

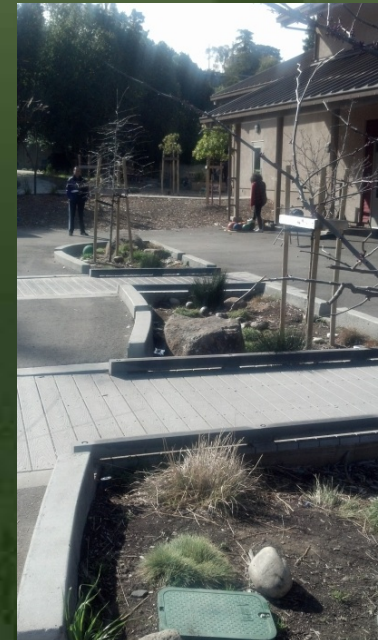
# *Urban Forestry: Use of Vegetation As Climate Adaptation – Effective and Low Cost.....When Done Well*

2018 California Water Boards Science Symposium

June 20, 2018

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Staff Chief – Resource Protection and Improvement



## **CAL FIRE's Urban & Community Forestry Program Functions**

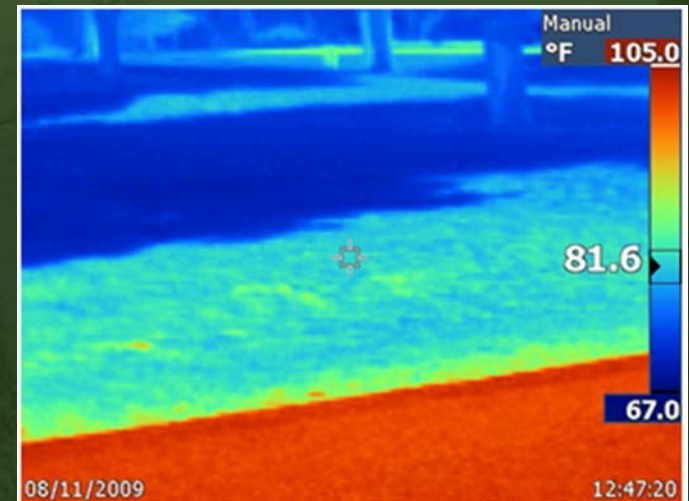
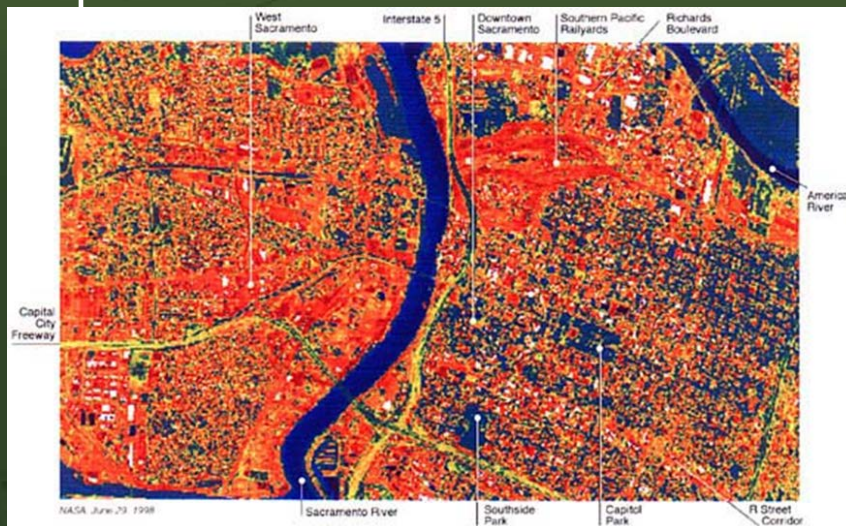
- **Technical assistance/advice**
- **Public and professional education**
- **Public events**
- **Local and regional advocacy**
- **Networking and partnerships**
- **Technology transfer**
- **Grants**
- **Conduit to national programs**

## **Why CAL FIRE Does Urban Forestry**

- **Legislative Mandate. Urban Forestry Act (PRC 4799.06 - 4799.12) 1978.**
- **Updated 2008, 2010, 2017.**
- **Safeguarding California Plan.**
- **Forest Carbon Plan 2018**
- **California Forest Assessment Report (soon to be released, CAL FIRE FRAP)**
- **Numerous other policy documents.**

# Urban Forests as Adaptation

- PRC Definition: *"Urban forestry" means the cultivation and management of native or introduced trees and related vegetation in urban areas for their present and potential contribution to the economic, physiological, sociological, and ecological well-being of urban society.*
- Reduce urban heat islands – Tree Canopy Cover
- Stormwater - decrease impervious surfaces while creating better planting sites.
- Improve public health by creating shady places to recreate and improved mental health.



