREES ON HILL

EBBTIDE AVENUE

RIGHT OF WAY

2 PLATANUS IN PLANTING STRIP

4 PLATANUS IN WALKWAY

MEDIAN 2

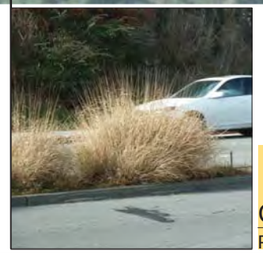
HA-2

MATCHLINE - SEE BELOW

4 PLATANUS IN WALKWAY

20 0 20 40
SCALE IN FEET
1 inch = 20 feet

Shrubs
Lavendula



Grasses
Pennisetum

Pavers
Brick

Groundcover
Turfgrass

Trees
Fraxinus (Ash)

MATCHLINE - SEE ABOVE

MEDIAN 2

CVB

HA-3

COLOMA STREET

MATCHLINE - SEE SHEET 4

4 PLATANUS IN WALKWAY

RIGHT OF WAY

20 0 20 40
SCALE IN FEET
1 inch = 20 feet

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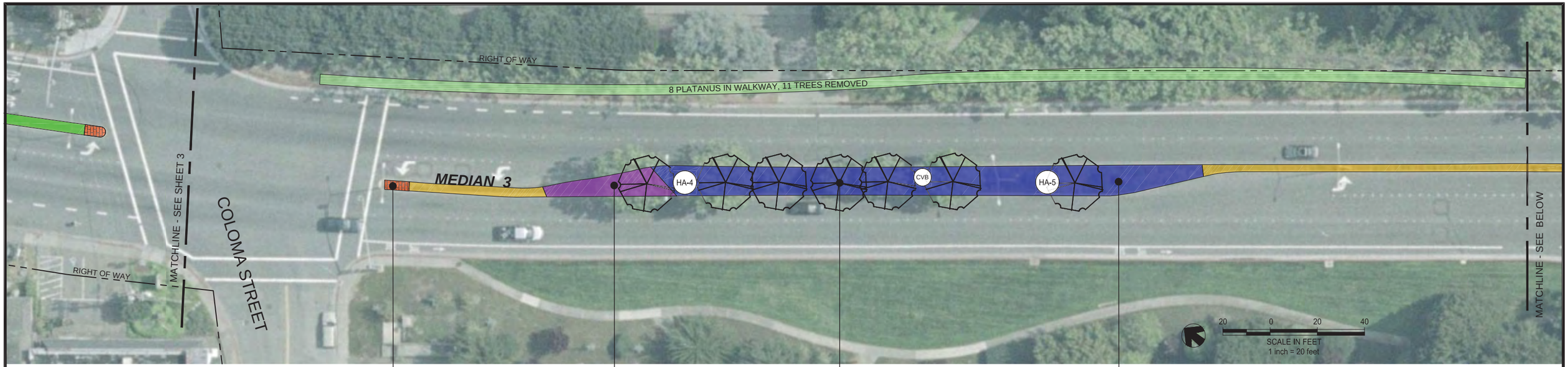
SHEET 3
EXISTING CONDITIONS DIAGRAM - MEDIANS 1 & 2
REHABILITATION OF SAUSALITO BRIDGEWAY MEDIANS PROJECT
CITY OF SAUSALITO



Grasses
Pennisetum

Pavers
Brick

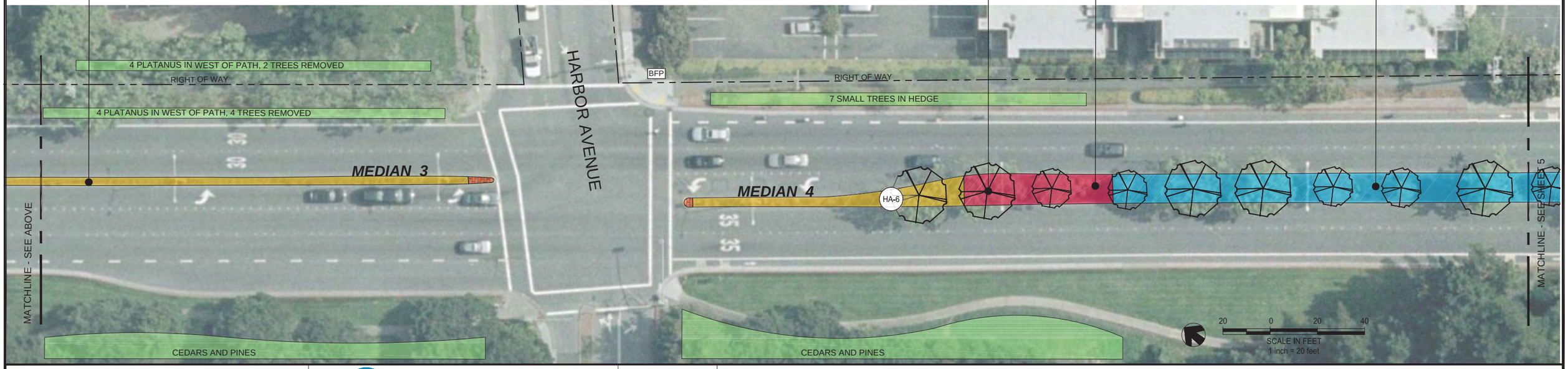
Shrubs
Lavendula

Trees
Platanus
(Planetree)

