

# CHILD FRIENDLY LANDSCAPE TYPICAL WATER SMART RESIDENTIAL PLAN



FRONT SECTION

SCALE 1/4"=1'-0"

## LANDSCAPE ARTIST STATEMENT

My approach to designing a water smart, kid friendly environment was to make the space both interesting and low maintenance. This yard is designed with small children in mind with three different areas; an active play area, a bicycle path and a sandbox. While the path can remain for strolling through the garden, the sandbox can convert into another patio or a fire pit for future enjoyment. There is also a small lawn area. Yes, you can still have a lawn and be water-wise. The key is to make sure the lawn is a reasonable size and is in a usable spot on the property. This lawn is just large enough to play some games and positioned at the back yard next to the patio extending the usable area. Smart planting will help keep down maintenance which gives you more time to spend with your family. By designing a yard with the mature sizes of plants in mind, I have eliminated the necessity of pruning shrubs back from walkways and avoided the very common practice of pruning shrubs into squares and globes. The planting of this yard utilizes ornamental grasses and Mediterranean flora as well as fun-looking plants like the Ponytail Palm and Matilija Poppy (also called the Fried-egg Bush), all of which are low water usage and require low maintenance. This yard is a great place to relax and play and it can grow and mature as your family does.



REAR NORTH SECTION

SCALE 1/4"=1'-0"



