Welcome to the 2019 Landscape Summit

Valley Water
Clean Water • Healthy Environment • Flood Protection
AGENDA

• Welcome from Valley Water Board of Directors Chair Linda LeZotte and Board Director Richard Santos

• State of the Valley’s Water – Jerry De La Piedra

• Presentations

• Break – Opportunity to Network

• Presentations

• Closing Remarks

• Lunch
Welcome to the 4th Annual Landscape Summit

Santa Clara Valley Water District
Board of Directors

Director Richard Santos
Board Chair Linda LeZotte

Valley Water
Clean Water • Healthy Environment • Flood Protection
State of the Valley’s Water

Jerry De La Piedra
Assistant Officer
Water Supply Division
Santa Clara Valley Water District
California has experienced near-record temperatures in recent years. Source: California Department of Water Resources
The current northern California snowpack is estimated to be at 127% of average. The next manual survey is March 1st.
### 2019/20 Hydrologic and Reservoir Conditions

**HYDROLOGIC CONDITIONS ABOVE AVERAGE**

#### Hydrology As of February 19, 2019

- **Snow Water Equivalent (SWE) (Northern Sierra)**: 23.6 (127%)
- **Northern Sierra Precipitation (PPT) 8-Station Index**: 33.5 (119%)
- **Rainfall in Santa Clara County (San Jose Station)**: 9.4 (118%)

#### Reservoir Storage As of February 19, 2019

- **Shasta**: 105%
- **Oroville**: 78%
- **San Luis**: 112%
- **SCVWD Reservoirs**: 114%
## 2018 Retail Water Use and Reductions

### THE COMMUNITY HAS MET THE CALL FOR 20%!

<table>
<thead>
<tr>
<th></th>
<th>2018 North County Ground water</th>
<th>2018 South County Ground water</th>
<th>Treated Water</th>
<th>SFPUC</th>
<th>SJWC Surface</th>
<th>2018 Monthly Use</th>
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<td>2,333</td>
<td>12,910</td>
<td>5,212</td>
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<td>Sep</td>
<td>5,902</td>
<td>2,051</td>
<td>11,499</td>
<td>4,145</td>
<td>218</td>
<td>23,815</td>
<td>185,118</td>
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<td>Oct</td>
<td>5,428</td>
<td>1,949</td>
<td>10,360</td>
<td>4,237</td>
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<td>Nov</td>
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<td>1,608</td>
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<td>5,464</td>
<td>2,840</td>
<td>911</td>
<td>13,934</td>
<td>240,140</td>
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<td>Jan to Current Totals</td>
<td>57,403</td>
<td>21,103</td>
<td>107,536</td>
<td>45,887</td>
<td>8,211</td>
<td>240,140</td>
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<tr>
<td>%Savings by Source of Supply</td>
<td>33%</td>
<td>9%</td>
<td>15%</td>
<td>16%</td>
<td>-5%</td>
<td>20%</td>
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</tr>
</tbody>
</table>
2019 Initial Local Outlook

35% - Current SWP Allocation (35 TAF)
75% - Initial CVP Allocation
~250 TAF - Semitropic Storage
~350 TAF - End of Year Groundwater Storage

Water Shortage Contingency Plan Stages

- Normal (Stage 1): No water use reductions
- Alert (Stage 2): 0-10% reductions
- Severe (Stage 3): 10% - 20% reductions
- Critical (Stage 4): 20% - 40% reductions
- Emergency (Stage 5): 40% - 50% reductions

Projected 2019 EOY Storage

End of Year Groundwater Storage

Feb 15, 2018
Feb 11, 2019
SCVWD Board of Directors Response

- June 13, 2017, the board extended the call for 20% reductions, but removed recommendations for mandatory actions by retailers and municipalities. They also recommended that many water waste restrictions be permanent and called for making water conservation a way of life.

Continue to make conservation a way of life.
Governor Executive Order

State Board transitions away from monthly and annual percent reductions

Move towards water use efficiency and water budgeting targets after 2020- performance based targets will be in place.
Since the 2018 Summit...

