

AB-1881 CALCULATIONS : MAXIMUM APPLIED WATER ALLOWANCE			
MAWA = Maximum Applied Water Allowance (GALLONS)			
MAWA = (ET _o) x (0.62) x [(0.70 x LA) + (0.3 x SLA)]			
ET _o = Reference Evapotranspiration (inches per year)	42.7		
0.62 = Conversion Factor (to gallons per square foot)	0.62		
0.70 = ET Adjustment Factor (70% of Reference ET)	0.70		
LA = Total Landscaped Area (square feet)	25,280		
SLA = Special Landscape Area	0		
TOTAL MAWA		468,113.3	

AB-1881 CALCULATIONS : ESTIMATED APPLIED WATER USE			
EAWU = Estimated Applied Water Use by Hydrozone (GALLONS)			
EAWU = (ET _o) x (0.62) x [(PF) x (HA) / (IE) + (SLA)]			
ET _o = Reference ET (inches per year)	42.7		
0.62 = Conversion Factor (to gallons per square foot)	0.62		
PF = Plant Factor (Kc)	Hydrozone Specific		
HA = Hydrozone Area	Hydrozone Specific		
IE = Irrigation Efficiency	Hydrozone Specific		
SLA = Special Landscape Area	0		
Tree/Shrub/GC (Spray)	PF	HA	IE
Tree/Shrub/GC (Rotator)	0.5	400	0.71
	0.5	24,860	0.80
TOTAL AREA	25,280	Total	15,537.5
EAWU = (ET _o) x (0.62) x [(TOTAL SUM OF PF x HA / IE) + (SLA)]	15,919.2		
TOTAL EAWU		418,797.2	

PRESSURE LOSS CALCULATIONS			
THEORETICAL WORST CASE CONDITION			
MAXIMUM FLOW / HIGHEST ELEVATION			
EQUIPMENT	SIZE	LOSS	
Service Line - Copper (50' Estimate)	1"	2.5	
Water Meter	3/4"	2.6	
Backflow Preventer (R/P Type)	1"	13.0	
Master Control Valve	1"	1.5	
Flow Sensor	1"	1.0	
Sch 40 PVC Mainline - 800'	1 1/2"	4.6	
Electric Control Valve	1"	3.0	
Lateral Lines (10% Pressure Dif. Max.)	Misc.	3.0	
SUBTOTAL PRESSURE LOSSES		31.2	
MISC. LOSSES THROUGH SYSTEM	10%	3.1	
Elevation Gain in Feet (Pressure Loss)	0	0.0	
TOTAL PRESSURE LOSSES		34.3	
Pressure Required at Sprinkler / Emission Device			
TOTAL PRESSURE REQUIRED		30.0	
Static Pressure Pressure at POC		64.3	
RESIDUAL PRESSURE		75.0	
		10.7	

IRRIGATION MAINTENANCE SCHEDULE

THE IRRIGATION MAINTENANCE SCHEDULE TASKS LISTED BELOW ARE INTENDED AS MINIMUM STANDARDS AND MORE FREQUENT ATTENTION MAY BE REQUIRED DEPENDING ON THE PARTICULAR SITE CONDITIONS.

FREQUENCY	MAINTENANCE TASK
QUARTERLY	CONTROLLER CABINET - OPEN CABINET AND CLEAN OUT DEBRIS AND REPLACE BATTERY AS NECESSARY. CHECK WIRING AND REPAIR AS NEEDED AND CHECK CLOCK AND RESET IF NECESSARY.
MONTHLY	IRRIGATION SCHEDULE - ADJUST SCHEDULE FOR SEASONAL VARIATIONS AND CONDITIONS WHICH MAY AFFECT THE AMOUNT OF WATER NEEDED TO MAINTAIN PLANT HEALTH. ADJUST AS NECESSARY.
QUARTERLY	POC - VISUALLY INSPECT COMPONENTS FOR LEAKS: PRESSURE SETTINGS, SETTLEMENT OR OTHER DAMAGE AFFECTING THE OPERATION OF A COMPONENT. REPAIR AS NEEDED.
QUARTERLY	REMOTE CONTROL VALVES, ISOLATION VALVES AND QUICK COUPLER VALVES - VISUALLY INSPECT FOR LEAKS. SETTLEMENT, WIRE CONNECTIONS AND PRESSURE SETTINGS. REPAIR OR ADJUST AS NEEDED.
QUARTERLY	MAINLINE AND LATERALS - VISUALLY INSPECT FOR LEAKS OR SETTLEMENT OF TRENCHES. REPAIR AS NEEDED.
WEEKLY	SPRINKLERS - VISUALLY CHECK FOR ANY BROKEN, MISALIGNED OR CLOGGED HEADS, HEADS WITH INCORRECT ARC. INADEQUATE COVERAGE OR OVERSPRAY AND LOW HEAD DRAINAGE. REPAIR AS NEEDED.
MONTHLY	FILTERS AND STRAINERS - VISUALLY CHECK FOR LEAKS, BROKEN FITTINGS. CLEAN AND FLUSH SCREENS.