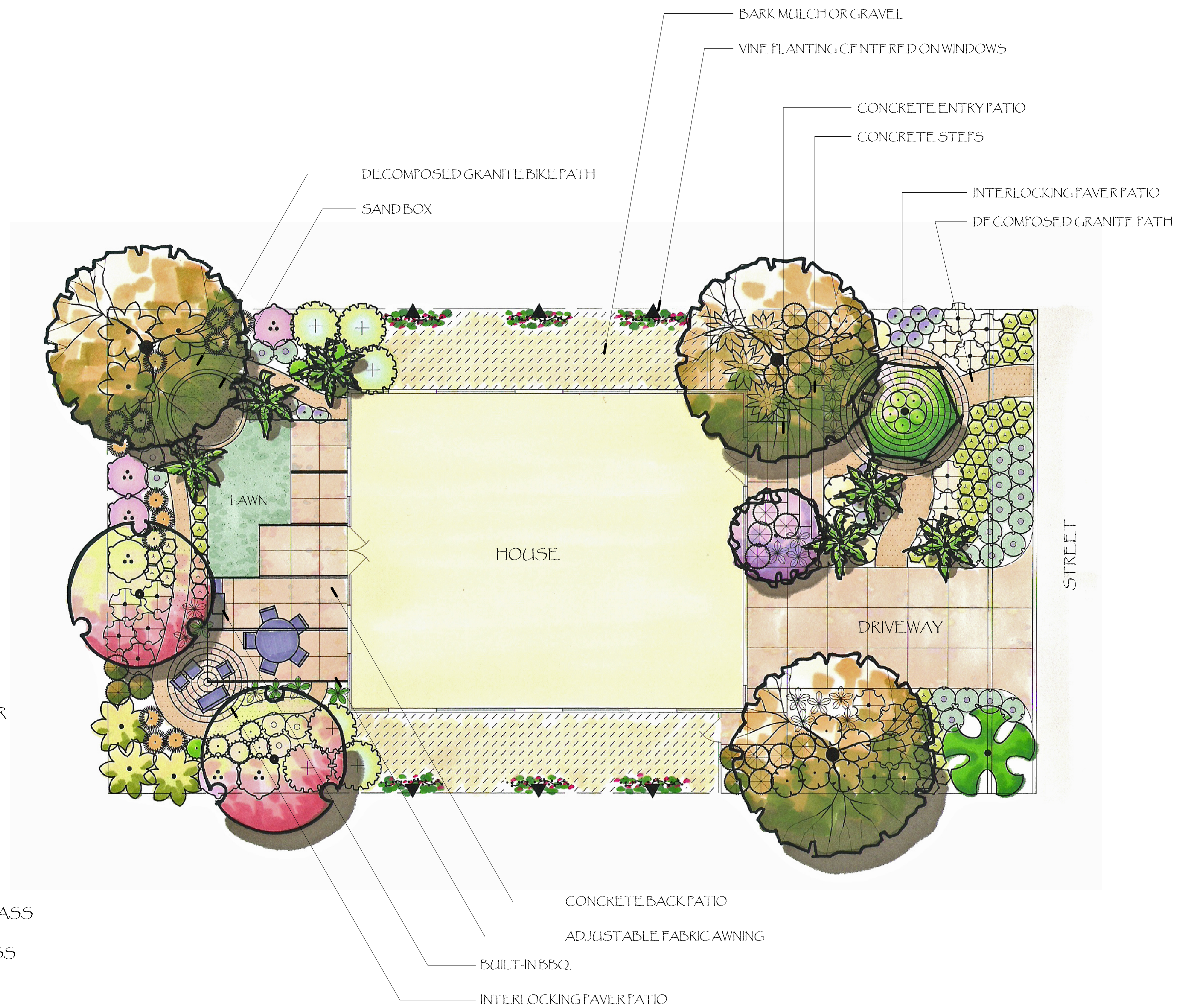
REAR SOUTH SECTION

SCALE 1/4"=1'-0"

CHILD FRIENDLY LANDSCAPE  
TYPICAL WATER SMART RESIDENTIAL PLAN  
INFORMATION SHEET

PLANTING LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME
<b>TREES</b>		
	ARBUTUS UNEDO 'MARINA'	STRAWBERRY TREE
	BEAUCARNEA RECURVATA	PONYTAIL PALM
	CERCIS OCCIDENTALIS	WESTERN REDBUID
	FEUJOA SELLOWIANA	PINEAPPLE GUAVA
	OLEA EUROPA 'SWAN HILL'	FRUITLESS OLIVE
<b>SHRUBS</b>		
	ALYOGYNE HUEGELII	BLUE HIBISCUS
	ANIGOZANTHUS FLAVIDUS	KANGAROO PAW
	COTONEASTER HORIZONTALIS	ROCK COTONEASTER
	LAVANDULA DENTATA	FRENCH LAVENDER
	LAVANDULA STOECHAS 'OTTO QUAST'	SPANISH LAVENDER
	LIMONIUM PEREZII	LAVENDER STATICE
	MUHLENBERGIA RIGENS	DEER GRASS
	NASELLA CERNUA	NODDING NEEDLEGRASS
	NASELLA PULCHRA	PURPLE NEEDLEGRASS
	PANICUM VIRGATUM	SWITCH GRASS
	PENNISETUM SETACEUM	PURPLE FOUNTAIN GRASS
	ROMNEYA COULTERI	MATILJA POPPY
	SANTOLINA CHAMAECYPARISSUS	LAVENDER COTTON
	STIPA GIGANTEA	FEATHER GRASS
<b>VINES</b>		
	ROSA CALIFORNICA	CALIFORNIA ROSE



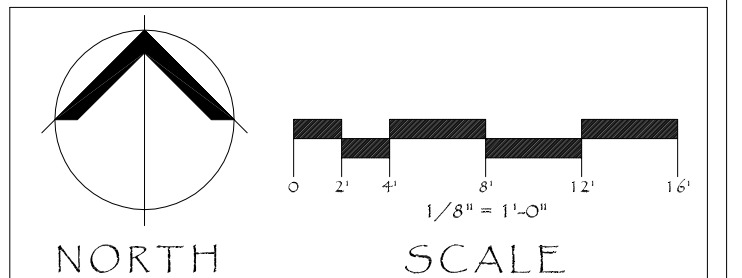
NOTES:

- LAWN CAN BE A WATER FRIENDLY VARIETY SUCH AS:  
BUCHLOE DACTYLOIDES - BUFFALOGRASS  
CYNODON SPECIES - HYBRID BERMU DAGRASS  
ZOYSIA VICTORIA - VICTORIA ZOYSIAGRASS
- MANY NURSERIES CARRY THESE PLANTS. FOR A LIST OF NURSERIES VISIT WWW.THEGARDEN.COM
- YOUR WATER DISTRICT MAY HAVE REBATES AVAILABLE FOR WATER-WISE PLANTS. CHECK THEIR WEBSITE REGULARLY FOR UPDATES.