- **Education/Outreach**
  - SouthBayGreenGardens.org
  - Nursery/Irrigation supplier outreach

- **Graywater Contractor Training**
  (Starts **next week**; March 2019 **only**!)
  ecoact.org/greywatercertification/

- **Graywater Direct Install Program**
  for low-income, 60+, US veterans, or people with disabilities
  ecoact.org/greywaterprogram/

- **Graywater Rebate still available**
Since the 2018 Summit...

- **Landscape Rebate**
  - Program Improvements:
    - Rainwater Capture Rebates:
      - Rain barrels
      - Cisterns
      - Rain gardens

- **Research Efforts:**
  - Study to quantify the water savings from Landscape Rebate Program was published online at
    https://www.valleywater.org/saving-water/studies-and-reports
Since the 2018 Summit...

- Water Wise Video Series
  - Lawn Care Tips
  - Leaf Mulching
  - Water Wise Landscape Maintenance
  - More to come!

- Landscape Maintenance Consultation Program Launched in May, 2018

- Landscape Design Assistance Program
Thank you so much!!

Questions?
Santa Clara Valley Water District
Annual Landscape Summit

ReScape California Rated Landscapes Program
February 28, 2019

Sarah Sutton, ASLA, LEED AP, ReScape Rater
Landscape Architect
President, ReScape California Board of Directors
rescape.sarah@gmail.com       rescapeca.org
Key Topics

» ReScape California
» Rated Landscapes Program
» Emphasis on Maintenance
» Environmental Benefits
» Code Integration
» Comparisons to other Rating Systems
Brief History

» Rating system first developed by StopWaste

» Became program of the Bay-Friendly Landscape and Gardening Coalition 2009

» The Coalition rebranded as ReScape California 2015

» Merged with EcoLandscape California 2017
ReScape Rated Landscape Program

What is a Rated Landscape?

- Civic/Commercial and Multi-Family Housing Landscapes
- Irrigated area >2500 SF
- Rater* works with owner and design team and fills out, submits scorecard to ReScape, including all verification documents
- 14 Required credits, plus a minimum score of 60 points
- ReScape reviews final application, issues rating

*3rd Party or In-house
ReScape Rated Landscape Program

» 78 Rated Landscapes in the Bay Area
» Most in Alameda County
» 340 acres total
» 25 Pending Projects

Greenwood Park, Hayward
ReScape Rated Landscape Program

Bay-Friendly
RATING MANUAL
for Civic, Commercial and Multifamily Landscapes
Version 4.1, August 2017

Comprehensive Training and Resources

» Rater Training
» Rating Tools
» Rater’s Council
» Desk Audits
» Rater Support
Emphasis on Maintenance

Maintenance is Key

» Scorecard encourages holistic maintenance practices

» Maintenance Manual Template provides comprehensive framework

» Rated landscapes will soon require periodic recertification

» Focused Maintenance Training program
Emphasis on Maintenance

Maintenance Credits on Scorecard

» G.1 Include a Bay-Friendly Qualified Professional on the maintenance team.
» G.2 Include the Bay-Friendly Site Analysis in the maintenance manual.
» G.3 Grasscycle.
» G.4 Produce mulch on site from plant trimmings.
» G.5 Produce compost on site from plant trimmings.
» G.6 Do not dispose of plant trimmings in the landfill.
» G.7 Do not shear hedges.
» G.8 Protect soil from compaction.

» G.9 Use quality, organic compost to support plant and soil health.
» G.10 Use only organic fertilizers.
» G.11 Reapply mulch regularly.
» G.12 Read the dedicated irrigation meter or sub-meter and report water use a minimum of once a month.
» G.13 Check irrigation equipment regularly and immediately replace broken equipment.
» G.14 Use integrated pest management during maintenance.
» G.15 Use organic pest management during maintenance.
Emphasis on Maintenance

Maintenance Resources and Tools

» Landscaping Guides and Case Studies

» Spanish version for Grasscycling and Mulch

**A Case Study**

**GRASSCYCLING**

**Del Conte’s Landscaping**

Del Conte’s Landscaping is based in Fremont, California and provides landscaping installation and maintenance, recycling and irrigation services to many Bay Area clients. A staff of 110 year-round and 135 seasonal employees pride themselves on providing exceptional customer service that leads to company growth and profitability.