# Tree Canopy Trends and Themes

- Disadvantaged Communities – the most vulnerable

LA Urban Area Tree Canopy and Disadvantaged Communities by Census Tract



Urban Tree Cover 0 - 9% 10 - 15% 16 - 20% Over 20%

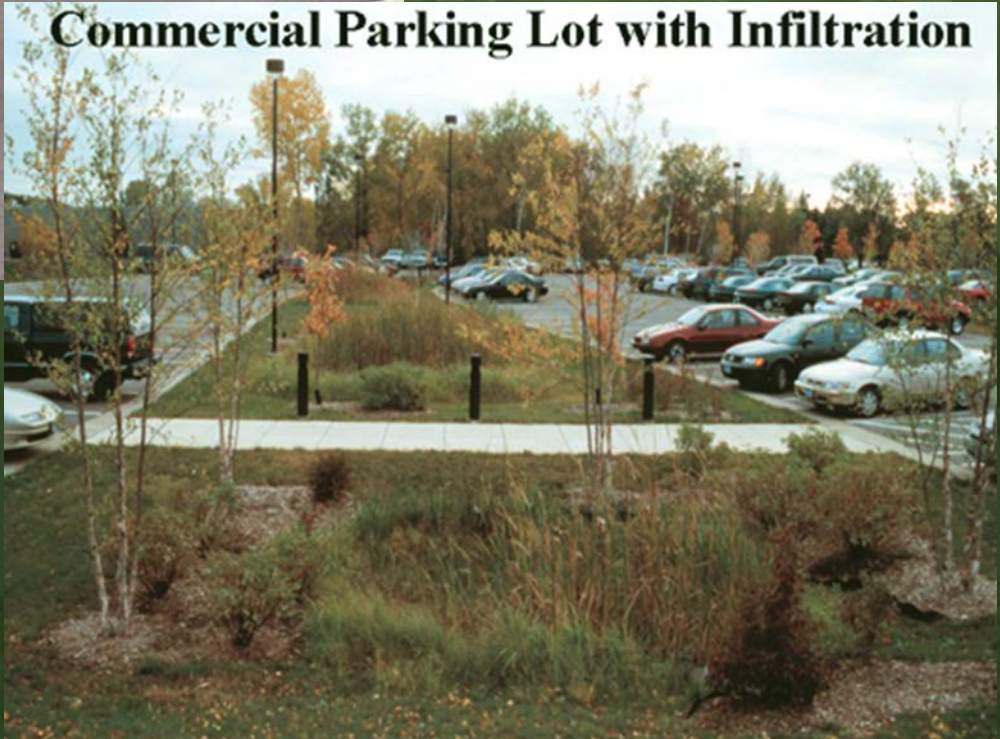
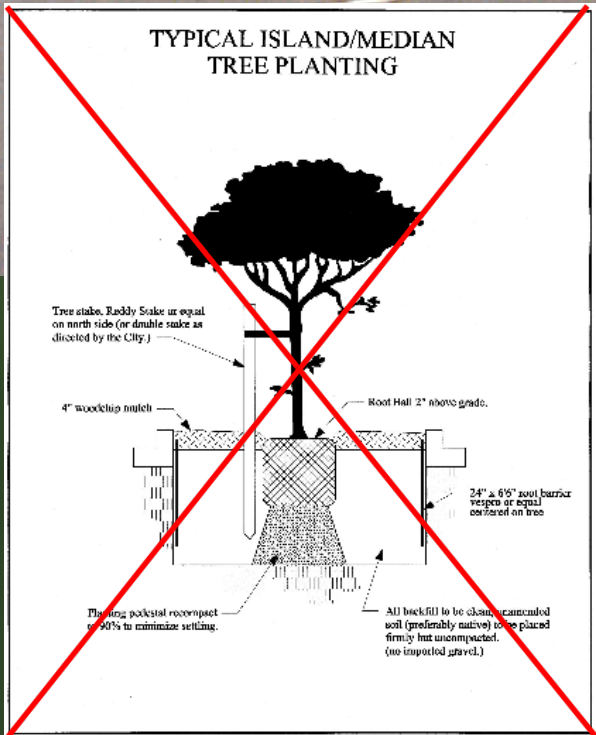
Disadvantaged Community Temperature > 90° for at least 75 days of the year

Data Sources: Disadvantaged Community data derived from CalEnviroScreen v 2.0; Tree Canopy Cover derived from EarthDefine, 2012; Days over 90 data derived from PRISM 2004 - 13 average.

