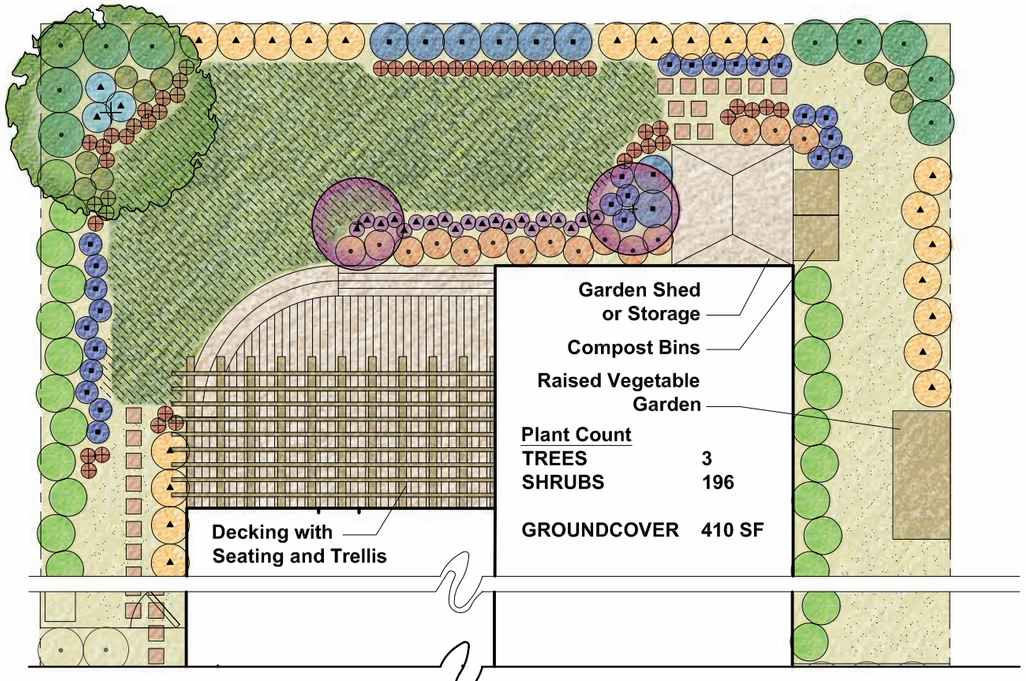
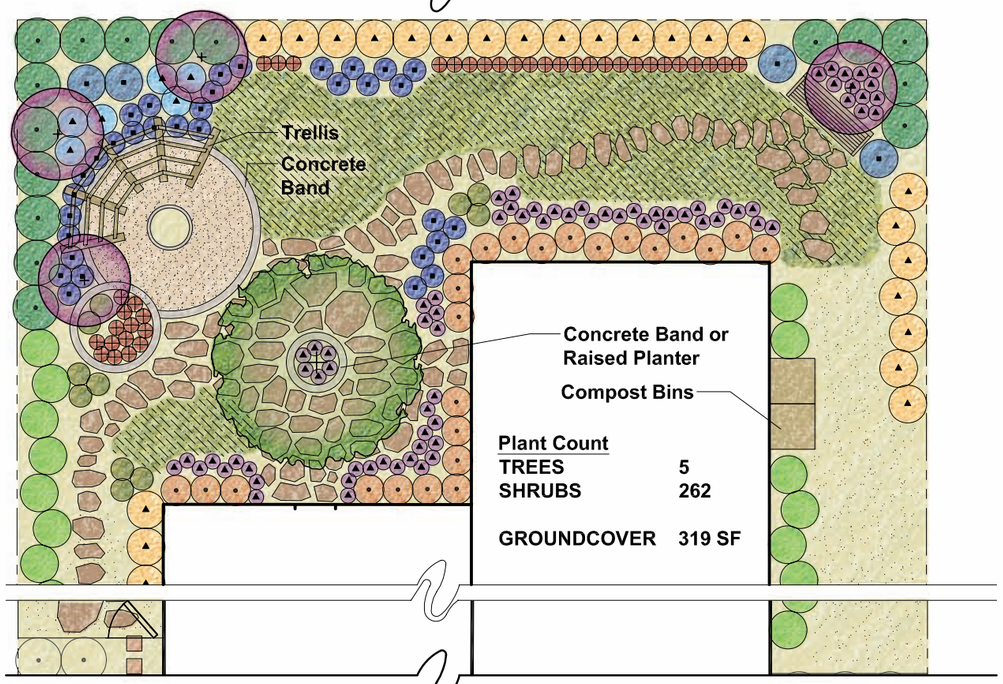
"TYPICAL" SIZED LOT HOUSE
NORTH FACING REAR GARDEN, TYPICAL

