



Rebuilding Landscapes

*Permit Ready Front Yard
Landscape Templates*



A Project of the Sonoma -Marin Water Saving Partnership



ABLA



because every choice matters

Project Goals

- Streamline permitting
- Save homeowner cost
- Water saving designs
- Fire Safer designs
- Attractive front yard plans
- Integrate sustainability elements
- Restore neighborhood vitality and ecology
- Improve climate adaptability

Sustainable Design Elements

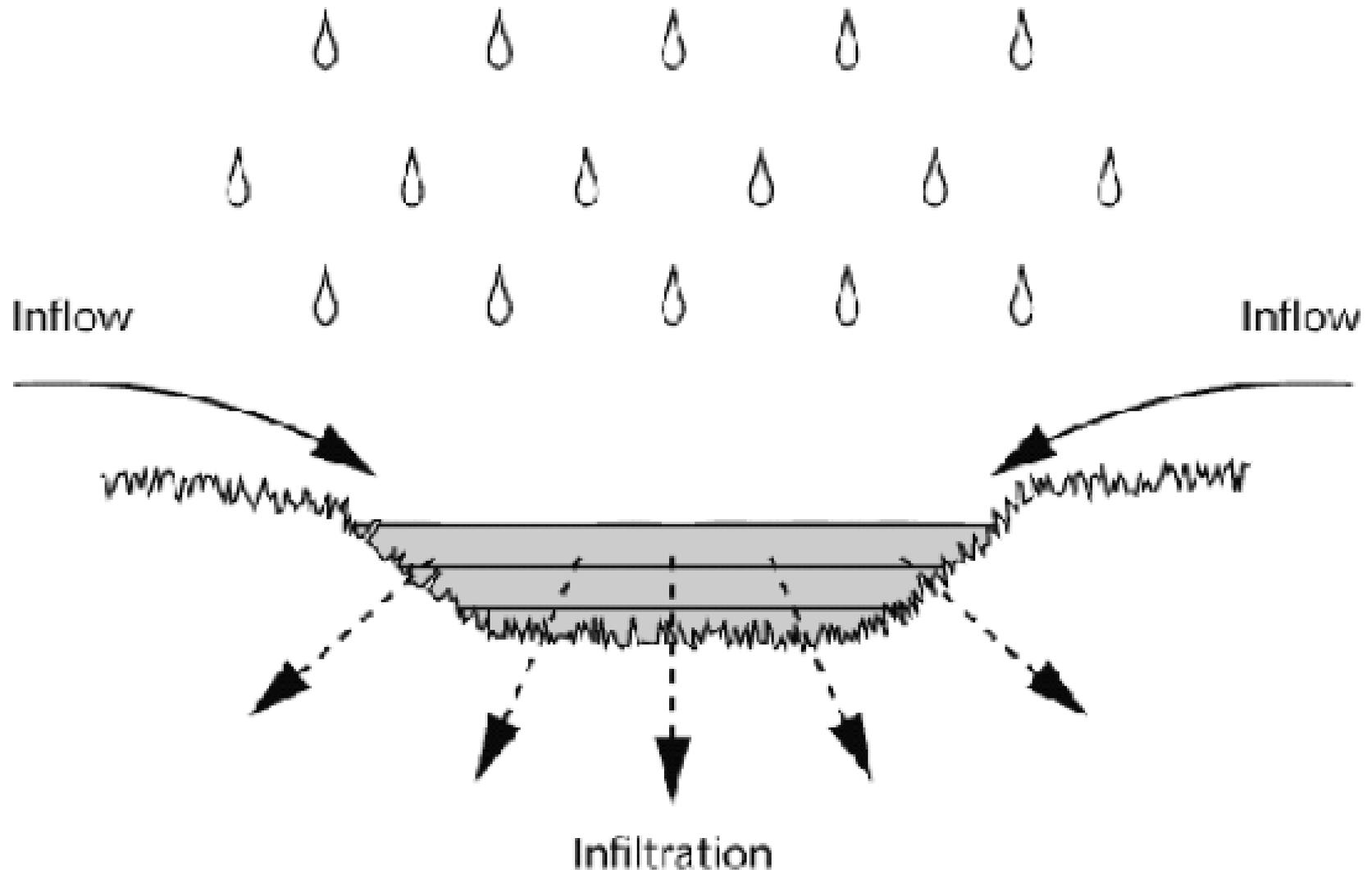
Increase Permeability & Reduce Water Use

- Soil Restoration
- Disconnected downspouts and paving
- Permeable Paving
- Raingardens & Swales
- Greywater & Rainwater Harvesting

