Landscape Water Management & Planning

Blank Worksheets

- Water Source and System Data
- Controller Data
- Site Conditions Review
- Sprinkler System Review
- Watering Days Irrigation Schedule
- Soil Moisture Irrigation Schedule

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Water Source and System Data

Project Name		Date	
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Water Source Data

Water Source (check one)							
	Potable		Reclaimed		Well		Pond
	Other (explain)						
Backflow Device (check one)							
	None		RPA		DCV		PVB	AVB
Size		in.					
Pump or Pump Station (check one)							
	No		Yes				
		Maximum flow		gpm			
		Pressure		psi			
Meter (check one)							
	No		Yes				
		Size		in.			
		Units (check one)		gallons		cubic feet	
		Available pressure		psi (during scheduled irrigation window)			

General System Information

Water Utility	
Contact person	
Phone	
Watering restrictions	
Landscape Maintenance Co.	
Contact person	
Phone	
Irrigation Service Co.	
Contact person	
Phone	
Pump Service Co.	
Contact person	
Phone	

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Controller Data

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Manufacturer		**Central Control** (check one)			
			Yes		No
Model Number		**Weather Station** (check one)			
			Yes		No
Stations Being Used		**Smart Controller** (check one)			
			Yes		No

Station Run Time Range (min)

Minimum		Maximum	

Number of Programs	**Start Times/Program**

Calendar Days (check one)

	7 days		14 days		Other (explain)	

Irrigation Interval (check options available)

	Daily		Even/Odd		Custom (explain)	

Rain delay (maximum days)	**Skip Day Period** (maximum days)

Percent Adjust Options (check applicable)

	Global		By program		By station		By month		Seasonal

Sensors Installed (make & model)

Rain	
Freeze	
Wind	
Temperature	
Flow	
Soil moisture	
Tipping bucket	

Notes

cont. on back

Controller Settings

Program	Start Times				Days On													
	1	2	3	4														
A					S		M		T		W		T		F		S		
B					S		M		T		W		T		F		S		
C					S		M		T		W		T		F		S		
D					S		M		T		W		T		F		S		

Program	Station	Minutes	Program	Station	Minutes	Program	Station	Minutes

Smart Controller Settings

Station	Program	PR	DU	Plant Factor	Soil Type	Slope	Soil Moisture

Site Conditions Review

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Project Name		Date	
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Controller ID/Name					
Area/location					
Controller station(s) #					
Irrigated area	ft²	ft²	ft²	ft²	ft²
Plant material (all that apply)					
Plant condition (choose one)					
Microclimate (choose one)					
Soil category (choose one)					
Root zone depth	in.	in.	in.	in.	in.
Slope (choose one)					
Compaction (Y/N)					
Runtime until runoff	min	min	min	min	min
Standing water (Y/N)					
Turf/shrub separation (Y/N)					
Hydrozone separation (Y/N)					
Mowing height	in.	in.	in.	in.	in.
Fertilization (frequency)					
Aeration (frequency)					
Dethatching (frequency)					
Mulch in beds (Y/N)					

Abbreviation Key

Plant Material

CS = Cool season turf
WS = Warm season turf
T = Trees
S = Shrubs
N = Native plants
GC = Ground cover
F = Annual flowers

Microclimate

FS = Full sun all day
PS = Part shade, less than 6 hours of sun per day
SH = Full shade all day
EX = Extreme conditions (parking lots, south-facing glass or wall)

Soil Category

C = Coarse
MC = Moderately coarse
M = Medium
MF = Moderately fine
F = Fine

Plant Condition

LM = Low maintenance, stressed
TRD = Traditional, some stress, but generally good condition
HQ = High quality, majority are vigorously growing

Slope

F = Flat
Sl = Slight
Mod = Moderate
Stp = Steep

Sprinkler System Review

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Project Name		Date
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Abbreviation Key: S = Spray, fixed nozzle   R = Rotor, MSMT nozzles   I = Impact   **X** = Needs correction   ✓ = Correction completed

Controller ID/Name										
Station #										
Sprinkler type (choose one)										
Station flow	gpm		gpm		gpm		gpm		gpm	
High pressure	psi		psi		psi		psi		psi	
Low pressure	psi		psi		psi		psi		psi	
Action Required	X	✓	X	✓	X	✓	X	✓	X	✓
Broken pipes										
Missing/broken heads										
Missing nozzle										
psi adjustment needed										
Clogged nozzle										
Heads not turning										
Arc misalignment										
Low head drainage										
Leaking seals/fittings										
Spray deflected/blocked										
Sunken head										
Tilted heads										
Mismatched heads										
Spray/rotor separation										
Spacing uneven										
Valve malfunction										