HYDROZONE INFORMATION MATRIX									
Station #	Area (sq. ft.)	% of Total Area	Plant Type	Water Use (WUCOLS)	Irrigation Type	Zone Exposure	Zone Flow (gpm)	Precipitation Rate (in/hr)	Zone Pressure
1	960	3.8%	Shrubs	Medium	MP Rotator	Full Sun	8	0.40	30 psi
2	1,160	4.6%	Shrubs	Medium	MP Rotator	Full Sun	10	0.40	30 psi
3	1,275	5.0%	Shrubs	Medium	MP Rotator	Full Sun	9	0.40	30 psi
4	1,475	5.8%	Shrubs	Medium	MP Rotator	Full Sun	10	0.40	30 psi
5	1,145	4.5%	Shrubs	Medium	MP Rotator	Full Sun	7	0.40	30 psi
6	1,380	5.5%	Shrubs	Medium	MP Rotator	Full Sun	8	0.40	30 psi
7	1,320	5.2%	Shrubs	Medium	MP Rotator	Full Sun	11	0.40	30 psi
8	400	1.6%	Shrubs	Medium	Spray	Full Sun	9	1.50	30 psi
9	800	3.2%	Shrubs	Medium	MP Rotator	Full Sun	7	0.40	30 psi
10	1,425	5.6%	Shrubs	Medium	MP Rotator	Full Sun	11	0.40	30 psi
11	1,225	4.8%	Shrubs	Medium	MP Rotator	Full Sun	9	0.40	30 psi
12	1,445	5.7%	Shrubs	Medium	MP Rotator	Full Sun	10	0.40	30 psi
13	1,030	4.1%	Shrubs	Medium	MP Rotator	Full Sun	7	0.40	30 psi
14	1,315	5.2%	Shrubs	Medium	MP Rotator	Full Sun	9	0.40	30 psi
15	1,590	6.3%	Shrubs	Medium	MP Rotator	Full Sun	11	0.40	30 psi
16	1,780	7.0%	Shrubs	Medium	MP Rotator	Full Sun	14	0.40	30 psi
17	890	3.5%	Shrubs	Medium	MP Rotator	Full Sun	7	0.40	30 psi
18	1,655	6.6%	Shrubs	Medium	MP Rotator	Full Sun	13	0.40	30 psi
19	1,680	6.7%	Shrubs	Medium	MP Rotator	Full Sun	13	0.40	30 psi
20	1,310	5.2%	Shrubs	Medium	MP Rotator	Full Sun	11	0.40	30 psi
21	0	0.0%	Trees	Medium	Bubbler	Full Sun	3	3.00	30 psi
25,260		TOTAL AREA (sq. ft.)							

IRRIGATION SCHEDULE - PLANT ESTABLISHMENT PERIOD																		
HYDRO ZONE	HYDROZONE DATA		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec				
SHRUB SPRAY	Days per Month = Historic ET =		31	28	31	30	31	30	31	31	30	31	30	31	365			
	Plant Kc = 0.50		62	68	93	108	127	133	153	136	124	79	68	57				
	Soil Type = SiltyLoam																	
	Root Depth = 2		6	6	9	10	12	12	14	12	11	7	6	5				
	Precip. Rate = 1.50		11	12	11	11	11	12	12	12	12	12	12	12			12	
SHRUB ROTATOR	Cycles per Irrigation Day		2	2	2	2	2	2	2	2	2	2	2	2	2			
	Station Run Time per Cycle		6	6	6	6	6	6	6	6	6	6	6	6	6			
	Total Monthly Run Time		207	225	310	357	422	441	507	450	413	263	225	188				
	Plant Kc = 0.50		6	6	9	10	12	12	14	12	11	7	6	5				
	Soil Type = SiltyLoam																	
TREE BUBBLER	Root Depth = 2		35	38	35	36	36	37	37	38	38	38	38	38	38			
	Precip. Rate = 0.40		1	2	1	1	1	1	1	2	2	2	2	2	2			
	Station Run Time per Cycle		35	19	35	36	36	37	37	19	19	19	19	19	19			
	Total Monthly Run Time		25	27	37	43	50	53	60	54	49	32	27	23				
	Plant Kc = 0.50		2	2	3	4	4	4	5	4	3	2	2	2	2			
TREE BUBBLER	Soil Type = SiltyLoam																	
	Root Depth = 6		13	14	13	11	13	14	12	14	13	11	14	12				
	Precip. Rate = 3.00		3	3	3	3	3	3	3	3	3	3	3	3	3			
	Cycles per Irrigation Day		5	5	5	4	5	5	4	5	5	4	5	4				
	Station Run Time per Cycle		5	5	5	4	5	5	4	5	5	4	5	4				