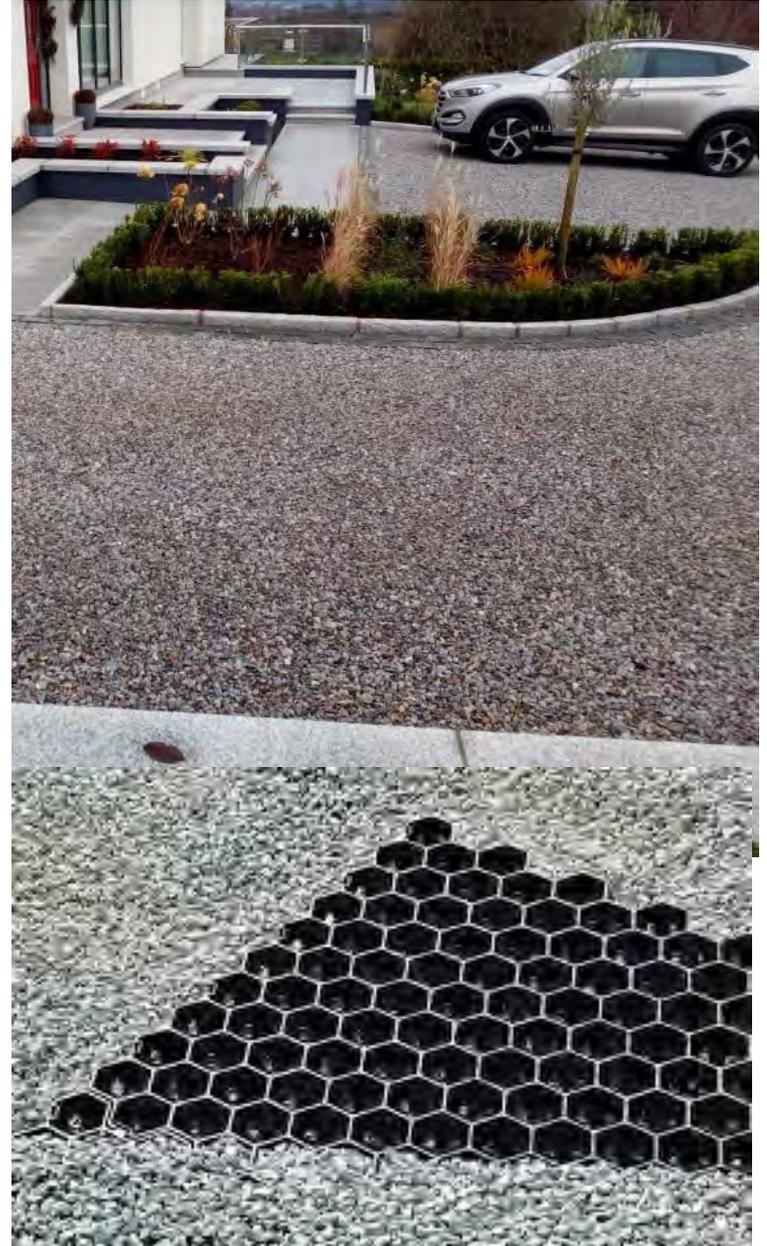
Cool Urban Heat - Shade Trees

Increase Habitat and Edible Plantings

Slow, spread, sink rain into the earth



Permeable Paving



Decorative Aggregate



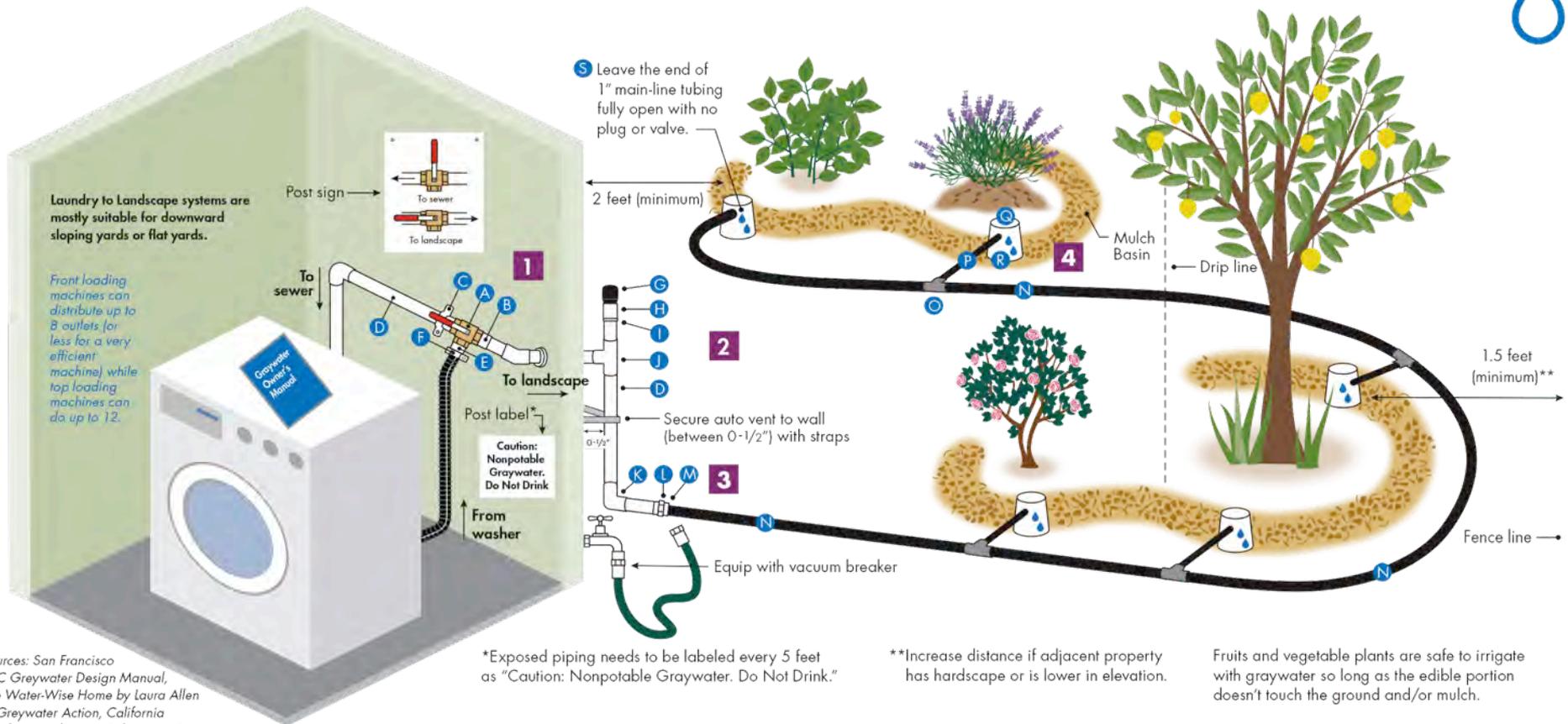
Raingardens, Swales, Bioentention