SOIL AMENDMENT & GARDEN TIPS:

- TILL EXISTING SOIL WITH THE FOLLOWING:  
1/2 GYPSUM + 1/2 ORGANIC SOIL BUILDING COMPOST
- SPREAD GRO POWER PLUS FERTILIZER & SOIL CONDITIONER UNDER ALL PLANTS MONTHLY FOR THE 1ST YEAR.
- 1.5" LAYER ORGANIC COMPOST AS FINISHING MULCH. REAPPLY ANNUALLY
- EARLY SPRING & FALL: PRUNE BACK ALL SHRUBS TO KEEP COMPACT AND REJUVINATE NEW GROWTH.
- EARLY SPRING (& FALL IF DESIRED): CUT BACK ORNAMENTAL GRASS 2-3" ABOVE GROUND TO CLEAN AWAY DEAD FOLIAGE AND REJUVINATE NEW GROWTH.

CHILD FRIENDLY LANDSCAPE  
TYPICAL WATER SMART RESIDENTIAL PLAN  
PLANTING PLAN



TREES



*Cercis occidentalis*  
Western Redbud



*Arbutus unedo*  
Strawberry Tree



*Olea europaea* "Swan Hill"  
Fruitless Olive



*Feijoa sellowiana*  
Pineapple Guava



*Beccarnea recurvata*  
Pong Tat! Palm



VINES



*Rosa californica*  
California Wild Rose



SHRUBS



*Antozanthes flavidus*  
Kangaroo Paw



*Lavandula dentata*  
French Lavender



*Cotoneaster horizontalis*  
Rock Cotoneaster



*Santolina chamaecyparissus*  
Lavender Cotton



*Lavandula stoechas* "Otto Quast"  
Spanish Lavender



*Alibegonia huegelii*  
Blue Hibiscus



*Stipa gigantea*  
Feather Grass



*Muhlenbergia rigens*  
Deer Grass



*Nassella cernua*  
Nodding Needle Grass



*Nassella pulchra*  
Purple Needle Grass



*Rumex crispus*  
Maiflija Poppy



*Panicum virgatum*  
Switch Grass



*Pennisetum setaceum*  
Purple Fountain Grass

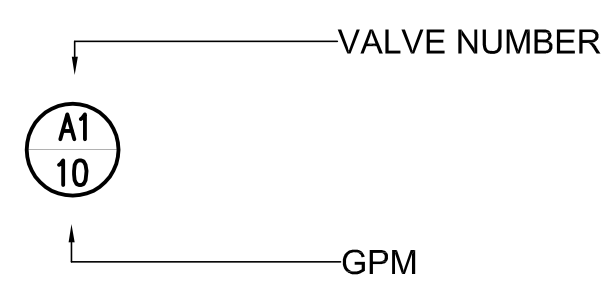


