

Definition of "Budget"

- List of all planned expenses and revenues
- Plan for savings and spending
- Organizational plan stated in monetary terms
- ✓ Provides a forecast of revenues and expenditures
- Enables the actual financial operation to be measured against the forecast.

Budget Types

- Sales budget
- ✓ Production budget
- ✓ Cash flow/cash budget
- Marketing budget
- ✓ Project budget
- ✓ Revenue budget
- ✓ Expenditure budget

Why Budget?

- ✓ Acts as a roadmap for funds and resources
- Reveals wasteful spending
- ✓ Builds new habits for spending and/or saving
- ✓ Coordinates efforts among appropriate staff
- Aligns priorities
- Controls/monitors spending
- Transforms money into a tool for reaching goals/target
- Creates financial margin
- ✓ Grows savings
- ✓ Accelerates financial goals



Factors To Consider For "Proper Turfgrass Management"

- ✓ Soil type and depth
- ✓ Turfgrass selection
- Mowing practices
- Cultivation practices
- Irrigation practices
- Fertilization practices
- ✓ Weed, disease, and insect management

Water - Without water, many of the management practices that are directly affected may not even apply Soil and Juli Selection/Type - Maintain your standards for infields, topdressing, construction, repairs, etc. Fortilization - Maintain a healthy and vigorous turf for sustainability and use Mowing - Mowing leight, mowing frequency, etc. Cultivation Practices - Aerification, vertical mowing, slicing, etc. Past Management - Diseases, insects, weeds, etc. **Remember that labor, equipment, etc. costs all apply to these practices!

Examples of Revenue Accounts

Revenue

- Concession sales
- Rentals (i.e. fields, carts, etc.)
- Green fees
- Tournaments
- Sponsorships (i.e. fields, carts, tee-boxes, etc.)
- Misc. sales (i.e. t-shirts, plants, etc.)
- Sod, sprigs, etc.

Examples of Expense Accounts

Expenses

- Salaries/benefits (full and part time)
- Over-time
- Water
- Electricity/natural gas
- Custodial
- Building/grounds maintenance
- Equipment maintenance
- Vehicle maintenance
- Equipment rental

Examples of Expense Accounts

✓ Expenses (continued)

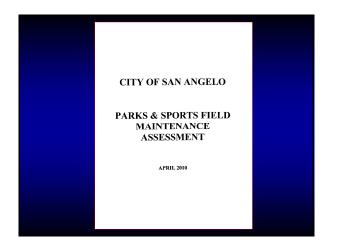
- Communication
- Advertising
- Travel/Professional Development
- Office supplies
- Capital equipment/minor tools
- Uniforms
- Misc. (i.e. postage, subscriptions, etc.)
- Fuel
- Botanical/Ag (i.e. turf, trees, ornamentals, etc.)

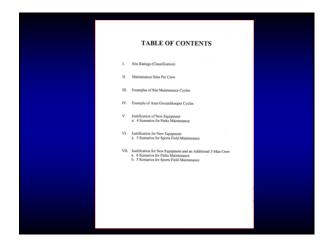
How do you determine your estimations?

- Review past records
- ✓ Ask a colleague with similar business
- Monitor your revenue/expenses for a month or two and extrapolate
- ✓ Think about future needs
- ✓ Use reliable information
- ✓ Don't Guess!!!!!
- **Remember, you may be asked to justify your estimations!!

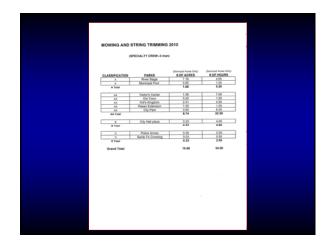
Develop a Set of Minimum Maintenance Standards

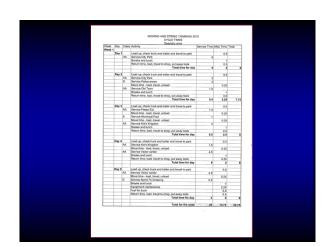
- Define the minimum standards for each category type using criteria such as:
 - Degree of quality desired/expected
 - Number of man hours required
 - Type of equipment required
 - Type and frequency of use
 - Number of amenities
 - Size of the facility
 - Environmental issues
 - Safety concerns