Owner Tom Del Conte started the company in 1972 as a one-man operation. His business continues to grow and thrive as Tom continues to seek and implement innovative methods for meeting and surpassing the needs of his customers, while growing his bottom line.

Grasscycling is a central practice that Del Conte’s Landscaping employs in order to maintain beautiful and healthy lawns.
Emphasis on Maintenance

Maintenance Resources and Tools

» Landscape Maintenance Manual/Specifications Template

» Encourage clients to prepare and use for:
  ▪ Accurate maintenance bids
  ▪ Quality care to preserve investment
Environmental Benefits

Reduces

» Planting and Construction Waste
» Water & Energy Use
» Erosion & Sedimentation
» Flood & Fire Risk
» Hazardous Chemicals
» Greenhouse Gases
Environmental Benefits

Improves

» Soil Health

» Water Quality in Creeks & the Bay

» Places for Pollinators

» Connections with Nature
Protects Public Health & Water Quality

» Over 33% of non-agricultural pesticides are used on landscapes and along roadways in California
» Glyphosphate (Roundup) listing as a carcinogen recently backed by the state appeals court
Environmental Benefits

Prevents Introducing Invasive Plants

» Annual economic impact of invasive plants on California’s economy = $2.4 billion

» Money spent annually removing invasive plants in California = $80 million
Environmental Benefits

Metrics from Rated Landscapes:

» 50%–90% water savings compared to an existing conventional landscape

» 30%–70% maintenance labor savings

» 85%–95% weed suppression without toxic chemicals

» 70%–80% reduced runoff

» 117 metric tons/acre greenhouse gas reduction - equal to taking 22 cars off the road for a year
Regulatory Requirements

» Get Recognition for complying!
  » California Water Efficient Landscape Ordinance (WELO)
  » C.3 Stormwater Management Requirements

» Recognized as a Stormwater BMP by the SF Bay Regional Water Quality Control Board

Holland Park, Hayward
Regulatory Requirements

» AB 32 – Greenhouse Gas Initiatives
» Green Building innovation credit with GPR Homes
» Water Efficient Landscape Ordinance (WELO) is required by CAL Green
» Supports Construction & Demolition Debris Diversion (SF, San Jose and Alameda Counties)
Rated Benefits for Cities/Agencies

Comprehensive Program

» Helps local agencies meet traditionally “siloed” environmental goals:

- Reduce Greenhouse Gas emissions
- Conserve Water & Energy
- Reduce Stormwater Runoff
- Reduce Air Pollution
- Reduce Waste & Increase Recycling
- Create Healthier Communities
Cities have adopted Bay-Friendly as a Standard – especially for civic landscapes

Landscapes can be rated by a third party for quality control (like LEED or Green Point Rated Homes)

Removes some of the burden of enforcement or verification from City/Agency staff
WELO Compliance

» Scorecard updated to 2015 WELO
» Does not replace WELO, reinforces requirements
» Credit F.9 (R) “Meet Your local CA WELO” to ensure compliance

Bay-Friendly Scorecard for Civic, Commercial and Multifamily Landscapes

<table>
<thead>
<tr>
<th>Hydrozones</th>
<th>Valve #</th>
<th>Description</th>
<th>Irrigation (Min, Max, etc.)</th>
<th>Square Feet (SF)</th>
<th>Plant Factor (PF)</th>
<th>Irrigation Efficiency (IE)</th>
<th>(SF * PF) / IE</th>
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<tbody>
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<td>Zone 14</td>
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</table>

Add Row for Additional Hydrozones

Special Landscape Areas (SLA) per WELO:
- Yard planting area
- Walkways and sidewalks
- Area irrigated with recycled water
- Totals SLA