Observations on Maintenance Frequency

Watering Days Irrigation Schedule

Project Name		Date	
Address		Auditor	
City, State		Area/Zone/Station	

Plant Water Requirement		Value		Units		Source	
A.	ET_O reference period						
B.	ET_O reference period in days			days		*Override value*	
C.	Reference ET [ET_O]			in.		weather data	
D.	Landscape coefficient [K_L]					$(K_T$ or $K_p) \times K_d \times K_{mc}$	
	1) Turf or plant factor [K_T or K_p]					charts & tables	
	2) Vegetation density factor [K_d]					charts & tables	
	3) Microclimate factor [K_{mc}]					charts & tables	
E.	Landscape ET [ET_L]			in.		C × D	
F.	Average daily ET_L			in.		E ÷ B	
Sprinkler Performance		Value		Units		Source	
G.	Precipitation rate [PR]			in./h		*Override*/audit or calculation	
H.	Distribution uniformity [DU_{lq}]			decimal		*Override*/audit or estimate	
I.	Scheduling multiplier [SM]					table or equation	
Scheduling Parameters		Value		Units		Source	
J.	Irrigation interval					watering days	
				days		*Override value*	
K.	Water to apply			in.		J × F	
L.	Lower boundary			min		(K ÷ G) × 60 [round down]	
M.	Upper boundary			min		L × I [round up]	
N.	Selected run time, whole number			min		management decision	
O.	Determine cycle starts by						
	a. Observed time to runoff	Oa.		min		field observation	
or	b. Site conditions	Ob.		cycles		based on site conditions	
	1) Soil category					C, MC = 1; M = 2; MF, F = 3	
	2) Slope					Fl = 0, Sl = 1, Mod = 2, St = 3	
	3) Compaction					Yes = 1, No = 0	
	4) Sprinkler type					Spray = 1, Rotor = 0	
Scheduling Summary		Value	Units		Source		
	Water to be applied		in.		K		
	Interval		days		J		
P.	Cycle starts per day				N ÷ Oa [round up] or Ob		
	Minutes per cycle		min		N ÷ P [round]		

Soil Moisture Irrigation Schedule

Project Name		Date	
Address		Auditor	
City, State		Area/Zone/Station	

	Plant Water Requirement	Value	Units		Source
A.	ET_O reference period				
B.	ET_O reference period in days		days		*Override value*
C.	Reference ET [ET_O]		in.		weather data
D.	Landscape coefficient [K_L]				(K_T or K_P) $\times$ K_d $\times$ K_{mc}
	1) Turf or plant factor [K_T or K_P]				charts & tables
	2) Vegetation density factor [K_d]				charts & tables
	3) Microclimate factor [K_{mc}]				charts & tables
E.	Landscape ET [ET_L]		in.		C $\times$ D
F.	Average daily ET_L		in.		E $\div$ B
	Sprinkler Performance	Value	Units		Source
G.	Precipitation rate [PR]		in./h		*Override*/audit or calculation
H.	Distribution uniformity [DU_{lq}]		decimal		*Override*/audit or estimate
I.	Scheduling multiplier [SM]				table or equation
	Soil Properties	Value	Units		Source
J.	Soil texture category				field observation
K.	Available water [AW]		in./in.		*Override value*/charts
L.	Root zone depth		in.		field measurement
M.	Plant available water [PAW]		in.		K $\times$ L
N.	Management allowed depletion [MAD]		decimal		0.5 for landscapes
O.	Allowed depletion [AD]		in.		M $\times$ N
	Scheduling Parameters	Value	Units		Source
P.	Irrigation interval		days		O $\div$ F [round down]
Q.	Water to apply		in.		F $\times$ P
R.	Lower boundary		min		(Q $\div$ G) $\times$ 60 [round down]
S.	Upper boundary		min		R $\times$ I [round up]
T.	Selected run time, whole number		min		management decision
U.	Determine cycle starts by				
	a. Observed time to runoff	Ua.	min		field observation
or	b. Site conditions	Ub.	cycles		based on site conditions
	1) Soil category				C, MC = 1; M = 2; MF, F = 3
	2) Slope				Fl = 0, Sl = 1, Mod = 2, St = 3
	3) Compaction				Yes = 1, No = 0
	4) Sprinkler type				Spray = 1, Rotor = 0
	Scheduling Summary	Value	Units		Source
	Water to be applied		in.		Q
	Interval		days		P
V.	Cycle starts per day				T $\div$ Ua [round up] or Ub
	Minutes per cycle		min		T $\div$ V [round]