60'x80' LOT

RECREATION/ACTIVE

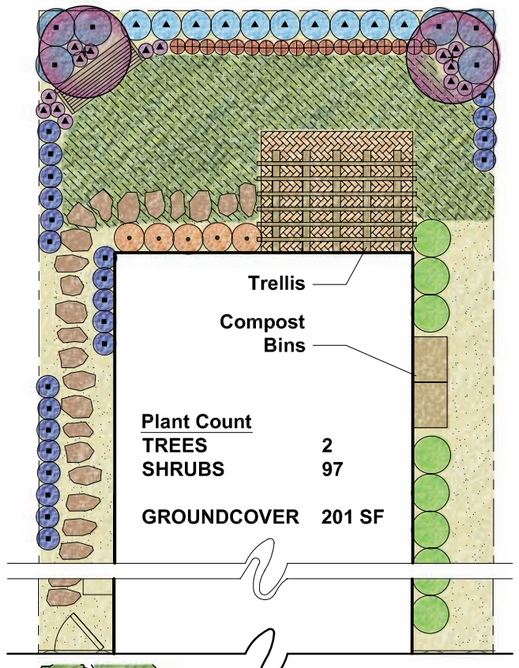


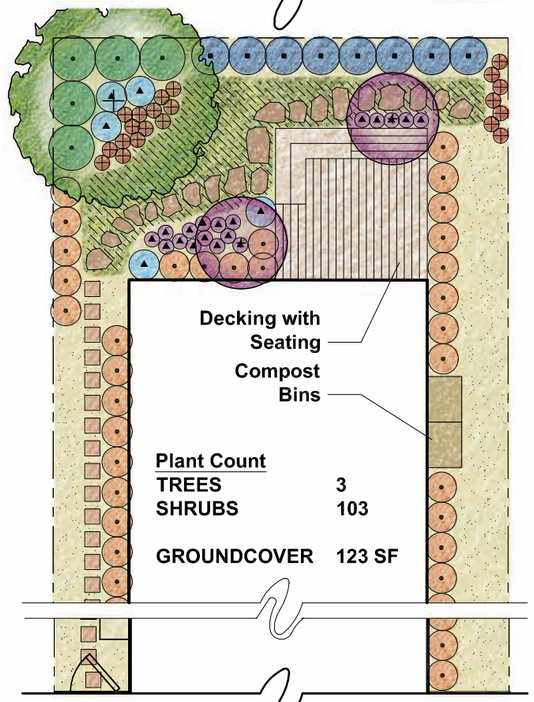
SOCIAL/PASSIVE



ZERO-LOT LINE HOUSE
NORTH FACING REAR GARDEN, TYPICAL

30'x80' LOT





Smart From the Start

SOUTHERN COASTAL BACK YARD

June 2009

SAMPLE PLANT LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME
LARGE TREES		
	Leptospermum laevigatum	Australian Tea Tree
	Quercus tomentella	Island Oak
SMALL TREES		
	Aloe barberae	Tree Aloe
	Arbutus unedo 'Elfin King'	Dwarf Strawberry Tree
	Dracaena draco	Dragon Tree
LARGE SHRUBS		
	Protea obtusifolia	Limestone Sugarbush
	Carpenteria californica	Anemone
	Helianthemum nommularium	Sunrose
	Encephalartos altensteinii	Prickly Cycad
MEDIUM SHRUBS		
	Agave a. 'Nova'	Blue Fox Tail Agave
	Ribes viburnifolium**	Catalina Currant
SMALL SHRUBS & PERRENIALS		
	Carex pansa	Sedge
	Agave dasylirioides	Dasylirion Agave
	Euphorbia dulcis**	NCN
	Dudleya brittonii	Dudleya
GROUNDCOVER RECREATIONAL/ACTIVE		
	Carex praegracilis*	Sedge*
	Turf *	NCN*
GROUNDCOVER SOCIAL/PASSIVE		
	Arctostaphylos 'Emerald Carpet'	Emerald Carpet
	Dudleya hassei	Catalina Island Live-Forever
	Dymondia margaretae*	Silver Carpet*
	Senecio mandraliscae	NCN