Additional Irrigation Information
- Year Reference (FT) Factor
- Annual precipitation (rainfall)
- Maximum Applied Water Allowance (MARA) per WELO
- Bay Friendly irrigation ET
- Estimated Total Water Use (ETUW)

What is the capacity of the following?
- Rain Water System for Irrigation
- Underground System for Irrigation
- Other (e.g., air conditioner condenser)

Potential water savings compared to CA MAB (gallons/year)

Cost per 1000 meter

Baseline Project Calculations

Tool within Rated Landscape Project Application
» Assembles & calculates WELO water budget & data
» Cross-checks with site information
» Part of Rated Landscape submittal reviewed by Rater to ensure WELO compliance
C.1 Submit Laboratory soil analysis results and recommendations for compost and organic fertilizers

C.2 Complete the Bay-Friendly Soil Management Plan

C.8 Protect all planting areas with a minimum of 3 inches of mulch (R)

C.9 Incorporate quality organic compost into the soil, at a rate of: 4 or 6 CY/1000 sf (R)

C.10 Install sheet mulch for weed control or lawn conversion

E.2 Do not plant species listed by Cal-IPC’s Don’t Plant a Pest brochure (R)

E.5 Install climate adapted plants in street medians (R)

E.6 Limit turf to recreational areas (R)

E.8 Group plants in hydrozones (R)

F.1 Plumb irrigation systems water features for recycled water

F.3 Install a weather based (evapotranspiration) or soil moisture based controller including a rain shut off device (R)

F.4 Install low volume irrigation in required areas (R)

F.6 Choose climate adapted plants to meet a water budget of 35% or 45% of reference ET. (R)

F.7 Install dedicated landscape water meter for projects with an irrigated area greater than 1,000 sf (R)

F.8 Conduct an irrigation audit (R)

F.9 Meet your local CA WELO (R)
Recognition

Mulch
Controls weeds and saves water

Independence Plaza, 2012
Alameda
176,960 square feet

Jack Capon Village, 2014
Alameda
13,484 sq ft

Parrot Village, 2013
Alameda
159,000 sq ft

Shinsel Gardens, 2009
Alameda
56,950 square feet

VF Outdoor, 2012
Alameda
373,812 sq ft

Albany Civic Center, 2010
Albany
11,500 Square feet

Buchanan St Median, 2005
Albany
12,850 square feet

Memorial, Ocean View & Terrace Park, 2008
Albany
5 acres
Comparison to Other Programs

Prescriptive System

» Easy to use Scorecard
» Provides framework for implementing sustainable landscape design, construction and maintenance
## Comparison to Other Programs

<table>
<thead>
<tr>
<th>Requirement</th>
<th>ReScape Rated</th>
<th>WELO</th>
<th>Sustainable Sites</th>
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<tbody>
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<td>Mulch</td>
<td>Requires Recycled</td>
<td>Requires Recycled</td>
<td>Recycled Preferred</td>
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<tr>
<td>Compost</td>
<td>Required</td>
<td>Required</td>
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<tr>
<td>Reduce Waste</td>
<td>Required</td>
<td>Required</td>
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<tr>
<td>Plant Spacing</td>
<td>Natural Spacing</td>
<td>Required</td>
<td></td>
</tr>
<tr>
<td>No Invasive Plants</td>
<td>Required</td>
<td>Recommended</td>
<td>Required</td>
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<tr>
<td>Climate Adapted Plants</td>
<td>Required</td>
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<td>Hydrozones</td>
<td>Required</td>
<td>Required</td>
<td>Recycled</td>
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<td>Low Volume Irrigation</td>
<td>Required</td>
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<tr>
<td>Irrigation Audit</td>
<td>Required</td>
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</table>
Comparison to Other Programs

**LEED**
Verified via documentation

**Sustainable Sites**
Verified via documentation

**ReScape Rated**
Field verification + documentation where appropriate
- More streamlined
- More reliable
- Regionally focused
Thank You!