# Project Examples









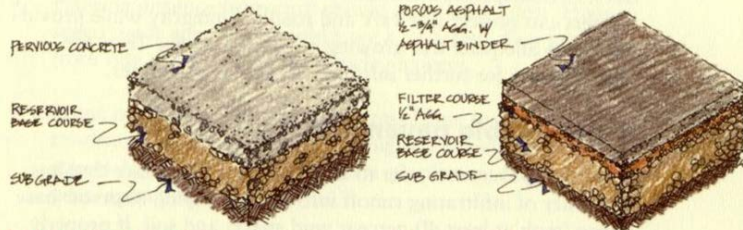






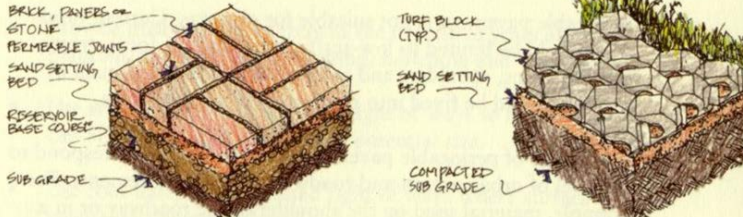


# Using all the tools in the toolbox



(a) Pervious concrete

(b) Porous asphalt



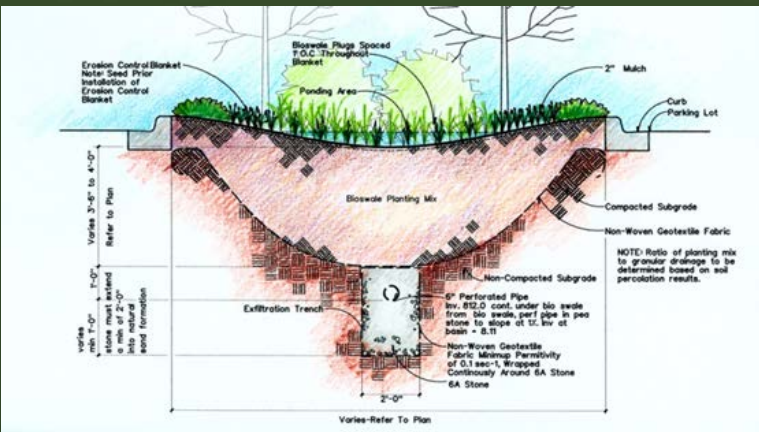
(c) Unit pavers/bricks/stone

(d) Turf block



(e) Crushed aggregate

(f) Cobbles

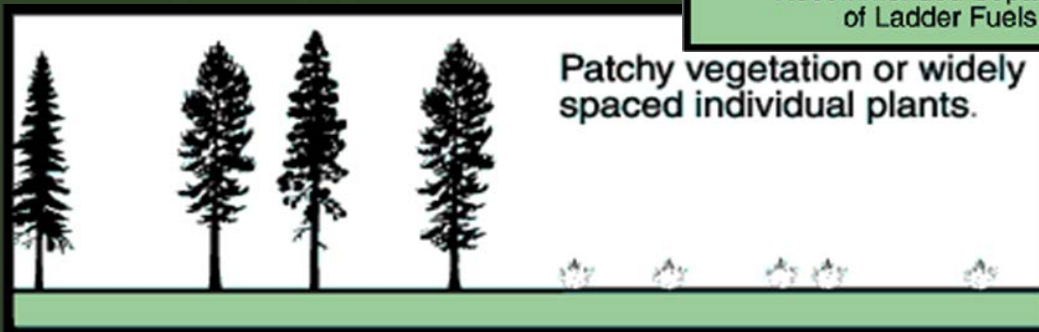
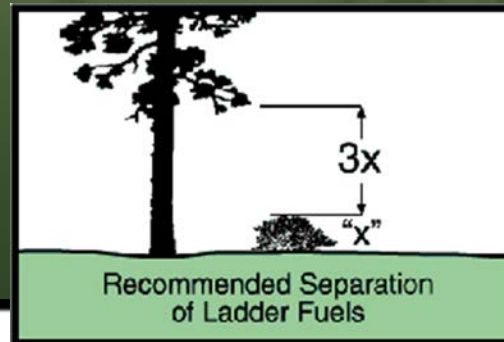


# The Devil Is In The Details



# The New Normal - Fire Considerations

- Species selection
  - Evergreen vs. deciduous
- Spacing of trees and shrubs
  - Vertical and horizontal continuity
- 1, 10, 100, 1000 hour fuels
- Ground cover?
- Maintenance, Maintenance, Maintenance
- NO GUARANTEES



# Websites

- [www.fire.ca.gov/resource\\_mgt/resource\\_mgt\\_urbanforestry.php](http://www.fire.ca.gov/resource_mgt/resource_mgt_urbanforestry.php)
- [http://frap.cdf.ca.gov/assessment2010/3.2\\_urban\\_forestry.html](http://frap.cdf.ca.gov/assessment2010/3.2_urban_forestry.html)
- <http://www.climatechange.ca.gov/adaptation/index.html>
- [www.ufe.org](http://www.ufe.org)
- <http://www.fs.fed.us/psw/programs/uesd/uep/>
- [www.californiareleaf.org](http://www.californiareleaf.org)
- [www.caufc.org](http://www.caufc.org)
- [www.wcisa.net](http://www.wcisa.net)
- [www.treelink.org](http://www.treelink.org)
- [www.arborday.org](http://www.arborday.org)
- [www.treesaregood.com](http://www.treesaregood.com)
- [www.urbanforestmap.org](http://www.urbanforestmap.org)
- [www.ufmptoolkit.com](http://www.ufmptoolkit.com)
- <http://depts.washington.edu/hhwb>
- <http://lhl.illinois.edu/index.htm>
- <http://eetd.lbl.gov/HeatIsland>
- [www.itreetools.org](http://www.itreetools.org)



# **Thank You !**

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