Shrubs
Ceanothus,
Erigeron,
Abelia, Calla

Shrubs
Nandina,
Berberis,
Dietes

Shrubs
Ceanothus,
Arctostaphylos
Dietes



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SHEET 4

EXISTING CONDITIONS DIAGRAM - MEDIANS 3 & 4

REHABILITATION OF SAUSALITO BRIDGEWAY MEDIANS PROJECT
CITY OF SAUSALITO

MIXED HILLSIDE VEGETATION

RIGHT OF WAY

MEDIAN 4

MEDIAN 5

CVB

HA-7

MATCHLINE - SEE SHEET 4

NEVADA STREET

MATCHLINE - SEE BELOW

20 0 20 40

SCALE IN FEET
1 inch = 20 feet

Trees
Platanus
(Planetree)

Shrubs
Arctostaphylos,
Ceanothus,
Dietes,
Westringia

Shrubs
Lavendula,
Erigeron,
Miscanthus

Pavers
Brick

Shrubs
Agapanthus

8 TREES, CYPRESS, PINE, MAPLE

RIGHT OF WAY

MATCHLINE - SEE ABOVE

MATCHLINE - SEE SHEET 6

MEDIAN 5

BFP

CVB

HA-8

MIXED HILLSIDE VEGETATION

20 0 20 40

SCALE IN FEET
1 inch = 20 feet

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SHEET 5

EXISTING CONDITIONS DIAGRAM - MEDIANS 4 & 5

REHABILITATION OF SAUSALITO BRIDGEWAY MEDIANS PROJECT

CITY OF SAUSALITO

LAST SAVED: 2/13/2014 PLOT DATE: 2/13/2014 PLOT STYLE: QUESTA-COLOR-255.CTB
P:\2013\13001#8_SAUSALITO_MEDIANS\CAD\13001#8_SAUSALITO MEDIANS_EXISTING COND.DWG

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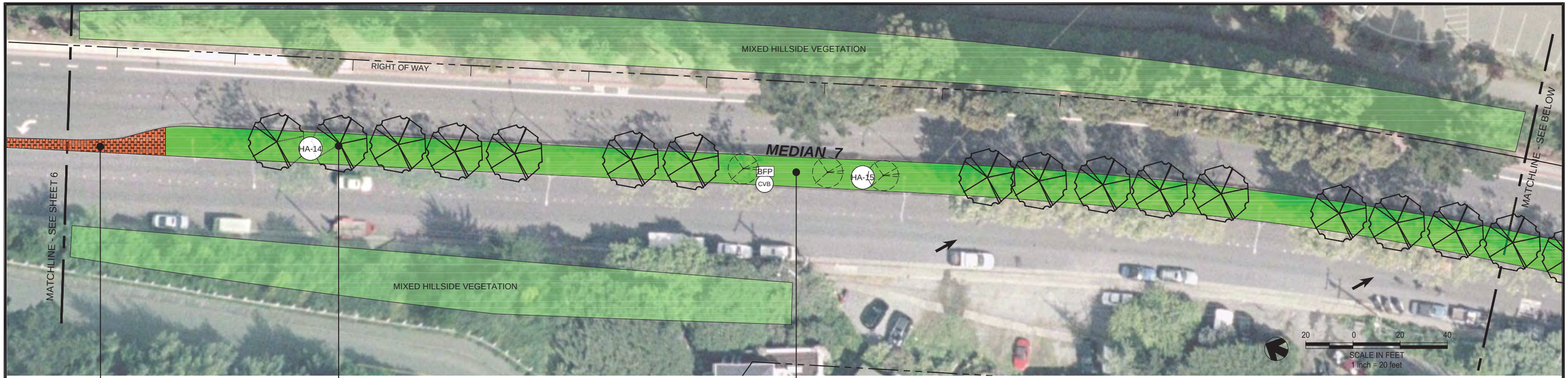
SHEET 6