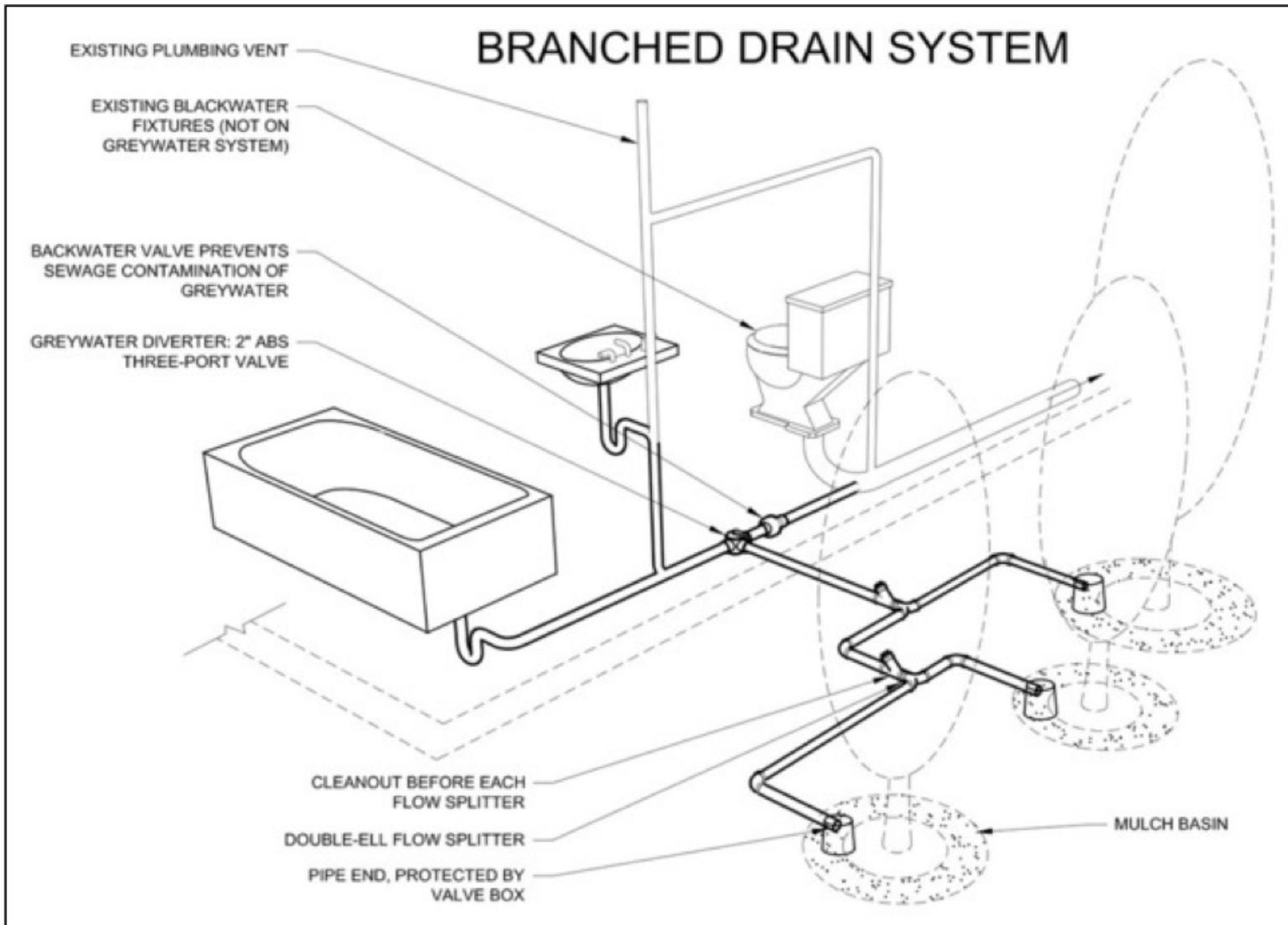
Greywater Laundry to Landscape

Laundry to Landscape: Graywater System Example



Sources: San Francisco PUC Greywater Design Manual, The Water-Wise Home by Laura Allen of Greywater Action, California Plumbing Code 2016 (Chapter 15)