HARDSCAPE

Pavers
Stepping Stones
Bench
Mulch or DG
Pea Gravel
Sand-set Brick

* Can tolerate light traffic
* Can tolerate shade

SUNSET ZONES - 22, 23, 24

NORTH

0 5 10 20

1" = 10'-0"

Note: For additional information regarding design and installation, please see back yard template and CUWCC's Water Smart Landscape Checklist at www.cuwcc.org.

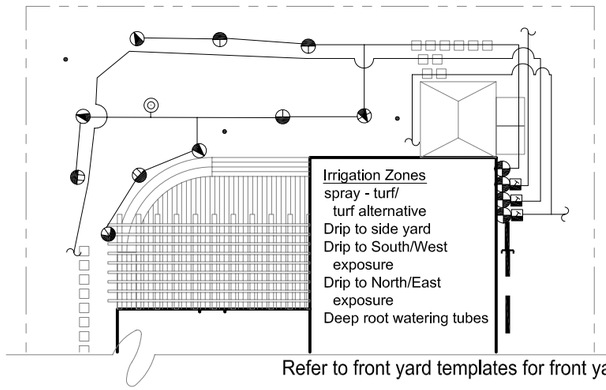
Funded by the U.S. Bureau of Reclamation, Lower Colorado Region, Southern California Office.

SOUTHERN COASTAL BACK YARD

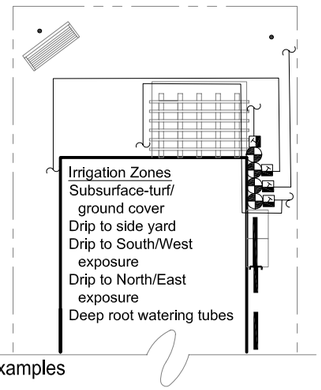
June 2009

RECREATION/ACTIVE

"TYPICAL" SIZED LOT HOUSE
NORTH FACING REAR GARDEN, TYPICAL



ZERO-LOT LINE HOUSE
NORTH FACING REAR GARDEN, TYPICAL



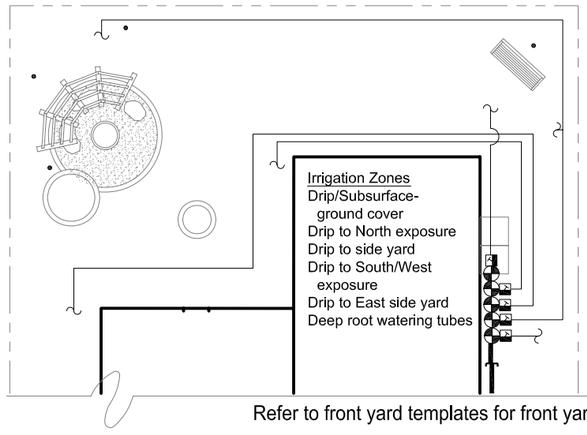
Refer to front yard templates for front yard examples

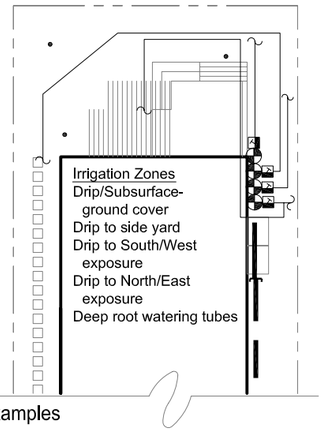
NORTH

0 8 16 32

1" = 16'-0"

SOCIAL/PASSIVE



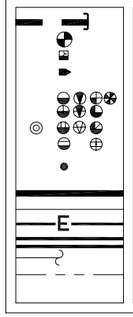


Refer to front yard templates for front yard examples

PRECIP = Precipitation Rate is the application rate of irrigation in inches per hour
Assumed precips: 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 infilitration monthly number = number of times/month to apply runtime (refer to example below)
BASE SCHEDULE for established plant material with historical weather data (10 year average) and assumed precips. 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.
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-0.4"/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.