IRRIGATION SCHEDULE GUIDELINE - ESTABLISHED PLANTS																
HYDRO ZONE	HYDROZONE DATA		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
SHRUB SPRAY	Days per Month = Historic ET =		31	28	31	30	31	30	31	31	30	31	30	31	365	
	Plant Kc = 0.50		2.2	2.4	3.3	3.8	4.5	4.7	5.4	4.8	4.4	2.8	2.4	2.0	42.7	
	Soil Type = SiltyLoam		62	68	93	108	127	133	153	136	124	79	68	57		
	Root Depth = 8		2	2	3	3	3	3	4	3	3	2	2	2		
	Precip. Rate = 1.50		31	34	31	36	43	45	39	46	42	40	34	29		
SHRUB ROTATOR	Cycles per Irrigation Day		4	4	4	4	5	4	5	4	5	4	4	3		
	Station Run Time per Cycle		8	9	8	9	9	9	10	10	9	10	9	10		
	Total Monthly Run Time		207	225	310	357	422	441	507	450	413	263	225	188		
	Plant Kc = 0.50		2	2	3	3	3	3	4	3	3	2	2	2		
	Soil Type = SiltyLoam		104	113	104	119	141	147	127	150	138	132	113	94		
TREE BUBBLER	Root Depth = 8		3	4	3	4	4	4	4	4	4	4	4	3		
	Precip. Rate = 0.40		35	29	35	30	36	37	32	38	35	33	29	32		
	Station Run Time per Cycle		25	27	37	43	50	53	60	54	49	32	27	23		
	Plant Kc = 0.50		1	1	1	1	1	1	1	2	1	1	1	1		
	Soil Type = SiltyLoam		25	27	37	43	50	53	30	54	49	32	27	23		
TREE BUBBLER	Root Depth = 24		5	6	8	9	10	11	6	11	10	7	6	5		
	Precip. Rate = 3.00		5	5	5	5	5	5	5	5	5	5	5	5		
	Cycles per Irrigation Day		5	5	5	5	5	5	5	5	5	5	5	5		
	Station Run Time per Cycle		5	5	5	5	5	5	5	5	5	5	5	5		
	Plant Kc = 0.90															

IRRIGATION SCHEDULE NOTES
 IRRIGATION SCHEDULE IS BASED ON THE HYDROZONE DATA LISTED IN THE CHARTS ABOVE (HISTORICAL ET, ESTIMATED CROP COEFFICIENT FROM WUCOLS III, ESTIMATED SOIL TYPE, ESTIMATED ROOT DEPTH, CALCULATED PRECIPITATION RATE, ESTIMATED IRRIGATION EFFICIENCY, CONDITIONS).

SOIL MOISTURE SENSING SYSTEM
 THIS SYSTEM IS DESIGNED TO OPERATE WITH A SOIL MOISTURE SENSING SYSTEM. THE DELICATE NATURE OF THIS PROJECT AND LOCATION WILL REQUIRE DILIGENT WATER MANAGEMENT TO PREVENT OVER SATURATION OF THE SOIL. THE SOIL MOISTURE SENSING SYSTEM IS TO AID IN THIS. INSTALL THE SENSORS PER THE MANUFACTURER'S DIRECTIONS. MOUNT AND WIRE THE SENSOR CONTROL MODULE PER THE MANUFACTURER'S DIRECTIONS. ADJUST THE SENSOR