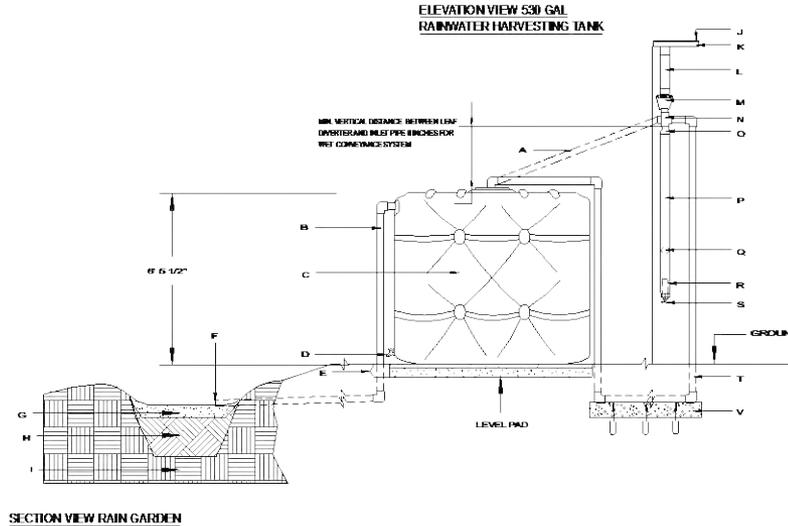
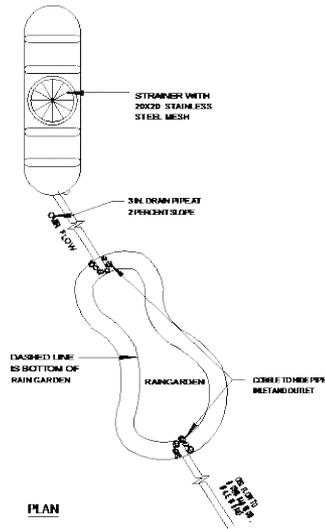
Greywater Branched Drain



Rainwater Harvesting



Rainwater Template Sheet



- A. PREFERRED DRY CONVEYANCE IF TANKS ARE NEXT TO DOWNSPOUT
- B. OVERFLOW: 3 IN. DRAINAGE PIPE: SLOPED 2 PERCENT FOR HORIZONTAL SECTIONS
- C. 630 GALLON BUSHMAN SUBLINE RAIN HARVESTING TANK OR EQUIVALENT
- D. HOSE BIB OR OPTIONAL CONNECTION TO PUMP AND PRESSURE TANK (SEE NOTE 2)
- E. 4 INCHES COMPACTED BASEROCK WITH 2 INCHES OF PEA GRAVEL ON TOP
- F. OVERFLOW TO RAIN GARDEN (SHOWING) SWALES/SLASH BLOCK
- G. 6 INCHES OF DECORATIVE GRAVEL WITH 2 INCHES OF PONDING WATER ABOVE
- H. 12 INCHES AMENDED SOIL: 1/2 COMPOST, 1/2 NATIVE SOIL
- I. UNDISTURBED NATIVE SOIL
- J. FIRE SAFETY LEAF GUARD
- K. GUTTER
- L. NORMAL DOWNSPOUT
- M. OPTIONAL BUSHMAN LEAF DIVERTER (WITH 20X20 SCREEN IF USING WET CONVEYANCE) (REDUNDANT WITH LEAF GUARD ON GUTTERS)
- N. 3 IN. PVC DRAINAGE TEE
- O. 4 IN. TO 3 IN. PVC DRAINAGE REDUCER
- P. 1/2 IN. DRAINAGE PIPE FOR THE FIRST FLUSH (THIS REMOVES THE FIRST, DIRTY WATER FROM A RAINSTORM)
- Q. BUSHMAN FLOAT BALL
- R. BUSHMAN FIRST FLUSH FILTERS (TO KEEP EMITTER FROM CLOGGING)
- S. BUSHMAN DRIP EMITTER TO DRAIN DIRTY WATER BETWEEN STORMS
- T. 1/2" CONVEYANCE 3 IN. DRAINAGE PIPE (WATER STAYS IN PIPE BETWEEN STORMS)
- U. THREE SEPARATE 3/8 INCH HOLES TO DRAIN WATER FOR MOSQUITO CONTROL
- V. CLEAN GRAVEL TO IMPROVE DRAINAGE FROM DRILLED HOLES

