

"TYPICAL" SIZED LOT HOUSE
SOUTH FACING FRONT GARDEN, TYPICAL

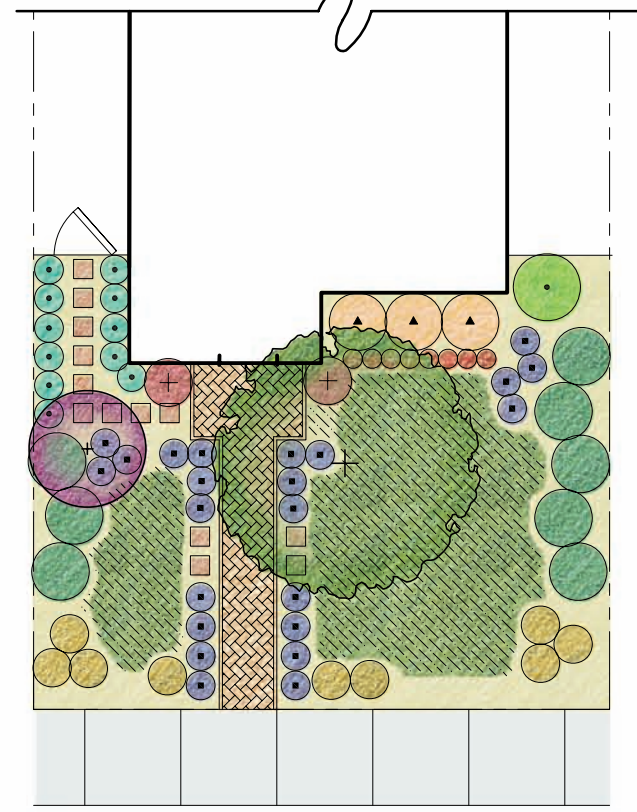
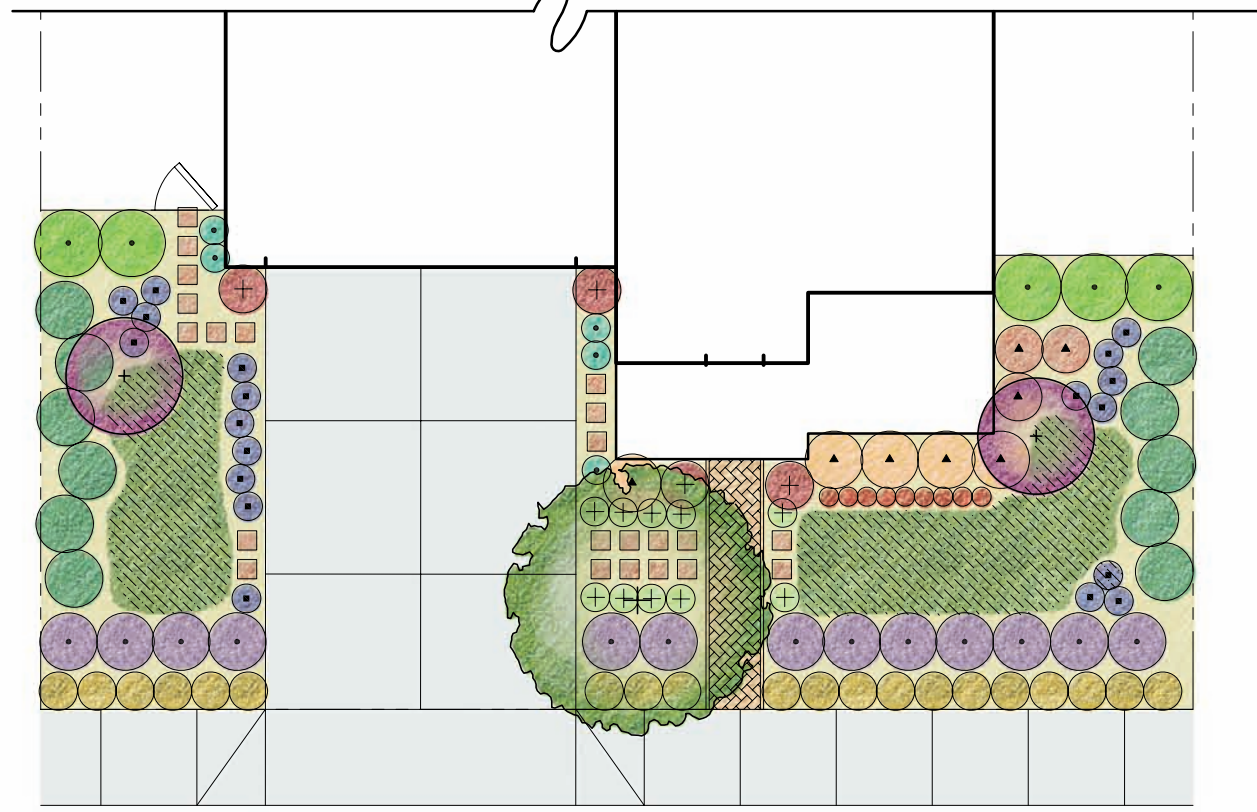
60'x80' LOT