Santa Clara Valley Water District
Annual Landscape Summit

ReScape California Rated
Landscape Program
February 28, 2019

Sarah Sutton, ASLA, LEED AP, ReScape Rater
Landscape Architect
President, ReScape California Board of Directors
rescape.sarah@gmail.com  rescapeca.org
Maintenance and Design of Bioretention and Other Green Stormwater Infrastructure

Nicholas Ajluni, QSP/BFQP
Senior Environmental Inspector
City of San José Environmental Services Department
Introduction to Green Stormwater Infrastructure (GSI)

- Low Impact Development
- Required on most new and redevelopment projects
- Uses vegetation, soils, and natural processes to clean and control stormwater runoff
  - Mimics natural systems
  - Increases water quality
  - Reduces flooding
  - Creates habitat
  - Creates green spaces in communities
  - Can be used for traffic calming
Reasons Behind GSI

Delivering world class utility services and programs to improve our health, environment, and economy.
Regulatory Drivers

Provision C.3 of San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (MRP)

- Partnership of 15 agencies
- Provides consistency among agencies
- Developed the C3 Handbook
  - Standardizes design and maintenance

Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP)

Delivering world class utility services and programs to improve our health, environment, and economy.
GSI in San José

• ~ 2,500 installations
• ~ 500 sites
• Several hundred under construction
• Located on private development, public projects, and grant funded projects
Types of Landscaped-based GSI

- Bioretention and Flow Through Planters
- Tree Well Filter Systems
- Detention Basins
- Green Roofs
Bioretention and Flow-Through Planters

- Most common GSI
- Allows ponding, infiltration and adsorption to slow storm runoff and filter pollutants
Bioretention Design

- Requires:
  - Appropriate plants
  - 3” mulch
  - Flow dissipation
  - 18” Biotreatment soil mix (BSM)
  - Minimum 6” ponding
  - Drains within 72 hours
Bioretention Design

- Biotreatment Soil Mix
- Appendix C of SCVURPPP C3 Handbook
- Must:
  - Infiltrate between 5-10 inches per hour
  - Support vigorous plant growth
  - Contain 60-70% sand and 30-40% compost
Tree Well Filter

- May use BSM or a proprietary soil mix
- Allowed under special conditions where space is limited
- Removes pollutants and also slows runoff
Detention Basins

- Larger projects
- Hydromodification systems intended to match pre-development flows
- Collect sediment and reduce peak storm flows
Green Roofs

- Allows adsorption to slow storm runoff and filter pollutants
- Reduces energy costs
- Reduces urban heat island effect
- Provides urban greening
San Jose GSI Maintenance Field Guide

Guidance on:
- Site visit preparation
- Inspection checklists
- Maintenance Standards
- Maintenance Guidelines
- Helpful Resources
Bioretention Plant Communities

- SCVURPPP C3 Handbook Appendix D provides guidance on:
  - Species selection and placement in hydrozones
  - Creating diverse plant palette
  - Mimicking natural, native flora
Bioretention Plant Maintenance

- More natural, less manicured is better
- Prune based on species needs
- Light pruning during dormancy for most species
- Special water needs
- Proper plant spacing
- Do not fertilize
Bioretention Pruning

Delivering world class utility services and programs to improve our health, environment, and economy.
Bioretention Weed Management Do’s

Delivering world class utility services and programs to improve our health, environment, and economy.
Bioretention Weed Management Don'ts

Delivering world class utility services and programs to improve our health, environment, and economy.
Bioretention Mulch Do’s

Delivering world class utility services and programs to improve our health, environment, and economy.
Bioretention Mulch Don’ts

Delivering world class utility services and programs to improve our health, environment, and economy.
Bioretention Soil Maintenance

- Biotreatment Soil Mix (BSM)
- Promote infiltration by removing fine sediment, scarify if needed
- Prevent standing water
- Add compost and mulch as needed
Bioretention Erosion and Sedimentation