CHILD FRIENDLY LANDSCAPE  
TYPICAL WATER SMART RESIDENTIAL PLAN  
PLANT IMAGES

## IRRIGATION MATERIAL LEGEND

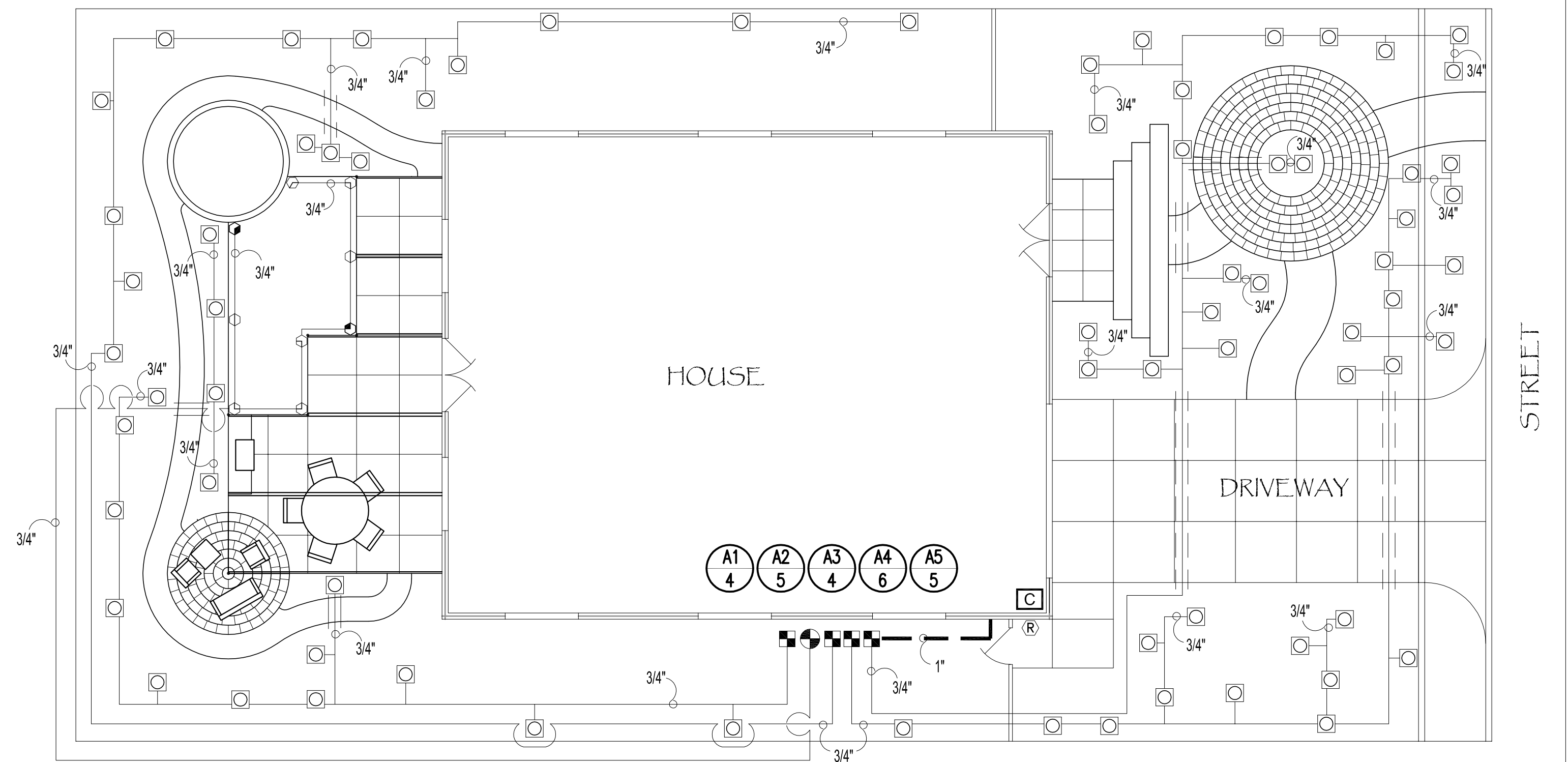
SYMBOL				MANUFACT.	MODEL NO. / DESCRIPTION	GPM	PSI	RADIUS
Q	T	H	F					
			☉	RAIN BIRD	XERI-BIRD 8 MULTI-OUTLET EMISSION DEVICE, MODEL XBD-80, USING XERI-BUG EMITTER, MODEL XB-20 (2 GPH PER OUTLET); TWO PER SHRUB AND FOUR PER TREE; INSTALL EMISSION DEVICE WITHIN SEB-6X EMITTER BOX, WITH DT-025 DISTRIBUTION TUBING (5 FT. MAX LENGTH), TS-025 TUBING STAKE (ONE PER TUBE/EMITTER), AND ONE DBC-025 BUG CAP PER EMITTER/DISTRIBUTION TUBE	2.0-16.0 GPH	20	N/A
☉	☉	☉	○	RAIN BIRD	1806-SAM-PRS POP-UP TURF HEAD W/ RAIN BIRD 8-Q/T/H/F NOZZLES	.21, .27, .41, .82	25	7 FT
☉	☉	☉	●	RAIN BIRD	1806-SAM-PRS POP-UP TURF HEAD W/ RAIN BIRD 12-Q/T/H/F NOZZLES	.60, .80, 1.20, 2.40	25	11 FT
			■	RAIN BIRD	LFV100 (1") LOW FLOW VALVE. INSTALL RAIN BIRD PRB-QKCHK-100-200M (1") PRESSURE REGULATING, QUICK-CHECK BASKET FILTER ON THE DOWNSTREAM SIDE OF EACH DRIP REMOTE CONTROL VALVE.			
			⊕	RAIN BIRD	100-DVF (1") REMOTE CONTROL VALVE. WITH AG. PRODUCTS 4E 200 MESH WYE FILTER (1" SIZE FOR SYSTEMS LESS THAN 18 GPM, 1 1/2" SIZE FOR ZONES LARGER THAN 18 GPM) AND A SENNINGER PMR-30-MF 1" PRESSURE REGULATOR FOR SYSTEMS LESS THAN 15 GPM, USE PR-40HF 1 1/4" REGULATOR FOR SYSTEMS LARGER THAN 15 GPM.			
			ⓐ	TORO	TIS-06-ID TORO INTELLISENSE 6 STATION CONTROLLER. MOUNT INSIDE GARAGE ON EXTERIOR WALL.			
			Ⓡ	TORO	TWRS TORO WIRELESS RAIN SENSOR. MOUNT ON GUTTER.			