ZERO-LOT LINE HOUSE
SOUTH FACING FRONT GARDEN, TYPICAL

30'x80' LOT

CENTRAL VALLEY FRONT YARD

June 2009



PLANT COUNT
TREES 3
SHRUBS 104

GROUNDCOVER 167 SF

PLANT COUNT
TREES 2
SHRUBS 65

GROUNDCOVER 208 SF

PLANT CLIMATE:
Central Valley summers are hot and dry winters are cold with occasional freeze limiting plant options.

PAVING:
Entry and side walkway to be sand-set permeable unit pavers, decomposed granite, pebbles or other surface light in color for low heat emission. Driveway to be permeable concrete, permeable asphalt or upgraded to sand-set permeable paver units. Impervious surface should be minimized.

DRAINAGE:
Downspouts should be directed into landscape with grading for proper drainage away from house. Runoff during plant establishment must be accommodated on-site.

DESIGN:
The Water Efficient Landscape Ordinance allows drip, drip line, or other low-flow, non-spray irrigation within two feet of any non-permeable surface; it does not allow spray irrigation in these areas. There are no restrictions on the irrigation system if the landscaped area is adjacent to permeable surfacing. Planting and irrigation must be designed appropriately adjacent to non-permeable paving to meet this Ordinance.

MULCH:
Two (2) inches of mulch in all areas. Sheet mulching and recycled green waste mulch are recommended.

FIRE:
Templates are based on individual lots within a subdivision. When developing up against wildlands or other fire sensitive areas for an individual parcel or a project, a fire management plan should be created.

PLANT RESOURCES:
The sample plant legend above provides guidance for appropriate plant selection. Selections should be modified to address different solar orientations, soil conditions, and other micro-climatic factors of a particular building site. Resources for additional plant selections and substitutions include Sunset's Western Garden Book, edited by Kathleen Norris Brenzel; Water Use Classification of Landscape Species (WUCOLS), <http://www-facilities.stanford.edu/environment/landscape.pdf> and your local chapter of the California Native Plant Society (www.cnps.org).