EXISTING CONDITIONS DIAGRAM - MEDIANS 5,6 & 7

REHABILITATION OF SAUSALITO BRIDGEWAY MEDIANS PROJECT

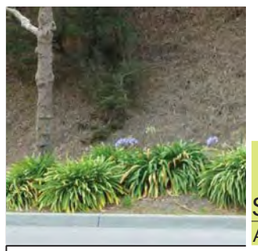
CITY OF SAUSALITO



Pavers
Brick

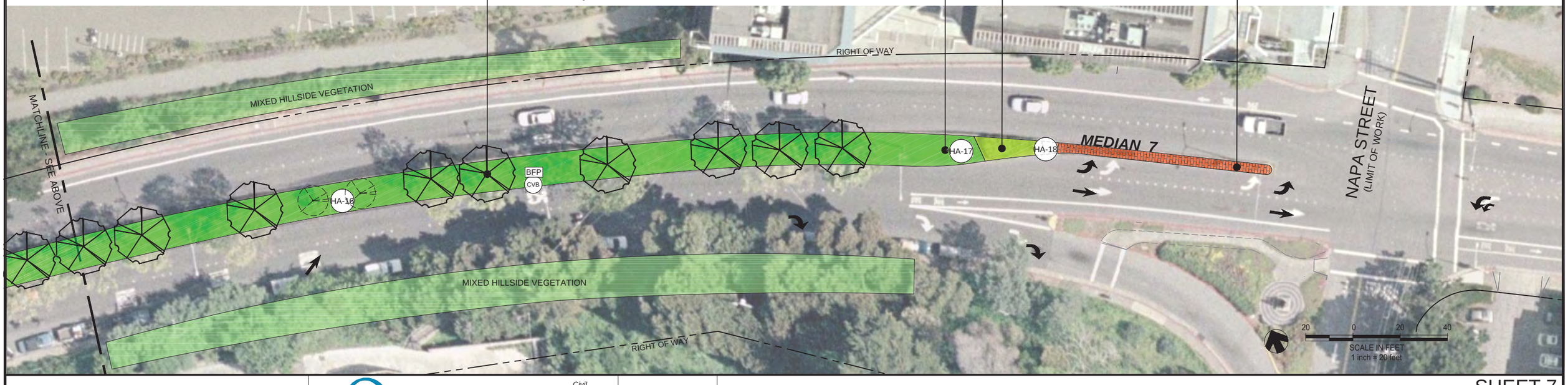
Trees
Platanus
(Planetree)

Groundcover
Turfgrass



Shrubs
Agapanthus

Pavers
Brick



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SHEET 7
EXISTING CONDITIONS DIAGRAM - MEDIAN 7
REHABILITATION OF SAUSALITO BRIDGEWAY MEDIANS PROJECT
CITY OF SAUSALITO

Appendix C: Blooming Bridgeway Plant Palette

BRIDGEWAY NORTHWEST CORNER PLANTS

2	Achillea millefolium 'Island Pink' ISLAND PINK YARROW
3	Arctostaphylos 'Pacific Mist' PACIFIC MIST MANZANITA
75	Baccharis pilularis 'Twin Peaks #2' TWIN PEAKS COYOTE BRUSH
12	Ceanothus gloriosus porrectus 'Mt. Vision' MT. VISION CEANOTHUS
3	Ceanothus griseus 'Anchor Bay' ANCHOR BAY CEANOTHUS
13	Eschscholzia californica maritima COASTAL CALIFORNIA POPPY
3	Erigeron glaucus SEASIDE DAISY
4	Erigeron glaucus 'Sea Breeze' SEA BREEZE SEASIDE DAISY
4	Festuca californica CALIFORNIA FESCUE
10	Festuca idahoensis 'Stony Creek' STONY CREEK FESCUE
13	Grindelia stricta platyphylla SPREADING GUM PLANT
1	Rhamnus californica (local form) COFFEEBERRY + R.c. 'Seaview'
9	Salvia leucophylla 'Amethyst Bluff' AMETHYST BLUFF PURPLE SAGE
sev.	Salvia spathacea HUMMINGBIRD SAGE (cuttings)
15	Salvia 'Starlight' STARLIGHT SAGE
3	Sidalcea malviflora (prostrate form) CHECKERBLOOM
8	Woodwardia fimbriata
7	Zauschneria californica (Epilobium canum) 'Everett's Choice' CALIFORNIA FUCHSIA

SUGGESTIONS

REPLACE SYCAMORES with Olea europaea 'Swan Hill' SWAN HILL OLIVE in 24-in. boxes

ADD more Pennisetum 'Tall Tails' or use Muhlenbergia rigens DEER GRASS.

MEDIAN CONCEPT: Replace Sycamores with SH Olives. Add /divide Agapanthus. Add large boulders (Sonoma fieldstone). Mulch thickly. Add low-growing plants from above list and/or other suitable manzanitas, California lilacs, and annual grasses, annuals, and perennials.