- NOTES:
1. A RAINWATER CATCHMENT SYSTEM MAY NOT REQUIRE A BUILDING PERMIT PROVIDED ALL OF THE FOLLOWING ARE MET (CALIFORNIA PLUMBING CODE 1901.3 (2)):
 - WATER WILL BE USED FOR OUTDOOR NON-SPIRY IRRIGATION
 - MAXIMUM STORAGE CAPACITY OF 1000 GALLONS
 - TANK IS SUPPORTED DIRECTLY UPON GRADE
 - RATIO OF HEIGHT TO DIAMETER OR WIDTH DOES NOT EXCEED 2 TO 1
 - DOES NOT REQUIRE ELECTRICAL POWER OR HAND-SUPPLY CONNECTION (SEE NOTE 2 AND 3)
 2. ALL OTHER RAINWATER CATCHMENT SYSTEMS MUST BE SUBMITTED FOR BUILDING PERMIT
 3. PUMP AND PRESSURE TANK LIKELY REQUIRE: INDEPENDENT, OVERHEAD CONTROL, ELECTRICAL PERMIT
 4. IF CITY/NEEDS PLUMBED TO TANK FOR MAINT. USING FLOPPY VALVE OR MANUALLY OPERATED VALVE, THEN A PERMIT IS REQUIRED AND AN AIR GAP IS REQUIRED BETWEEN RAINWATER HARVESTING SYSTEM AND DOMESTIC WATER SYSTEM
 5. TANKS CAN BE ONLY CHAINED AT POINT OF USING FLEXIBLE PIPE ONLY TO REDUCE CHANCE OF LEAKAGE IN EARTHQUAKES.
 6. THERE ARE NO REQUIRED SETBACKS FROM BUILDINGS OR SIDERACK PROPERTY LINES, THOUGH A CONVERSATION WITH YOUR NEIGHBOR COULD BE HELPFUL.

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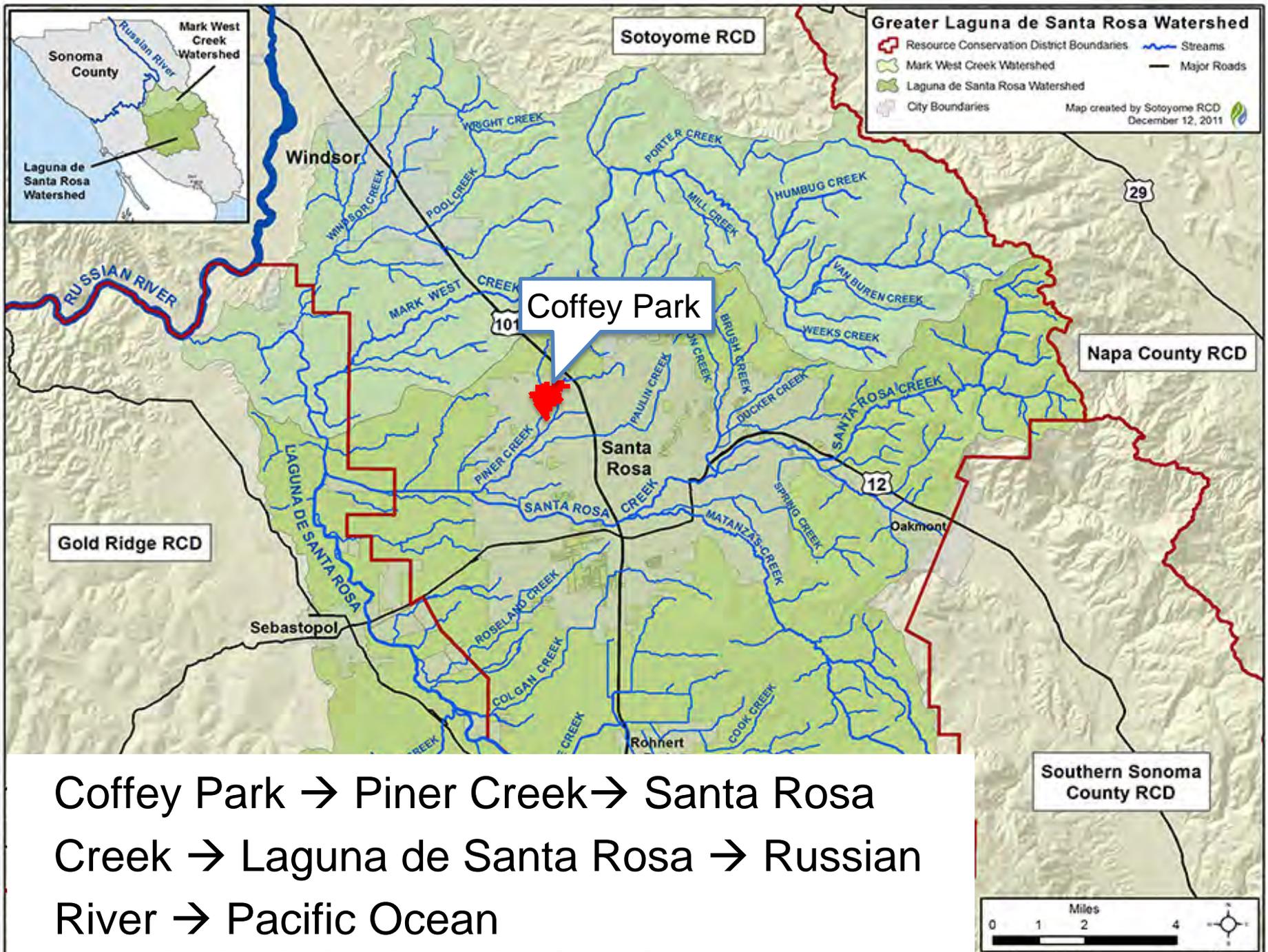