SAMPLE PLANT LEGEND

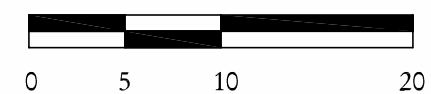
SYMBOL	BOTANICAL NAME	COMMON NAME
LARGE TREES		
	<i>Pistache chinensis</i>	Chinese Pistache
	<i>Prunus 'Krauter Vesuvius'</i>	Flowering Plum
	<i>Quercus suber</i>	Cork Oak
SMALL TREES		
	<i>Arctostaphylos manzanita</i>	Manzanita
	<i>Cercis occidentalis</i>	Redbud
	<i>Cotinus coggygria</i>	Smoke Tree
LARGE SHRUBS		
	<i>Xylosma 'Compacta'</i>	NCN
	<i>Nerium o. 'Petite Salmon'</i>	Oleander
	<i>Juniperus s. 'Skyrocket'</i>	Juniper Column
	<i>Cistus ladanifer</i>	Crimson-spot Rockrose
	<i>Salvia microphylla</i>	Sage
	<i>Arctostaphylos d. 'Howard McMinn'</i>	Manzanita
SMALL SHRUBS & PERENNIALS		
	<i>Epilobium californica</i>	California Fuchsia
	<i>Carex tumulicola</i>	Berkeley Sedge
	<i>Nandina 'Fire Power'</i> **	Heavenly Bamboo**
	<i>Nassella tenuissima</i>	Mexican Feather Grass
	<i>Erigeron glaucas</i> **	Beach Aster**
GROUNDCOVER		
	<i>Arctostaphylos 'Emerald Carpet'</i>	Emerald Carpet
	<i>Myoporum parvifolium*</i>	NCN
	<i>Cotoneaster dammeri*</i>	Bearberry Cotoneaster*
HARDSCAPE		
	Pavers	
	Sand-set Brick	
	Mulch	

* Can tolerate light traffic
** Can tolerate shade

SUNSET ZONES - 8, 9, 14



NORTH



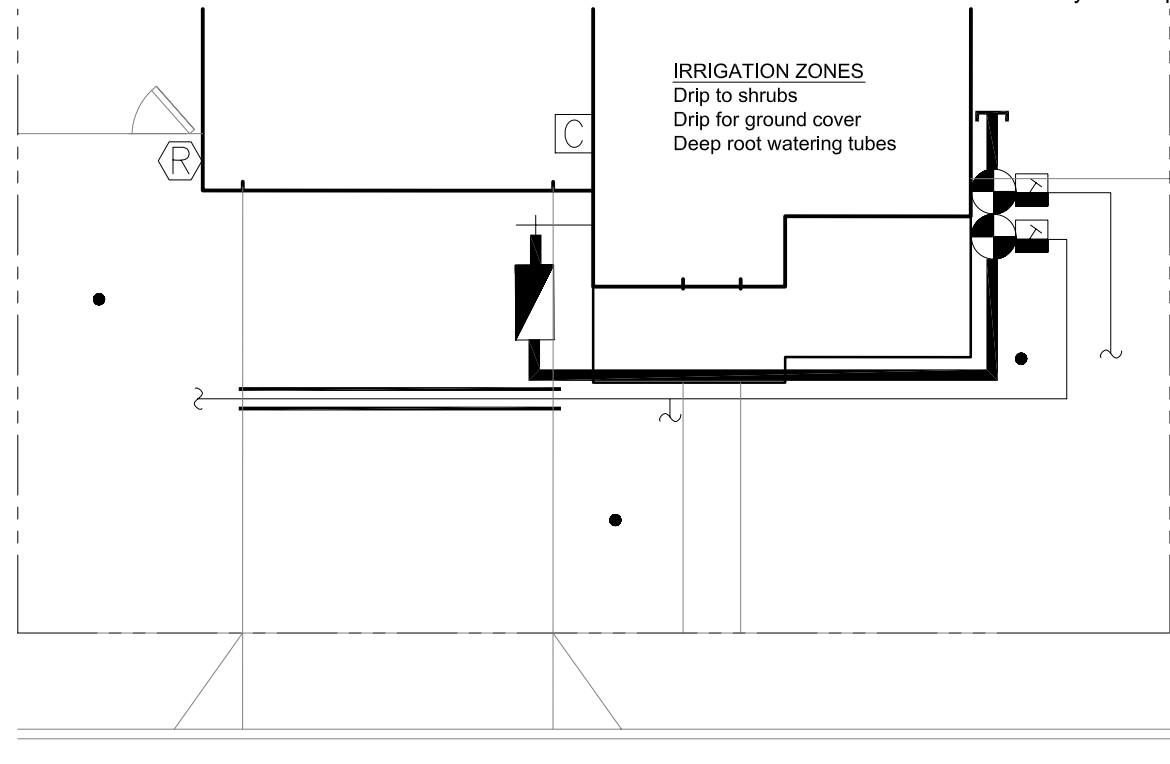
1" = 10'-0"