GREEN MAN GARDEN DESIGN + CONSULTATION – TOM WILHITE – 415-332-3545

Appendix D: Preliminary Project Costs

PRELIMINARY ESTIMATE OF CONSTRUCTION COSTS
SAUSALITO BRIDGEWAY MEDIANS

Median 1: Gate 6 Road to Ebbtide Avenue, Size: 4,350 ft²					
Item No.	**Item Description**	**Unit**	**Quantity**	**Unit Price**	**Item Total**
1	**Mobilization***	LS	1	$4,000	**$4,000**
2A	**Tree Rehabilitation - Aeration/Pruning, Median**	EA	2	$450.00	**$900**
2B	**Tree Rehabilitation - Aeration/Pruning, East Side**	EA		$450.00	**$0**
2C	**Tree Rehabilitation - Aeration/Pruning, West Side**	EA		$450.00	**$0**
2D	**Tree Removal - Cut & Grind Stump 8"-12", Median**	EA		$900.00	**$0**
2E	**Tree Removal - Cut & Grind Stump 8"-12", East Side**	EA	21	$900.00	**$18,900**
2F	**Tree Removal - Cut & Grind Stump 8"-12", West Side**	EA		$900.00	**$0**
2G	**Tree Removal - Excavate Plant Pit, Median**	EA		$1,400.00	**$0**
2H	**Tree Removal - Excavate Plant Pit, East Side**	EA		$1,400.00	**$0**
2I	**Tree Removal - Excavate Plant Pit, West Side**	EA		$1,400.00	**$0**
3	**Irrigation/Utility Renovation**	SF		$0.50	**$0**
4A	**Rehabilitate/Replace Existing Pavers**	SF		$10.00	**$0**
4B	**New Permeable Pavement**	SF	300	$20.00	**$6,000**
4C	**Repair AC Tree Wells**	EA		$500.00	**$0**
5A	**Planting - Shrubs/Ground Cover**	SF		$5.00	**$0**
5B	**Planting - Trees**	EA	42	$600.00	**$25,200**
5C	**Mulch**	SF	1,600	$0.50	**$800**
					$0
					$0
					$0
					$0
					$0
				SUBTOTAL	**$55,800**
				15% Design	$8,370
				15% Construction Management	$8,370
				15% Construction Contingency	$8,370
				TOTAL COST ESTIMATE	**$80,900**

** Includes demolition, traffic control, and utility coordination*

PRELIMINARY ESTIMATE OF CONSTRUCTION COSTS
SAUSALITO BRIDGEWAY MEDIANS

Median 2: Ebbtide Avenue to Coloma Street, Size: 7,400 ft²					
Item No.	**Item Description**	**Unit**	**Quantity**	**Unit Price**	**Item Total**
1	**Mobilization***	LS	1	$4,000	**$4,000**
2A	**Tree Rehabilitation - Aeration/Pruning, Median**	EA	16	$450.00	**$7,200**
2B	**Tree Rehabilitation - Aeration/Pruning, East Side**	EA		$450.00	**$0**
2C	**Tree Rehabilitation - Aeration/Pruning, West Side**	EA		$450.00	**$0**
2D	**Tree Removal - Cut & Grind Stump 8"-12", Median**	EA		$900.00	**$0**
2E	**Tree Removal - Cut & Grind Stump 8"-12", East Side**	EA	2	$900.00	**$1,800**
2F	**Tree Removal - Cut & Grind Stump 8"-12", West Side**	EA	8	$900.00	**$7,200**
2G	**Tree Removal - Excavate Plant Pit, Median**	EA		$1,400.00	**$0**
2H	**Tree Removal - Excavate Plant Pit, East Side**	EA	4	$1,400.00	**$5,600**
2I	**Tree Removal - Excavate Plant Pit, West Side**	EA		$1,400.00	**$0**
3	**Irrigation/Utility Renovation**	SF	6,000	$0.50	**$3,000**
4A	**Rehabilitate/Replace Existing Pavers**	SF	6,000	$10.00	**$60,000**
4B	**New Permeable Pavement**	SF	1,400	$20.00	**$28,000**
4C	**Repair AC Tree Wells**	EA	4	$500.00	**$2,000**
5A	**Planting - Shrubs/Ground Cover**	SF	6,000	$5.00	**$30,000**
5B	**Planting - Trees**	EA	12	$600.00	**$7,200**
5C	**Mulch**	SF	6,000	$0.50	**$3,000**
					$0
					$0
					$0
					$0
					$0
				SUBTOTAL	**$159,000**
				15% Design	$23,850
				15% Construction Management	$23,850
				15% Construction Contingency	$23,850
				TOTAL COST ESTIMATE	**$230,600**