SHEET TITLE:
RAINWATER HARVESTING

DATE
PROJECT NAME
DATE: 1/1/11

RW-1.0

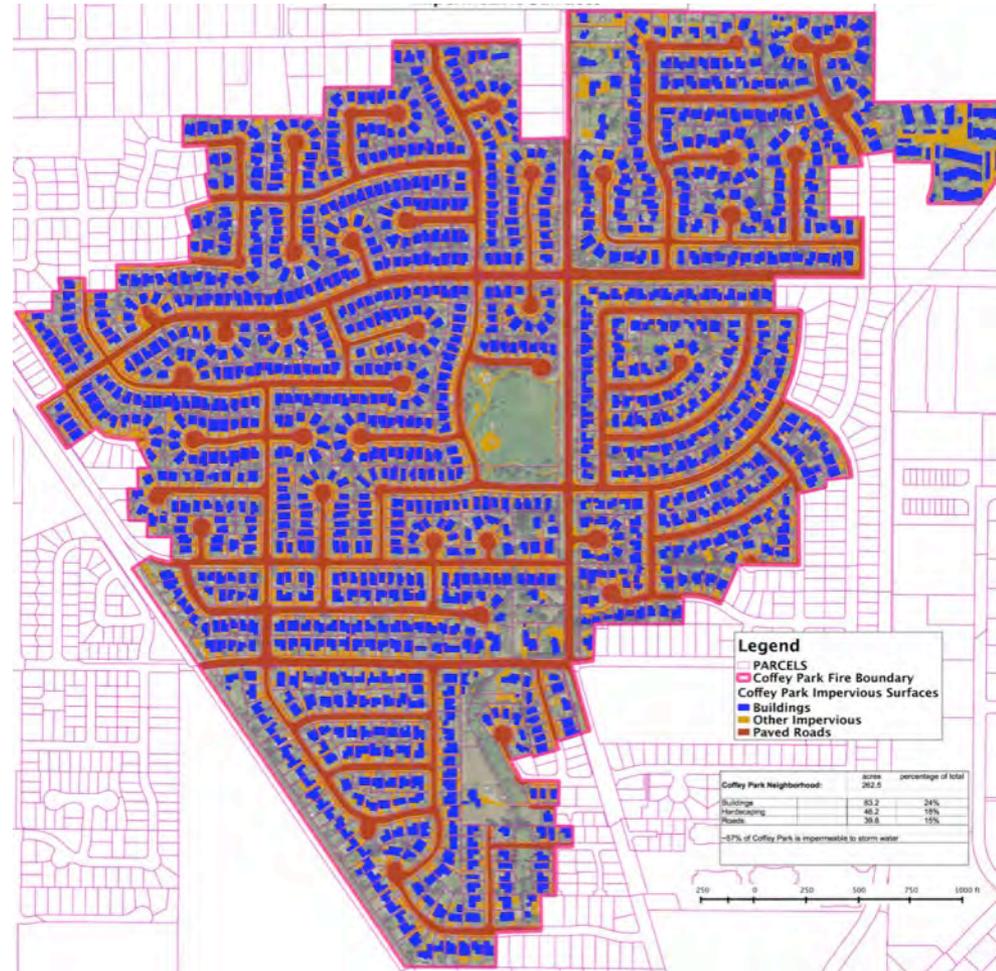
SHEET
OF



Coffey Park – Back of the envelope calculation

Coffey Park	Acres (Total 262)	Percentage of total
Buildings	63	24%
Hardscape	46	18%
Roads	40	15%

(Numbers reflect conditions before the fire)



Coffey Park – Back of the envelope calculation

- 40% (~100 ac) of Coffey Park is **impermeable** to stormwater (roads deducted)
- 4% rule = 4 acres of raingardens total
- Per 6,000 sf residential lot = 240 sf of raingarden
- Design storm: 1” depth
- Implementing green infrastructure would allow ~ **8 acre feet** of water or **2,600,000 gallons** detained/retained per storm
- = Annual water use of 26 families in Santa Rosa

Analysis Courtesy of Sherwood Design Engineers

Public Meetings and Dialogue

- Engage the public
- Hear community priorities
- Understand design and rebuild context
- Increase knowledge of sustainable design & materials
- Increase implementation of sustainable techniques and methods







PLANTING CONCEPT



LEGEND

- ① Perennial
- ② Grass
- ③ Palm tree
- ④ Grass and shrub
- ⑤ Tree/shrub
- ⑥ Water
- ⑦ Tree/shrub/flower

NATIVE ADAPTIVE

Scale: 1/8" = 1'-0"



100% WATER SAVING UNDER PARTNERSHIP
 4152 20th Ave S, Suite 100
 Phoenix, AZ 85034
 602.998.1111
 www.ari.com