"TYPICAL" SIZED LOT HOUSE

SOUTH FACING FRONT GARDEN, TYPICAL

60'x80' LOT

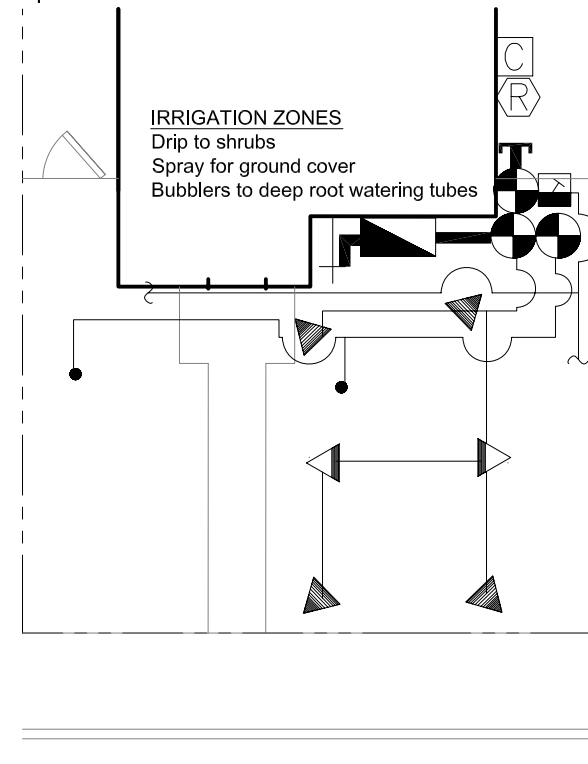
Refer to back yard templates for back yard examples



ZERO-LOT LINE HOUSE

SOUTH FACING FRONT GARDEN, TYPICAL

30'x80' LOT



CENTRAL VALLEY FRONT YARD

June 2009



NORTH



0 5 10 20

1" = 10'-0"

SAMPLE WATER USE PROJECTIONS FOR TEMPLATE PLANTING/IRRIGATION

Estimated Water Use-Clovis - Zero Lot Line														
Valves	SQ FT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN GAL
Spray Ground Cover	192	0	54	117	254	358	409	443	392	277	175	51	10	2,540
Drip Ground Cover	373	0	82	177	383	541	617	670	592	419	264	77	15	3,838
TOTAL	565	0	136	293	637	898	1,026	1,113	983	696	439	129	26	6,378
Estimated water use 6,378 gal/yr, MAWA = 13,229 gal/yr, projected use = 48% of MAWA														
Estimated Water Use-Clovis - Typical Lot														
Valves	SQ FT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN GAL
Drip Ground Cover	808	0	178	383	831	1,171	1,337	1,451	1,282	908	572	168	34	8,314
TOTAL	808	0	178	383	831	1,171	1,337	1,451	1,282	908	572	168	34	8,314
Estimated water use 8,314 gal/yr, MAWA = 18,919 gal/yr, projected use = 44% of MAWA														
Rainwater potential for 980 sq ft roof = 5,913 gal/yr														
Greywater Potential for 2 showers/day = 17,800 gal/yr														

PRECIP = Precipitation Rate is the application rate of irrigation in inches per hour

Assumed precip: Spray heads -1.8, Drip -.4, Subsurface drip - 1.1, Deep root watering -8

MAWA = Maximum Annual Water Allotment (in gallons and based upon 70% of area historical annual ET)

ETo = Reference evapotranspiration is the quantity of water evaporated from the soil and transpired by the planting and is measured in inches per month

ANN GAL = Annual gallons

RUNTIME = Total amount of minutes required for planting root depth in native soil

CYC = Total number of repeat cycles required for native soil

CYC TIME = Rounded minutes of each cycle to be repeated by "CYC allowing infiltration monthly number = number of times/month to apply runtime (refer to example below)

SPRAY HEAD = Spray head with one of the following: standard matched precipitation spray nozzles - 1.8"/hr, low precipitation nozzles - 1"/hr, or mini rotor nozzles - .4"/hr

During establishment period, root depth is shallower, thus requiring more frequent irrigation with shorter run times, stretching out the frequency and extending the total runtimes as the planting matures and roots penetrate into native soil conditions over a 3-5 year span. Establishment irrigation frequency depends upon the time of year initial planting takes place.