** Includes demolition, traffic control, and utility coordination*

PRELIMINARY ESTIMATE OF CONSTRUCTION COSTS
SAUSALITO BRIDGEWAY MEDIANS

Median 3: Coloma Street to Harbor Avenue, Size: 4,500 ft²					
Item No.	**Item Description**	**Unit**	**Quantity**	**Unit Price**	**Item Total**
1	**Mobilization***	LS	1	$4,000	**$4,000**
2A	**Tree Rehabilitation - Aeration/Pruning, Median**	EA	7	$450.00	**$3,150**
2B	**Tree Rehabilitation - Aeration/Pruning, East Side**	EA		$450.00	**$0**
2C	**Tree Rehabilitation - Aeration/Pruning, West Side**	EA		$450.00	**$0**
2D	**Tree Removal - Cut & Grind Stump 8"-12", Median**	EA		$900.00	**$0**
2E	**Tree Removal - Cut & Grind Stump 8"-12", East Side**	EA	8	$900.00	**$7,200**
2F	**Tree Removal - Cut & Grind Stump 8"-12", West Side**	EA		$900.00	**$0**
2G	**Tree Removal - Excavate Plant Pit, Median**	EA		$1,400.00	**$0**
2H	**Tree Removal - Excavate Plant Pit, East Side**	EA	15	$1,400.00	**$21,000**
2I	**Tree Removal - Excavate Plant Pit, West Side**	EA		$1,400.00	**$0**
3	**Irrigation/Utility Renovation**	SF	3,300	$0.50	**$1,650**
4A	**Rehabilitate/Replace Existing Pavers**	SF	75	$10.00	**$750**
4B	**New Permeable Pavement**	SF	550	$20.00	**$11,000**
4C	**Repair AC Tree Wells**	EA	15	$500.00	**$7,500**
5A	**Planting - Shrubs/Ground Cover**	SF	3,300	$5.00	**$16,500**
5B	**Planting - Trees**	EA	53	$600.00	**$31,800**
5C	**Mulch**	SF	3,300	$0.50	**$1,650**
					$0
					$0
					$0
					$0
					$0
				SUBTOTAL	**$106,200**
				15% Design	$15,930
				15% Construction Management	$15,930
				15% Construction Contingency	$15,930
				TOTAL COST ESTIMATE	**$154,000**

** Includes demolition, traffic control, and utility coordination*

PRELIMINARY ESTIMATE OF CONSTRUCTION COSTS
SAUSALITO BRIDGEWAY MEDIANS

Median 4: Harbor Avenue to Nevada Street, Size: 7,700 ft²					
Item No.	**Item Description**	**Unit**	**Quantity**	**Unit Price**	**Item Total**
1	**Mobilization***	LS	1	$4,000	**$4,000**
2A	**Tree Rehabilitation - Aeration/Pruning, Median**	EA	16	$450.00	**$7,200**
2B	**Tree Rehabilitation - Aeration/Pruning, East Side**	EA		$450.00	**$0**
2C	**Tree Rehabilitation - Aeration/Pruning, West Side**	EA		$450.00	**$0**
2D	**Tree Removal - Cut & Grind Stump 8"-12", Median**	EA		$900.00	**$0**
2E	**Tree Removal - Cut & Grind Stump 8"-12", East Side**	EA	7	$900.00	**$6,300**
2F	**Tree Removal - Cut & Grind Stump 8"-12", West Side**	EA		$900.00	**$0**
2G	**Tree Removal - Excavate Plant Pit, Median**	EA		$1,400.00	**$0**
2H	**Tree Removal - Excavate Plant Pit, East Side**	EA		$1,400.00	**$0**
2I	**Tree Removal - Excavate Plant Pit, West Side**	EA		$1,400.00	**$0**
3	**Irrigation/Utility Renovation**	SF	6,000	$0.50	**$3,000**
4A	**Rehabilitate/Replace Existing Pavers**	SF	85	$10.00	**$850**
4B	**New Permeable Pavement**	SF	1,100	$20.00	**$22,000**
4C	**Repair AC Tree Wells**	EA		$500.00	**$0**
5A	**Planting - Shrubs/Ground Cover**	SF	6,000	$5.00	**$30,000**
5B	**Planting - Trees**	EA	29	$600.00	**$17,400**
5C	**Mulch**	SF	6,000	$0.50	**$3,000**
					$0
					$0
					$0
					$0
					$0
				SUBTOTAL	**$93,750**
				15% Design	$14,063
				15% Construction Management	$14,063
				15% Construction Contingency	$14,063
				TOTAL COST ESTIMATE	**$135,900**

** Includes demolition, traffic control, and utility coordination*

PRELIMINARY ESTIMATE OF CONSTRUCTION COSTS
SAUSALITO BRIDGEWAY MEDIANS

Median 5: Nevada Street to Olive Street, Size: 15,100 ft²					
Item No.	**Item Description**	**Unit**	**Quantity**	**Unit Price**	**Item Total**
1	**Mobilization***	LS	1	$4,000	**$4,000**
2A	**Tree Rehabilitation - Aeration/Pruning, Median**	EA		$450.00	**$0**
2B	**Tree Rehabilitation - Aeration/Pruning, East Side**	EA		$450.00	**$0**
2C	**Tree Rehabilitation - Aeration/Pruning, West Side**	EA		$450.00	**$0**
2D	**Tree Removal - Cut & Grind Stump 8"-12", Median**	EA	32	$900.00	**$28,800**
2E	**Tree Removal - Cut & Grind Stump 8"-12", East Side**	EA		$900.00	**$0**
2F	**Tree Removal - Cut & Grind Stump 8"-12", West Side**	EA		$900.00	**$0**
2G	**Tree Removal - Excavate Plant Pit, Median**	EA		$1,400.00	**$0**
2H	**Tree Removal - Excavate Plant Pit, East Side**	EA		$1,400.00	**$0**
2I	**Tree Removal - Excavate Plant Pit, West Side**	EA		$1,400.00	**$0**
3	**Irrigation/Utility Renovation**	SF		$0.50	**$0**
4A	**Rehabilitate/Replace Existing Pavers**	SF	500	$10.00	**$5,000**
4B	**New Permeable Pavement**	SF		$20.00	**$0**
4C	**Repair AC Tree Wells**	EA		$500.00	**$0**
5A	**Planting - Shrubs/Ground Cover**	SF	300	$5.00	**$1,500**
5B	**Planting - Trees**	EA	32	$600.00	**$19,200**
5C	**Mulch**	SF	8,000	$0.50	**$4,000**
					$0
					$0
					$0
					$0
					$0
				SUBTOTAL	**$62,500**
				15% Design	$9,375
				15% Construction Management	$9,375
				15% Construction Contingency	$9,375
				TOTAL COST ESTIMATE	**$90,600**