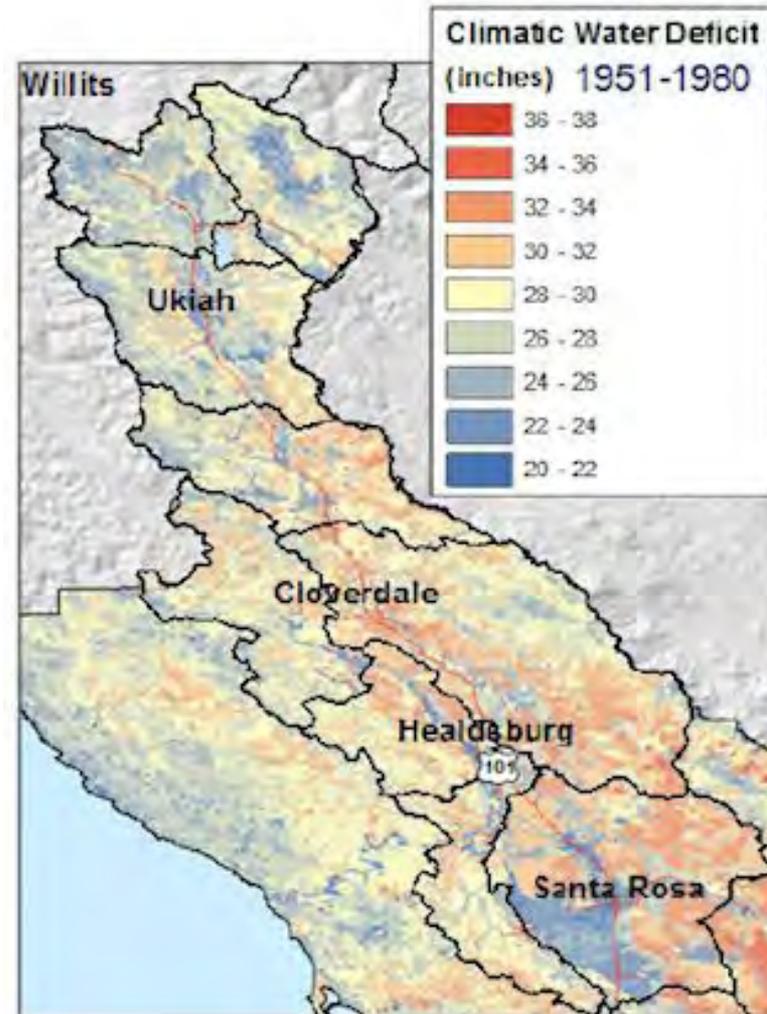


Key Feedback:

- Wanted a menu of items: details, plant lists
Ability to mix and match
- Low cost options (Contemporary, Native)
- Low Maintenance (Contemporary, Native)
- Ease of Permitting – all elements approved
by Planning and DPW
- County and City: Support the process with
trainings, demo gardens and workshops