BASE SCHEDULE for established plant material with historical weather data (10 year average) and assumed precip. Note, if low precipitation heads or mini rotors are used in lieu of conventional spray heads, then the base run times will need to be extended to provide water down to the planting root zones.

Monthly example:

The number under the month indicates the number of times that zone needs to be irrigated during that month. For fractions of runtimes per month, multiply the # of CYC by the decimal (example: drip/ground cover requires .6 runtimes per month of March = .6 X 7(# of CYC)= 4 cycles of 23 minutes each (CYC). This would equate to 92 minutes total runtime one time during the month of March.

Front Yards: Refer to front yard design templates for layout ideas.

Note: Some plants respond better to overhead spray while many others do better with drip. The irrigation design will need not only to take into consideration plant preferences, but also runoff and potential blockage where the planting grows in front of the spray heads. Drip and spray are both shown on the templates to show differences in system costs and projected water use.

Also see back yard templates.

SAMPLE BASE SCHEDULES FOR ESTABLISHED LOW WATER USING PLANT MATERIAL

Clovis Base Schedule (Fresno County)																
STA	PRECIP	RUN TIME	CYC	CYC TIME	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Spray Ground Cover	1.8	48	10	5	0	0	0.7	1.5	2.1	2.4	2.6	2.3	1.6	1	0	0
Drip Shrub	0.4	267	12	23	0	0	0.4	0.9	1.3	1.5	1.6	1.4	1	0.6	0	0
Subsurface Drip - Ground Cover	1.1	61	7	8	0	0	0.7	1.5	2.1	2.4	2.6	2.3	1.6	1	0	0
Drip Ground Cover	0.4	167	7	23	0	0	0.7	1.5	2.1	2.4	2.6	2.3	1.6	1	0	0
Deep root watering-Trees in planting	8	35	31	1	0	0	0.2	0.4	0.5	0.6	0.6	0.6	0.4	0.3	0	0

IRRIGATION SYSTEM LEGEND

	1" Shut-off valve-domestic supply	-By other section of contract-providing 12 gpm at 55 psi min.
	Irrigation backflow prevention device-1"	-12" Above grade to protect domestic supply
	Irrigation controller	-Smart technology indoor or exterior mount
	Rain sensor	-Adjustable rain shut-off device with unobstructed installation
	Remote Control Valves	-Below grade in valve box with 2 cu feet of gravel below
	Drip control assembly	-120 Mesh filter and 40 psi regulator where psi is excessive
	Irrigation main stub-out-1"	-Provide all spare station wires and common in valve box
	12" Spray heads (24" from walks)	-Matched precip with check valves-10H,T,Q -10' radius
	12" Spray heads (24" from walks)	-Matched precip with check valves-8H,T,Q -8' radius
NOTE: 6" Spray head body is to be used where mature plant material is less than 5" height.		
All spray heads to be installed 24" from hardscape and 12" from permeable surfaces and fences.		
	Deep root watering tube	-Use 1 GPM bubbler as alternate to hand watering
	Irrigation main-1"	-1120/Schedule 40 PVC pipe -18" Cover
	Irrigation lateral	-1120/Class 200 PVC pipe -12" Cover
	Electrical conduit-1"	-1120/Schedule 40 PVC pipe -24" Cover
	Sleeving-3"	-1120/Schedule 40 PVC pipe -24" Cover
	To drip irrigation	-Point source or multi-outlet emitters -6" Cover