** Includes demolition, traffic control, and utility coordination*

PRELIMINARY ESTIMATE OF CONSTRUCTION COSTS
SAUSALITO BRIDGEWAY MEDIANS

Median 6: Olive Street to Easterby Street (2 Islands), Size: 3,300 ft²					
Item No.	**Item Description**	**Unit**	**Quantity**	**Unit Price**	**Item Total**
1	**Mobilization***	LS	1	$4,000	**$4,000**
2A	**Tree Rehabilitation - Aeration/Pruning, Median**	EA		$450.00	**$0**
2B	**Tree Rehabilitation - Aeration/Pruning, East Side**	EA		$450.00	**$0**
2C	**Tree Rehabilitation - Aeration/Pruning, West Side**	EA		$450.00	**$0**
2D	**Tree Removal - Cut & Grind Stump 8"-12", Median**	EA		$900.00	**$0**
2E	**Tree Removal - Cut & Grind Stump 8"-12", East Side**	EA		$900.00	**$0**
2F	**Tree Removal - Cut & Grind Stump 8"-12", West Side**	EA	7	$900.00	**$6,300**
2G	**Tree Removal - Excavate Plant Pit, Median**	EA		$1,400.00	**$0**
2H	**Tree Removal - Excavate Plant Pit, East Side**	EA		$1,400.00	**$0**
2I	**Tree Removal - Excavate Plant Pit, West Side**	EA		$1,400.00	**$0**
3	**Irrigation/Utility Renovation**	SF	1,500	$0.50	**$750**
4A	**Rehabilitate/Replace Existing Pavers**	SF	725	$10.00	**$7,250**
4B	**New Permeable Pavement**	SF	750	$20.00	**$15,000**
4C	**Repair AC Tree Wells**	EA		$500.00	**$0**
5A	**Planting - Shrubs/Ground Cover**	SF	1,500	$5.00	**$7,500**
5B	**Planting - Trees**	EA	7	$600.00	**$4,200**
5C	**Mulch**	SF	1,500	$0.50	**$750**
					$0
					$0
					$0
					$0
					$0
				SUBTOTAL	**$45,750**
				15% Design	$6,863
				15% Construction Management	$6,863
				15% Construction Contingency	$6,863
				TOTAL COST ESTIMATE	**$66,300**

** Includes demolition, traffic control, and utility coordination*

PRELIMINARY ESTIMATE OF CONSTRUCTION COSTS
SAUSALITO BRIDGEWAY MEDIANS

Median 7: Easterby Street to Napa Street, Size: 13,750 ft²					
Item No.	**Item Description**	**Unit**	**Quantity**	**Unit Price**	**Item Total**
1	**Mobilization***	LS	1	$4,000	**$4,000**
2A	**Tree Rehabilitation - Aeration/Pruning, Median**	EA		$450.00	**$0**
2B	**Tree Rehabilitation - Aeration/Pruning, East Side**	EA		$450.00	**$0**
2C	**Tree Rehabilitation - Aeration/Pruning, West Side**	EA		$450.00	**$0**
2D	**Tree Removal - Cut & Grind Stump 8"-12", Median**	EA	23	$900.00	**$20,700**
2E	**Tree Removal - Cut & Grind Stump 8"-12", East Side**	EA		$900.00	**$0**
2F	**Tree Removal - Cut & Grind Stump 8"-12", West Side**	EA		$900.00	**$0**
2G	**Tree Removal - Excavate Plant Pit, Median**	EA		$1,400.00	**$0**
2H	**Tree Removal - Excavate Plant Pit, East Side**	EA		$1,400.00	**$0**
2I	**Tree Removal - Excavate Plant Pit, West Side**	EA		$1,400.00	**$0**
3	**Irrigation/Utility Renovation**	SF	10,000	$0.50	**$5,000**
4A	**Rehabilitate/Replace Existing Pavers**	SF	1,100	$10.00	**$11,000**
4B	**New Permeable Pavement**	SF	2,400	$20.00	**$48,000**
4C	**Repair AC Tree Wells**	EA		$500.00	**$0**
5A	**Planting - Shrubs/Ground Cover**	SF	10,000	$5.00	**$50,000**
5B	**Planting - Trees**	EA	24	$600.00	**$14,400**
5C	**Mulch**	SF	10,000	$0.50	**$5,000**
					$0
					$0
					$0
					$0
					$0
				SUBTOTAL	**$158,100**
				15% Design	$23,715
				15% Construction Management	$23,715
				15% Construction Contingency	$23,715
				TOTAL COST ESTIMATE	**$229,200**