- AS APPROVED PVC PIPE 3/4" CL. 200 AS LATERAL LINES 12" BELOW GRADE
- AS APPROVED PVC PIPE SCH 40 AS MAINLINE. CONNECT TO HOUSE WATER SUPPLY DOWNSTREAM OF BACKFLOW PREVENTER AND METER 24" BELOW GRADE
- AS APPROVED PVC PIPE SCH. 40 AS SLEEVING, TWICE THE DIAMETER OF PIPE OR WIRE BUNDLE CARRIED PLACE BELOW ALL PAVING, HARDSCAPE, ETC.
- AS APPROVED IRRIGATION CONTROL WIRE #14UF AWG DIRECT BURIAL (U.L. APPROVED)
- 3M DBY DIRECT BURIAL WATER-PROOF WIRE CONNECTORS FOR USE ON ALL WIRE CONNECTIONS
- K.B.I. KSC-XXX-S SWING CHECK VALVE, LINE SIZE, 1 DOWNSTREAM OF EACH RCV WHEN RCV IS LOWER THAN THE SPRINKLERS
- K.B.I. KC-XXX-S SPRING CHECK VALVE, LINE SIZE, 1 DOWNSTREAM OF EACH RCV IMMEDIATELY ABOVE FIRST LATERAL LINE TEE, WHEN RCV IS HIGHER THAN THE SPRINKLERS