- Maintain 4-6” cobble or flow dissipators at inlets and outlets to prevent erosion
- Periodically remove sediment from cobble
- Use geotextile filter fabric under cobble
- Stagger plantings to prevent channelization
- Ensure adequate mulch depth to dissipate flow
Bioretention Litter and Debris
Bioretention Foot Traffic and Soil Compaction

Delivering world class utility services and programs to improve our health, environment, and economy.
Take-Aways

- Regular maintenance can reduce long term costs
- Many native species do well with little pruning and no fertilization
- GSI implementation will continue to grow regionwide
- Follow Bay Friendly Landscape Principles
Useful Training Resources

- City of San Jose Stormwater Program - http://www.sanjoseca.gov/stormwater
- South Bay Green Gardens - https://www.southbaygreengardens.org
- ReScape California/Bay Friendly - https://rescapeca.org/
- UC Master Gardeners - http://mgsantaclara.ucanr.edu
- CA Native Plant Society - https://calscape.org/
“When we try to pick out anything by itself, we find it hitched to everything else in the Universe” – John Muir

Thank You!

For questions, feel free to contact me:
Nick Ajluni
Email: Nick.Ajluni@sanjoseca.gov
Phone: 408-535-3503
Break time
Ensuring the Success for a Sustainable Landscape through Partnership between Design, Installation, and Maintenance

By Jenn Simmons & Amy Palmer
Meet Our Team

Estate Garden Management

Amy Palmer
VP, Estate Gardening

Jenn Simmons
Director of Operations
Senior Garden Manager

Rene Hernandez
Senior Crew Supervisor

Alfredo Gonzales
Irrigation Manager
What does it take?
What does it take?

It Takes a Team

It Takes Time
It Takes A Team
It Takes A Team

Client

Landscape Architect

Installation Contractor

Garden Manager
It Takes A Team

Client
Landscape Architect
Installation Contractor
Garden Manager
Irrigation Manager
Crew Supervisor
Gardener
It Takes A Team

- Client
- Landscape Architect
- Installation Contractor
- Garden Manager
- Irrigation Manager
- Crew Supervisor
- Gardener
- Arborist
Typical Team – Don’t Blame Them

- Client
- Landscape Architect
- Installation Contractor
- Garden Manager
- Irrigation Manager
- Crew Supervisor
- Gardener
- Arborist
- Seasonal Color
- Edible Specialist
- Pest & Disease
- Landscape Lighting
Key Role, Often Missing: Garden Manager
Prioritizing Work and Directing Crew
Communicating
Personal Relationship with the Client
Key Role, Often Missing: Irrigation Manager
Irrigation Inventory Before Problems Happen
It Takes Time

A lot more time than we think.

Here is an example for a 1 acre property.
Time for 1 Acre Property
Time for 1 Acre Property

Client
Client preference

Landscape Architect
As needed, 1-2 visits per year

Installation Contractor
As needed for enhancement projects
Time for 1 Acre Property

Client
Client preference

Landscape Architect
As needed, 1-2 visits per year

Installation Contractor
As needed for enhancement projects

Garden Manager
4-8 hours per month
Time for 1 Acre Property

Client
Client preference

Landscape Architect
As needed, 1-2 visits per year

Installation Contractor
As needed for enhancement projects

Garden Manager
4-8 hours per month

Irrigation Manager
4-8 hours per month

Crew Supervisor
16-32 hours per month

Gardener
16-32 hours per month

Client preference

Landscape Architect

Installation Contractor

Garden Manager

Irrigation Manager

Crew Supervisor

Gardener
<table>
<thead>
<tr>
<th>Role</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client</td>
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</tr>
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Time for 1 Acre Property
Time for 1 Acre Property