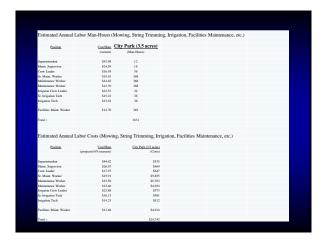


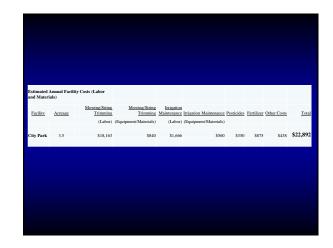


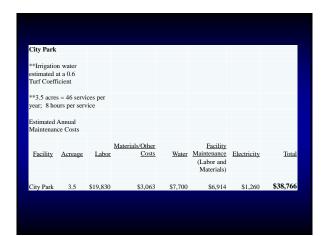


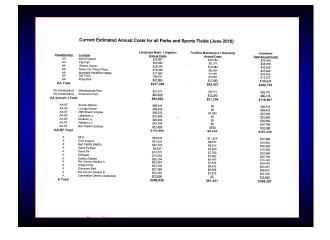


				City of San Angelo Area gr							
_	1 man crews: Litter pickup, tra			ish disposal, restroom cleaning, Playground				Inspections, minor repair work.			
<u> </u>	North Distric	Time in Drive			Time in Drive		-	South Distri	Time in	Deb	
Clas	s Park	man hrs.	Time	Class Park	man hrs.		Class	Park	man hrs.	tions	
AA	Kirby	- 1	10	A Skate Park	0.25	9	E	Meadowcreek	0.25	1	
AA	MUK	0.75	5	AA Kid's Kinodom	1	1	1	Unidad	1		
В	Lakeview	0.75	3	A Santa Fe Park - Restroom	0.2	1		Kiwanis	0.4		
В	Purkey	0.25	6	C North River Drive	0.25	2		Brown	0.25		
B	Bell	0.5	4	A Santa Fe park - river side	0.5	1		Santa Pita	0.25	-	
В	Mountain view	0.75	12	A Civic League	0.5	2		Sulfur Springs	0.25		
В	Webster	0.25	3	A Santa Fe east - river side	0.25	3		Surken Gardens	0.5		
В	Brentwood	0.5	4	A Bart De Witt	0.5			Visitor Center	0.75		
В	North Concho	0.5	2	A Tiered Plaza/River stage	0.25	3		Rio Vista	0.5		
AA	2nd visit to Kirby	0.5	4	A Pool area/ Paseo	0.5		1 8	Pete Chapa	0.25		
	Return to shop		7	AA City Park	- 1	3	1 /	Glenmore	- 1		
				A Rio Concho Sec A	0.25	1	E	South Concho	0.5		
				A Rio Concho Sec B	0.25	1		Return to shop		1	
				B Rio Concho Sec C	0.25	2					
				C Rio Concho Sec D	0.25						
				Return to shop		10					
100000	Daily Drive Time total		00	Daily Drive Time total		10	DELEGIS OF	Dally Drive Time total	CONTRACTOR OF THE PARTY.		
De	ly Facility maintenance	5.75	-00	Daily Facility maintenance	6.2		Dall	v Facility maintenance	5,9		
	2 breaks and lunch	1		2 breaks and lunch	1		1	2 breaks and lunch	1		
	Daily Total	7.75 hr		Daily Total	7.45 hr		Hite	Daily Total	7.45 hr		
						-				-	
⊢	Weekly service sites		+	Weekly service sites		-	1	Weekly service sites		-	
D	Harris and Pruesser	0.5		D David and Twohig	0.5		1 0	Oxford	0.1		
D.	Classen and Parkways	0.5						Wool Cap, Monument	0.25		
								U.S. 87 South	0.25		
							1	Live Oak	0.1		
							1 0	Ben Ficklin	0.25		
							1 6	Paseo De Vara	0.1		
	1.		-			_	1 6	Chunchill	0.26		
							1 0	Glenmore Circle	0.1		
	Total weekly	1	_	Total weekly	0.5		1 -	Total weekly	1.4	1	
	NOTE: Weekly adds mir		time	NOTE: Weekly adds minim	um Drive fire	20	1	NOTE Weekly will add a	bout 1/2 hr	drive	









Water is one of the greatest natural resources that we have on earth—but it's limited and should be conserved if at all possible!