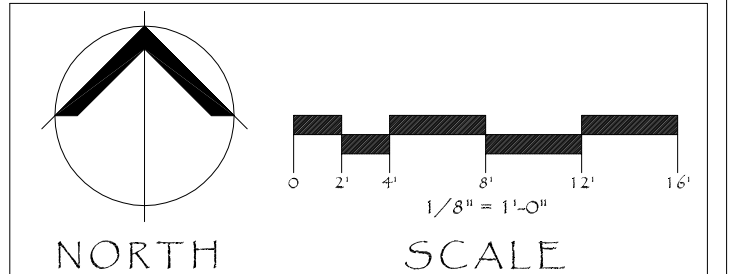


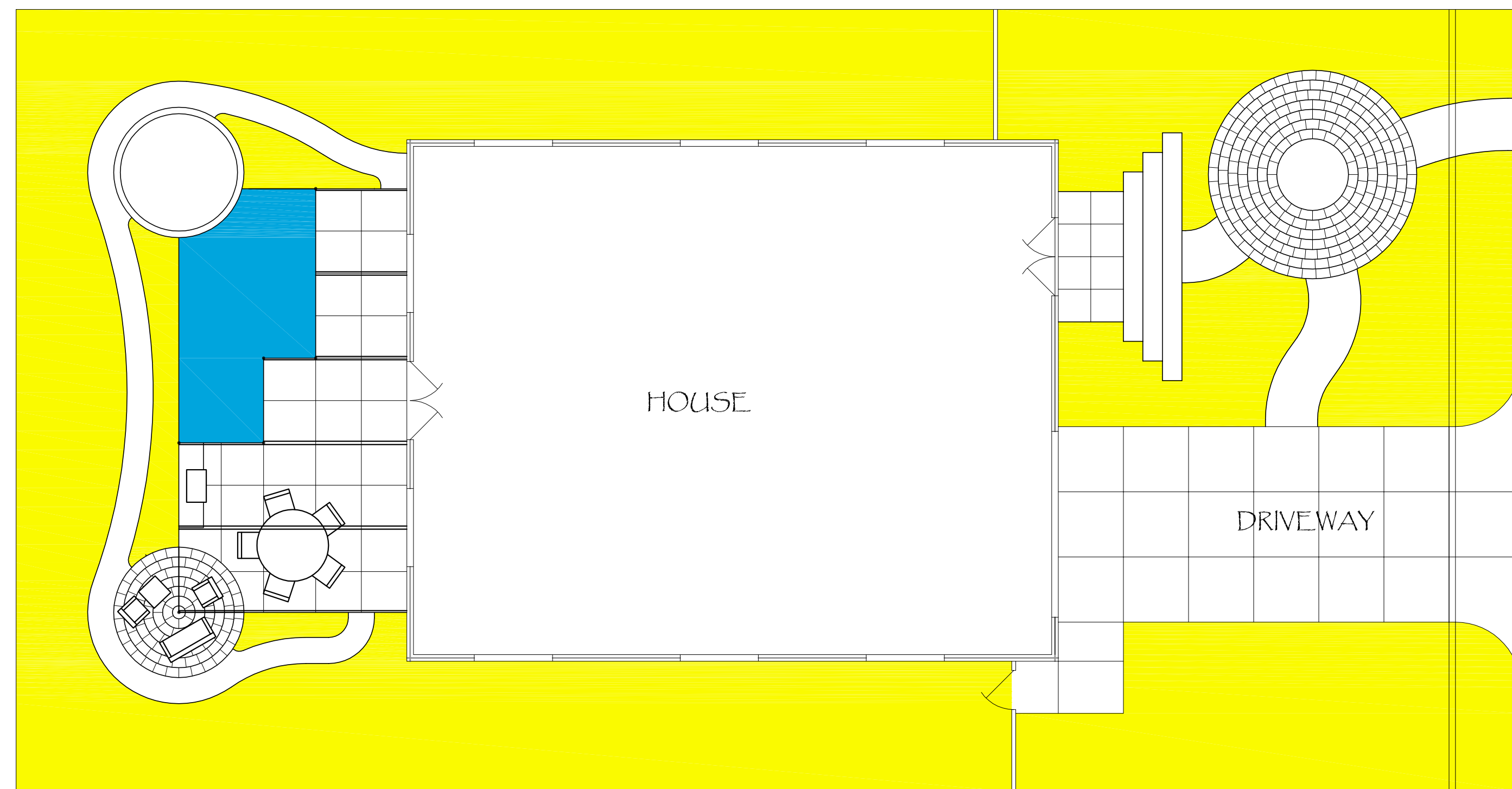
### NOTES:

- ALL IRRIGATION SHOULD BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS. THESE ARE AVAILABLE ON THE MANUFACTURER'S WEBSITES AND AT IRRIGATION SPECIALTY STORES.
- IRRIGATION EQUIPMENT IS BEST PURCHASED FROM AN IRRIGATION SPECIALTY STORE, SUCH AS HYDROSCAPE, TO ENSURE THAT YOU GET THE RIGHT EQUIPMENT AND THE PROPER QUANTITIES BRING YOUR PLAN IN TO THE STORE.
- YOUR WATER DISTRICT MAY HAVE REBATES AVAILABLE FOR WATER-WISE IRRIGATION EQUIPMENT. CHECK THEIR WEBSITE REGULARLY FOR UPDATES.