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.
Backyards: Refer to backyard design templates for both social and recreation 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 front yard templates.

BACK YARD IRRIGATION SYSTEM LEGEND



Existing irrigation main stub-out-1"	-Connect to stubout, station wires and common in valve box	
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	
Flush valve/air relief valve	-Manual ball valve and air relief valve as required	
6" Spray heads (12" from fence)	-Matched precip with check valves-12H,T,Q,ADJ	-12' radius
6" Spray heads (12" from fence)	-Matched precip with check valves-10H,T,Q	-10' radius
6" Spray heads (12" from fence)	-Matched precip with check valves-8F,H,T,Q	-8' radius
6" Spray heads (12" from fence)	-Matched precip with check valves-15SST,EST	-3' X 10'
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
Inline subsurface drip-1/2"	-LDPE with inline emitters 12" on center	- 4" cover

Typical Lot -Recreation	Estimated Water Use- Santa Barbara													
Valves	SQ FT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN GAL
Spray Turf	440	8	217	521	850	1,371	1,398	1,398	1,398	1,234	910	362	101	9,767
Spray Turf alternative	440	5	124	298	486	783	799	799	799	705	520	207	58	5,581
Drip GC	1160	7	190	458	747	1,204	1,229	1,229	1,229	1,084	800	318	89	8,583
TOTAL with Turf	1600	15	407	979	1,597	2,575	2,627	2,627	2,627	2,318	1,710	887	249	18,350
TOTAL with Turf alternative	1600	12	314	755	1,232	1,988	2,027	2,027	2,027	1,789	1,320	1,205	338	14,164
Estimated water use with turf 18,350 gal/yr; MAWA = 28,329 gal/yr; projected water use = 65% with turf														
Estimated water use with turf alternative 14,164 gal/yr; MAWA = 28,329 gal/yr; projected water use = 50% with turf alternative														
Zero Lot - Recreation	Estimated Water Use- Santa Barbara													
Valves	SQ FT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN GAL
Subsurface Drip Turf	220	3	84	203	330	533	544	544	544	480	354	141	39	3,798
Subsurface Turf alternative	220	2	48	116	189	305	311	311	311	274	202	80	23	2,170
Drip shrubs	500	3	82	197	322	519	530	530	530	467	345	137	38	3,700
TOTAL with Turf	720	6	166	400	652	1,052	1,073	1,073	1,073	947	699	358	100	7,498
TOTAL with Turf alternative	720	5	130	313	511	824	840	840	840	741	547	495	139	5,870
Estimated water use with turf 7,498 gal/yr; MAWA = 12,748 gal/yr; projected water use = 59% of MAWA with turf														
Estimated water use with turf alternative 5,870 gal/yr; MAWA = 12,748 gal/yr; projected water use = 46% with turf alternative														
Typical Lot - Social	Estimated Water Use- Santa Barbara													
Valves	SQ FT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN GAL
Drip Ground Cover	800	5	131	316	515	831	847	847	847	748	552	219	61	5,919
Drip shrubs	800	5	131	316	515	831	847	847	847	748	552	219	61	5,919
TOTAL with Turf	1600	10	262	631	1,030	1,661	1,695	1,695	1,695	1,495	1,103	439	123	11,839
Estimated water use 11,839 gal/yr; MAWA = 28,329 gal/yr; projected water use = 42% of MAWA														
Zero Lot - Social	Estimated Water Use- Santa Barbara													
Valves	SQ FT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN GAL
Drip GC	130	1	21	51	84	135	138	138	138	121	90	36	10	962
Drip shrubs	590	4	97	233	380	613	625	625	625	551	407	162	45	4,366
TOTAL	720	5	118	284	464	748	763	763	763	673	496	197	55	5,327
Estimated water use 5,327 gal/yr; MAWA = 12,748 gal/yr; projected water use = 42% of MAWA														