** Includes demolition, traffic control, and utility coordination*

PRELIMINARY ESTIMATE OF CONSTRUCTION COSTS
SAUSALITO BRIDGEWAY MEDIANS

Combined Median Totals					
Item No.	**Item Description**	**Unit**	**Quantity**	**Unit Price**	**Item Total**
1	**Mobilization***	LS	7	$4,000	**$28,000**
2A	**Tree Rehabilitation - Aeration/Pruning, Median**	EA	41	$450.00	**$18,450**
2B	**Tree Rehabilitation - Aeration/Pruning, East Side**	EA	0	$450.00	**$0**
2C	**Tree Rehabilitation - Aeration/Pruning, West Side**	EA	0	$450.00	**$0**
2D	**Tree Removal - Cut & Grind Stump 8"-12", Median**	EA	55	$900.00	**$49,500**
2E	**Tree Removal - Cut & Grind Stump 8"-12", East Side**	EA	38	$900.00	**$34,200**
2F	**Tree Removal - Cut & Grind Stump 8"-12", West Side**	EA	15	$900.00	**$13,500**
2G	**Tree Removal - Excavate Plant Pit, Median**	EA	0	$1,400.00	**$0**
2H	**Tree Removal - Excavate Plant Pit, East Side**	EA	19	$1,400.00	**$26,600**
2I	**Tree Removal - Excavate Plant Pit, West Side**	EA	0	$1,400.00	**$0**
3	**Irrigation/Utility Renovation**	LS	26,800	$0.50	**$13,400**
4A	**Rehabilitate/Replace Existing Pavers**	SF	8,485	$10.00	**$84,850**
4B	**New Permeable Pavement**	SF	6,500	$20.00	**$130,000**
4C	**Repair AC Tree Wells**	EA	19	$500.00	**$9,500**
5A	**Planting - Shrubs/Ground Cover**	SF	27,100	$5.00	**$135,500**
5B	**Planting - Trees**	EA	199	$600.00	**$119,400**
5C	**Mulch**	SF	36,400	$0.50	**$18,200**
			0		**$0**
			0		**$0**
			0		**$0**
			0		**$0**
			0		**$0**
				SUBTOTAL	**$681,100**
				15% Design	$102,165
				15% Construction Management	$102,165
				15% Construction Contingency	$102,165
				TOTAL COST ESTIMATE	**$987,600**

** Includes demolition, traffic control, and utility coordination*

Attachment 2

Median Improvement Proposal from Median Committee

Date: July 14, 2016

To: Jonathon Goldman and Loren Umbertis
cc: Tom Wilhite

From: Medians Committee, Sausalito Beautiful

Subject: Use of $40,000 Approved Capital Improvements Funds from FY16-17' Budget for Rejuvenation of Identified Sections of Medians 3 and Initial Steps in the Rejuvenation of Median 4; and

Use of Private Funding for complete rejuvenation of Median 6.

INTRODUCTION

For FY16-17 $40,000 was approved by the City Council from the Capital Improvements budget for the Medians and $40,000 is anticipated to be approved in the subsequent years through FY18-19 with no funds for a comprehensive re-do of all Medians in the foreseeable future. Accordingly, the Sausalito Beautiful Medians Committee is proposing rejuvenation of sections identified by Tom Wilhite and the Committee in Medians 3 and 4 and the complete re-do of Median 6 using private funding. Also, use of any excess dollars in FY16-17 for Medians is set-forth.

IDENTIFICATION OF AREAS AND CONTEMPLATED SCOPE OF WORK

- **Median 3** (Coloma to Harbor)

The Committee proposes that a section of Median 3 be rejuvenated by removing four dying Sycamores, digging out old, woody shrubs, replacing soil, planting new shrubs and placing one or more boulders. The greater part of the plantings in Median 3 will remain and the only new element to be introduced will be one or more boulders. FY16-17 funds would be used to contract out this work.

The proposal to remove 4 small Sycamores in the proposed section to be rejuvenated is based on observations with Tom Wilhite on July 3, 2016, oral observations made by Arborist Juan Ochoa of Bartlett Tree Experts in 2015 in connection with pruning and fertilizing Bridgeway Sycamores and a written report by Arborist Ed Gurka in February 2014 that accompanied the Questa report entitled "Rehabilitation of Sausalito Bridgeway Medians."

• **Median 4** (Harbor to Nevada)

Dig out the dead/dying/overgrown shrubs and weeds in a defined long section of this Median 4, place a few boulders and sheet mulch the remaining cleaned out space. Let the sheet mulching rest for a year and install plants in the fall of 2017. FY16-17 funds would be used in the initial phase and FY17-18 funds to complete this rejuvenation.

• **Median 6** (Olive to Spring)

A complete re-do of this Median including removal and replacement of existing plantings, soil and irrigation, as needed, new planting of shrubs and possibly placement of boulders funded by private donations to Sausalito Beautiful. Additional funds will be solicited once we have a conceptual plan for this Median.