CHILD FRIENDLY LANDSCAPE  
TYPICAL WATER SMART RESIDENTIAL PLAN  
IRRIGATION PLAN



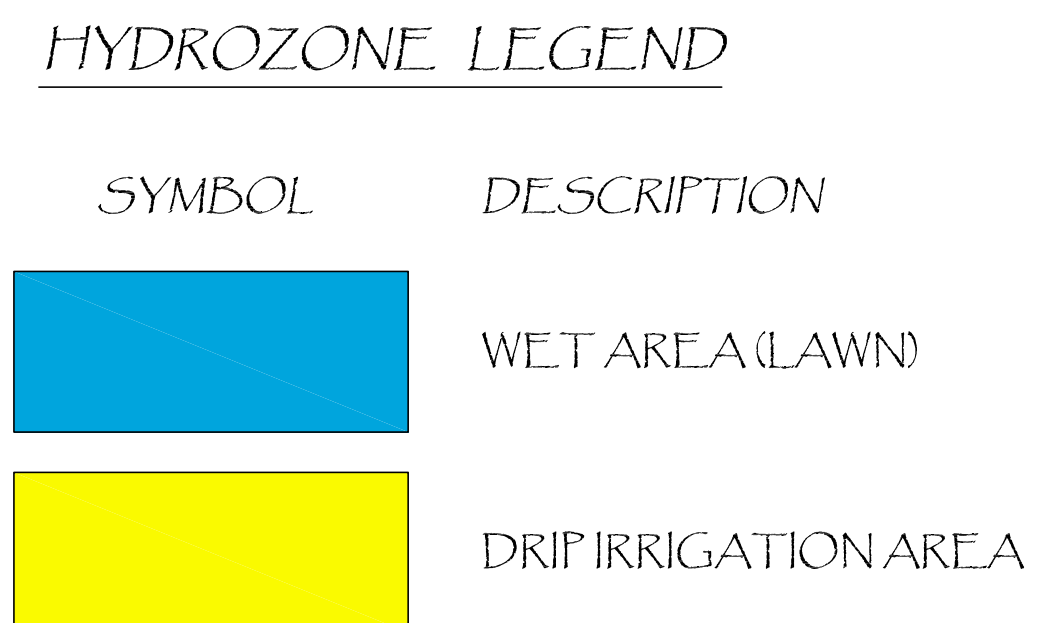


**IRRIGATION CONTROLLER RUN TIMES (WHILE PLANTS ARE ESTABLISHING)**

PLANT TYPE / SPRINKLER TYPE	Eto	AKo	PR RATE	IE	RUN TIME (HOURS)	QUANTITY	RUN TIME (HOURS)
Days Per Week:	6						
Turf Grass:	6.80	0.90	1.74	0.70	0.20	1	0.20
Spray Heads							
Shrub Planting:	6.80	0.65	0.49	0.90	0.39	4	1.56
Drip							
CYCLES PER DAY:		1	TOTAL NUMBER OF STATIONS:		5		
TOTAL RUN TIME IN HOURS FOR ALL SPRAY ZONES:							0.20
TOTAL RUN TIME IN HOURS FOR DRIP & BUBBLERS ONLY:							1.56
TOTAL RUN TIME IN HOURS:							1.75

**IRRIGATION CONTROLLER RUN TIMES (AFTER PLANTS ARE ESTABLISHED)**

Irrigation Schedule		ETo/Mo	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
POC / Controller	A	ETo/Day	0.07	0.10	0.12	0.16	0.18	0.22	0.22	0.21	0.18	0.12	0.08	0.06
Type	AKc	Pr Rate	IE											
Turf Spray	0.8	1.74	0.7											
4	Qty. of Valves	Total Run Times	2.7	3.9	4.8	6.2	7.1	8.8	8.6	8.3	7.1	4.8	3.3	2.4
Drip	0.8	3	1											
1	Qty. of Valves	Total Run Times	1.1	1.6	2.0	2.5	2.9	3.6	3.5	3.4	2.9	2.0	1.3	1.0
Total Valves:	5	TOTAL RUN TIMES (HRS):	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.3	0.2	0.1	0.1
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC



**LANDSCAPE IRRIGATION WATER ANALYSIS**

**PROJECT:**  
Residential Typical Water-Wise Plan  
Child Friendly Landscape  
Southern California  
Project ETo: 57.33

**MAXIMUM APPLIED WATER ALLOWANCE:**  
(GALLONS PER YEAR)  
 $MWA = (ETo) \times (0.8) \times (\text{Total Sq. Ft.}) \times (.62)$   
 $57.33 \times 0.8 \times 2,495 \times 0.62 = 70,947 \text{ Gal./Yr} \quad 0.22 \text{ Acre Feet/Yr.}$

**Total Project Acreage 0.15**

**ESTIMATED APPLIED WATER USED:**  
(GALLONS PER YEAR)  
 $EWU = (ETo) \times (\text{Plant Factor}) \times (\text{Hydrozone Sq. Ft.}) \times (.62)$   
Irrigation Efficiency

**HYDROZONE # 1: (Shrub area with Drip)**  
 $57.33 \times 0.4 \times 2,330 \times 0.62 = 36,808 \text{ Gal./Yr} \quad 0.11 \text{ Acre Feet/Yr.}$

**HYDROZONE # 2: (Lawn area with Spray)**  
 $57.33 \times 0.9 \times 165 \times 0.62 = 5,865 \text{ Gal./Yr} \quad 0.02 \text{ Acre Feet/Yr.}$

**MAXIMUM APPLIED WATER 70,947 Gal./Yr 0.22 Acre Feet/Yr.**

**TOTAL ESTIMATED WATER USE: 42,673 Gal./Yr 0.13 Acre Feet/Yr.**

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TYPICAL WATER SMART RESIDENTIAL PLAN  
MAWA CALCULATIONS & IRRIGATION ZONING