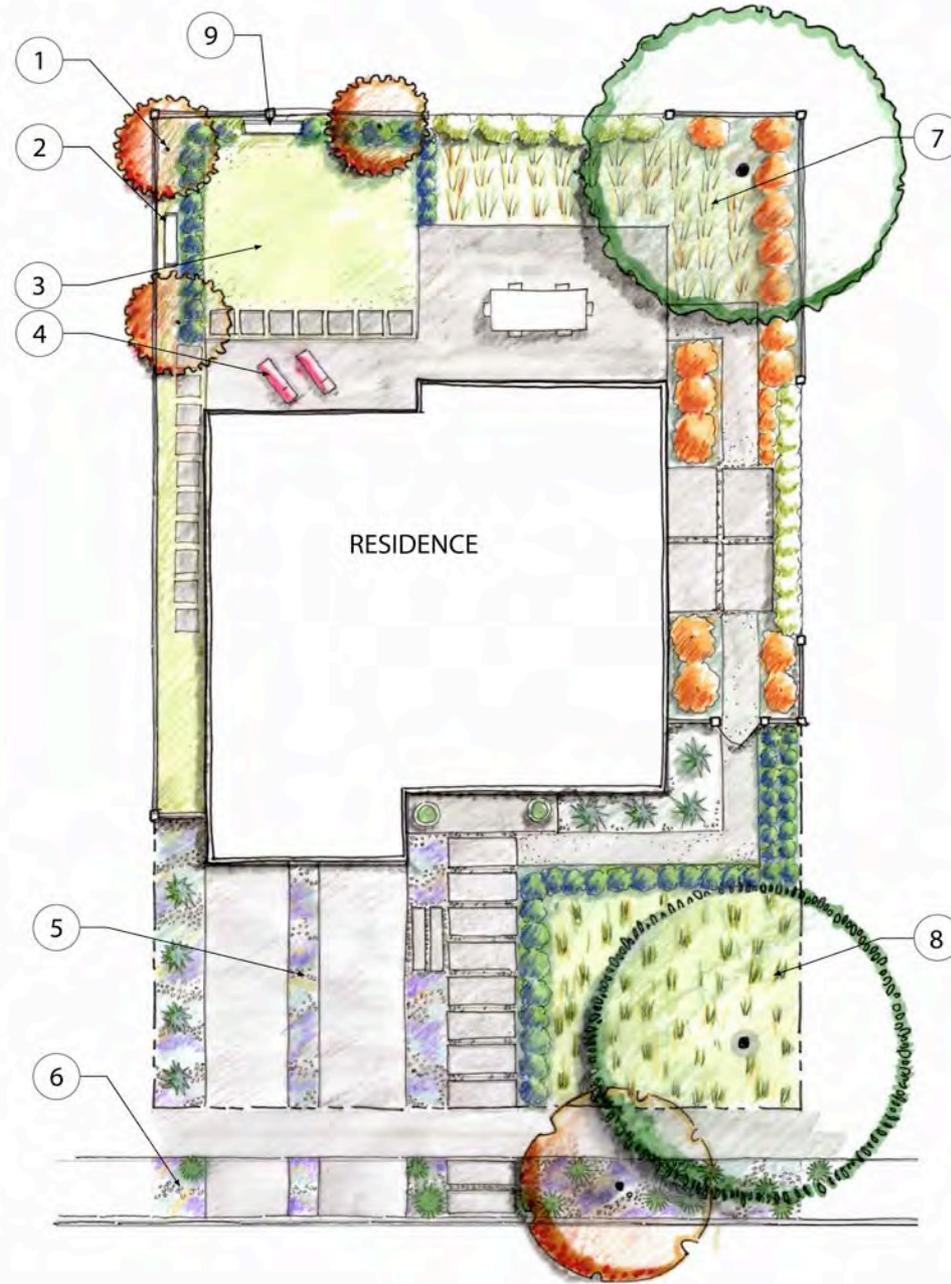
Landscape Permit Requirements

- Landscape area < 2500 sf
- Smart irrigation controllers with weather sensor
- 75% low water use plants
- 25% medium max
- Drip irrigation systems
- Owners self certify
- Simplified inspection

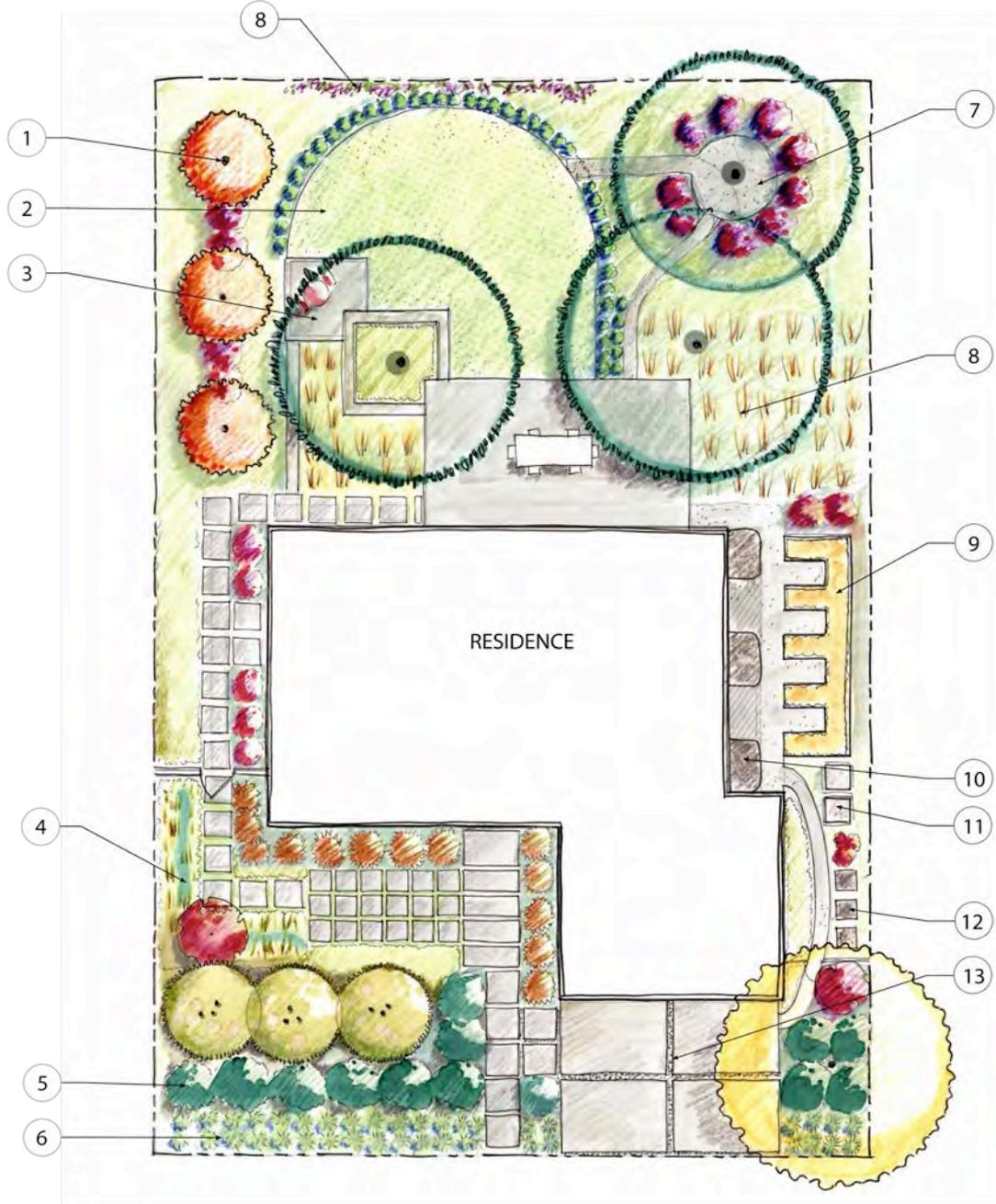


Fire Safer Guidelines

- Within 5' of house plantings < 3' tall, low fuel
- Plants "Clean and Green" esp. in 5' area
- Defensible spaces front and back
- Place trees away from structures
- Fire safer plant selection - Agency lists
- Reduce connectivity of fuels
- Consider wind direction of fire weather
- For SRA, LRA more stringent WUI guidelines



Contemporary Sm



Contemporary Lg