Client
Client preference

Landscape Architect
As needed, 1-2 visits per year

Installation Contractor
As needed for enhancement projects

Garden Manager
4-8 hours per month

Irrigation Manager
4-8 hours per month

Crew Supervisor
16-32 hours per month

Gardener
16-32 hours per month

Installation Contractor
As needed for enhancement projects

Arborist
1-4 days per year

Seasonal Color & Edible Specialist
Client preference

Pest & Disease Control
1-4 visits per month

Landscape Lighting
1-2 days per year
**Time for 1 Acre Property**

- **Client**: Client preference
- **Landscape Architect**: As needed, 1-2 visits per year
- **Installation Contractor**: As needed for enhancement projects
- **Garden Manager**: 4-8 hours per month
- **Irrigation Manager**: 4-8 hours per month
- **Crew Supervisor**: 16-32 hours per month
- **Gardener**: 16-32 hours per month
- **Arborist**: 1-4 days per year
- **Seasonal Color & Edible Specialist**: Client preference
- **Pest & Disease Control**: 1-4 visits per month
- **Landscape Lighting**: 1-2 days per year
- **Total per month**: 40-100 man hours per month
Mow & Blow Model

Client
Client preference

Crew Supervisor
6-16 hours per month

Gardener
6-16 hours per month

Total per month
12-32 man hours per month
Improving on Mow & Blow

- Hire a contractor to do irrigation checks 2ce per year in February and June.
- Add in an Arborist 1ce or 2ce per year to prune trees and smaller plants. Ask him/her to walk through and give feedback.
- Add a winter clean-up, pruning, compost and mulch 1ce per year.
- Identify someone to play Garden Manager role: maybe the landscape designer, maybe a solo-fine gardener, maybe the client themselves.

We Want to Give This Talk

- If there are any interested audiences, we want to give this talk. We love talking about this and know there are many ways to do it.

We are Hiring!

- Want to be a Garden Manager?
Questions
FIRE-SAFE LANDSCAPING

BE EMBER AWARE...
Will your home survive when the embers arrive?
WWW.EMBERAWARE.COM

Dwight Good, Fire Marshal
This isn’t how it usually works...
A Natural Progression...
Embers are the worst.

- Small pieces of burning material
- Carried up to a mile
- Causing new fires where they land
Fire-resistant vegetation and strategic plantings

Why we want it:
Resist the spread of fire to structures

Bonus: Fire resistant plants are often drought tolerant
Common fire-prone plants

Should be avoided or removed from:
- Defensible Space zones or areas close to roads and driveways.

If removal is not an option:
- Intensive maintenance may be required.
Care & Maintenance:

- Remove all limbs within 6’ of the ground, or 1/3 the height
- Remove all dead wood and twiggy growth regularly
- Provide canopy separation
- Remove all "ladder fuels" growing below
- Remove fallen leaves or twigs regularly
- Remove debris from roofs, and repeat regularly during fire-season
Disclaimer

- This list is not comprehensive
- Only identifies species most common in our area.
- In (mostly) alphabetical order...
BLACK ACACIA, ARBORVITAE, and CEDARS

- Not ideal for street plantings or near living areas.
- Extremely fire prone.
- Should not be planted in the defensible space zone.

- **Recommendation:** Remove
- **Fire Resistance:** Poor
- **Native:** No
Care & Maintenance:

• Specimens should be spaced
• Maintained free of all dead twigs and needles
• Lower limbs removed to provide ground separation.
BAMBOO, CHAMISE, and GREASEWOOD

- Very fire prone.
- Remove all plants within 30' of structures.
- Space remaining Chaparral within 100' of structures.
- Maintain completely free of dead twigs and leaves.

- **Recommendation:** Remove
- **Fire Resistance:** Poor
- **Native:** Bamboo, No. Chamise and Greasewood, Yes
BLACK SAGE and CALIFORNIA BUCKWHEAT

- Salvia mellifera and Erigonum fasciculatum

- **Recommendation:** Avoid
- **Fire Resistance:** Poor
- **Native:** Yes
CALIFORNIA BAY

- May contribute significantly to wildfires.
- All Bay Laurel trees within 30' of structures should be removed.
- A primary host for the Sudden Oak Death pathogen
  - Remove any Bay laurel within 30' of any Live oak or Black oak.