Use of any excess FY16-17 Capital Improvement Funds

• **Median 2** (Ebbtide to Coloma) sheet mulch to enrich soil;

• **Median 7** (Easterby to Napa) sheet mulch to enrich soil;

• **Median 1** (Gate 6 Rd. to Ebbtide) sheet mulch around/under two Ash trees;

(Median 5 (Nevada St. to Olive) No work is contemplated as the Agapanthus plants are in healthy condition.)

IMPLEMENTATION

The Medians Committee is proposing that the City soon enter into a contract with Tom Wilhite along the lines set forth below in the amount not to exceed $10,000 but billed on an hourly rate to develop and oversee the proposed work which would be contracted out to a Landscape Maintenance firm. (It is contemplated that $30,000 would cover the above described work for Medians 3 and 4 possibly with some excess to do additional sheet mulching in Medians 2, 7 or 1.)

Meg met with Tom on July 3, 2016 to identify the scope of work contemplated and to determine his availability to undertake the responsibilities he outlined in an undated draft “Proposal For the Beautification of Bridgeway.” The Steps outlined in that proposal and the Costs for his services, now increased to an hourly rate of $150, are set forth below. Additionally, Meg’s discussion with Tom confirmed that he could prepare a visual to present placement of contemplated boulders and plant specimens for Medians 3, 4

and 6 and that he would be receptive to comments and suggestions regarding these matters. However, the basic concept is that tough, drought tolerant shrubs will be used to the extent aesthetically satisfactory with emphasis on low maintenance and that boulders would be a part of the design.

STEPS Tom will undertake as outlined in the above referenced "Proposal for the Beautification of Bridgeway" and orally agreed to at the meeting with Meg on July 3, 2016. Comments from Meg on various Steps follow in all caps.

"1. Identify highly visible spots along Bridgeway that look especially neglected." SECTIONS 3, 4 AND 6 HAVE BEEN IDENTIFIED.

"2. Weed each site by digging out large, shrubby weeds (like Scotch broom) and weed-whacking smaller ones (like grasses) to the ground." TOM WILL DIRECT/OVERSEE THE CONTRACTED LANDSCAPING FIRM'S DIGGING OUT OF WOODY, OLD, OVERGROWN SHRUBS AND WEEDS.

"3. Arrange landscape boulders (purchased local stone), partially burying them for a natural look. Check beforehand to make sure there are no buried utility or irrigation lines. There are already a number of boulders along Bridgeway (in front of commercial sites), so this element could be a way of trying together the overall design." TOM WILL DIRECT/OVERSEE THE CONTRACTED LANDSCAPING FIRM'S WORK.

"4. Spread a layer of compost (from the city pile) over the planting area, then cover it with a biodegradable barrier such a grocery bags, cardboard boxes, newspaper, or rolled recycled paper made for this purpose." TOM WILL DIRECT/OVERSEE THE CONTRACTED LANDSCAPING FIRM'S WORK.

"5. Spread a 6-inch thick layer of chipped mulch, either from the city's pile or from a local arborist, over the area and wet it down thoroughly. This will create a weed-free area where the soil will be enriched by the slowly decomposing mulch." TOM WILL DIRECT/OVERSEE THE CONTRACTED LANDSCAPING FIRM'S WORK.

"6. After the first couple of rainfalls (usually in October), install California native plants, with an emphasis on large, fast-growing shrubs that will cover large areas and bloom heavily." TOM WILL DIRECT/OVERSEE INSTALLATION OF DROUGHT RESISTANT PLANTS WHICH MAY INCLUDE SOME NATIVE PLANTS.

"7. If rains are steady, these plants will need no irrigation until the following spring (April or May). Then they'll need a deep soaking twice a month or so during the first dry season, and after that, less and less irrigation will be required. (Eventually, most of the large shrubs will need none.)" IRRIGATION NEEDS WILL BE DETERMINED BASED ON WHICH DROUGHT RESISTANT PLANTS ARE SELECTED.

COSTS: HOURLY BILLING BASED ON THE FOLLOWING SERVICES

- Evaluating each planting site (soil check, buried-line check)
- Choosing boulders and arranging for their delivery
- Placing boulders artistically on the sites
- Overseeing sheet mulching, either with city crew or with a hired crew (see steps 4–5 above)
- Designing plant compositions for each site, taking sun, wind, irrigation, flower color, plant size, and views from Bridgeway into consideration
- Acquiring healthy plants from a native plant nursery. TOM WILL ACQUIRE HEALTHY DROUGHT RESISTANT PLANTS FROM APPROPRIATE NURSERYS.
- Overseeing planting, with the addition of appropriate amendments
- Scheduling water delivery and making sure plants are given the correct amount (tapering off as they are ready). TOM WILL OVERSEE IRRIGATION REQUIREMENTS.

TIMING

We recommend that the City enter into a contract with Tom Wilhite no later than mid-August, so work can commence in early fall. With this, planting and boulder placement can take place in early spring 2017 for Medians 3 and 6 and in late fall 2017 for Median 4.