- **Recommendation**: Remove
- **Fire Resistance**: Poor
- **Native**: Yes
CHAPARRAL PEA and GIANT CHINQUAPIN

- Pickeringia montana and Chrysolepis chrysophylla

- **Recommendation:** Avoid
- **Fire Resistance:** Poor
- **Native:** Yes
COASTAL SAGEBRUSH and COYOTE BRUSH

- Artemisia californica
- Should be removed within 30' of structures.

- Recommendation: Avoid
- Fire Resistance: Poor
- Native: Yes
Care & Maintenance:

- Separation of plants from 30' to 100' of structures is important.
- Maintain completely free of dead twigs and leaves.
- Slightly more fire resistant with indirect watering once a week.
CYPRESS and FALSE CYPRESS

- Evergreen trees or large shrubs.
- Many of the species are adapted to fire
  - Hold their seeds until trees are killed by a fire,
  - Seeds are then released to colonise the bare ground.

- **Recommendation**: Remove
- **Fire Resistance**: Poor
- **Native**: No
DOUGLAS-FIR and EVERGREEN HUCKLEBERRY

- Pseudotsuga menziesii and Vaccinium ovatum

- **Recommendation:** Avoid
- **Fire Resistance:** Poor
- **Native:** Yes
EUCALYPTUS, FIR, HEMLOCK, LARCH, & PALM

• Common blue gum eucalyptus is a moderate invasive.
• All eucalyptus species are prone to fire.
• Trees within 100' of structures should be removed.

  • **Recommendation:** Remove
  • **Fire Resistance:** Poor
  • **Native:** No
FOUNTAIN GRASS, PAMPAS, and JUBATA

• Popular drought tolerant grass
• This grass is fire prone

• **Recommendation:** Remove
• **Fire Resistance:** Poor
• **Native:** No
FRENCH, SCOTCH, SPANISH BROOM, & GORSE

- Can colonize grassland and open canopy forest.
- Displaces native plant and forage species.
- Makes reforestation difficult. A strong competitor.
- Can dominate a plant community.

- **Recommendation:** Remove
- **Fire Resistance:** Poor
- **Native:** No
Care & Maintenance:

- Fire prone invasive.
- Remove.
JUNIPERS

- Conifer in the cypress family.
- Hardy, versatile, and drought-tolerant.
- **One of the most fire prone species.**
- Junipers should be removed within 30' of structures
  - and 15' of roadways/driveways.
- Period.

- **Recommendation:** Remove
- **Fire Resistance:** Poor
- **Native:** No
Care & Maintenance:

• Any junipers remaining (from 30' to 100') must be maintained...

  • Completely free of dead needles and twiggy material
  • Irrigated every 2 weeks
  • Thinned and separated into individual bushes.
MANZANITA, PINE, TAN OAK, and SCRUB OAKS

• Keep widely spaced and regularly maintained
  • Thin and prune out ALL dead branches and twigs.
• Neglected manzanita can contribute significantly to wildfires
  • it should be avoided in the defensible space zone.

• Recommendation: Remove
• Fire Resistance: Poor
• Native: Yes
ROSEMARY, SPRUCES, and YEW

- Irrigated and well maintained rosemary is relatively fire resistant.
- Volatile oil content and tendency to collect dead material
- Rosemary should be removed within 30' of structures.

- **Recommendation:** Remove
- **Fire Resistance:** Poor
- **Native:** No
Combustible groundcovers

- Mulches may support smoldering combustion for more than an hour
- Separate from structures by a minimum of 5’
- Fences, too.
A fence is a fuse...
Does it help to lift the fence panel?

Even with top of mulch)  2 in above mulch  4 in above mulch

6 in above **hardwood** mulch
Home Ignition Zone

1. Create a ‘fire-free’ area within five feet of the home, using non-flammable landscaping materials.
2. Consider that first foot for mineral soil.
3. Embers collect where you might normally find accumulations of leaves or needles.
4. Mulch around trees (but limb them up).
End of Summit

1) Thank you so much for attending! Enjoy lunch, go network and visit tables.

2) Keep an eye out for our follow up emails in the coming weeks.

3) Please turn in your Feedback Forms