Developing an irrigation program-you need to address these six questions!

- ✓ What factors need to be considered?
- ✓ <u>How often</u> should irrigation water be applied?
- ✓ <u>How much</u> irrigation should be applied?
- ✓ When should irrigation be applied?
- <u>How long</u> does my system need to operate to apply the right amount of water?
- ✓ What is the <u>distribution uniformity</u> of my irrigation system?

How Do You Determine How Many Gallons Of Water A Turf Site Will Need Over A Period Of Time?

- ✓ Review past water use records
- ✓ Ask a colleague with similar turf sites
- Monitor your water use for a month or two and extrapolate
- ✓ Don't Guess!!!!!

PET Water Budgets

- Useful tool for <u>ESTIMATING</u> the amount of irrigation water (gallons) and costs required for a defined time period on a given site with wellestablished turf.
- ✓ Need to Know:
 - Time period (i.e. days, weeks, months, annual, etc.)
 - Average potential evapotranspiration (PET) total
 - Average rainfall total
 - Total surface area (square feet) for the turf site
 - Cost of water (i.e. \$2.81/1,000 gallons)

PET Water Budgets

- ✓ Need to Consider:
 - Quality of turf you desire to determine the turf coefficient (i.e. 0.4, 0.6, 0.8, 1.0)
 - Warm season grasses = 0.6
 - Cool season grasses = 0.8
 - Soil Issues
 - Type (clay, silt, sand, loam, etc.)
 - Depth (shallow or deep, soil layers, etc.)
 - Infiltration and percolation rates
 - Slope

PET Water Budgets

✓ Use the following formula to obtain the water budget (gallons) for your turf site:

[(PET x turf coefficient) – effective rainfall] x square feet x 0.6234

- ➤ PET: local weather station or http://texaset.tamu.edu
- ➤ Turf Coefficient: quality of turf you desire
- \blacktriangleright Effective Rainfall: approximately 75% of the rainfall total
- Square Feet: total square feet of the turf site
- > 0.6234: number of gallons/square foot/inch of water

Talking in "inches of water" can be confusing, but did you know that:

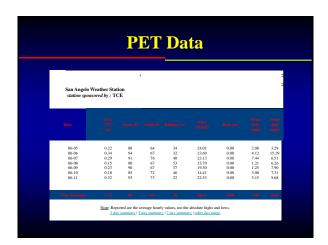
- ✓ One acre = 43,560 square feet
- \checkmark One acre-inch of water = 27,154 gallons
- Every time you apply one inch of water to your landscape, you apply 0.6234 gallons of water per square foot of landscape area

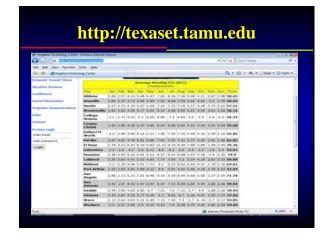
How much water should you be putting out when you apply <u>one inch of water</u>?

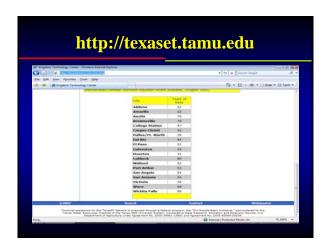
Landscape size	Water/sq. ft./inch	Total Water
(square feet)	(gallons/sq. ft.)	(Approx. gallons
500	0.6234	312
1000	0.6234	623
2000	0.6234	1247
3000	0.6234	1870
4000	0.6234	2494
5000	0.6234	3117
6000	0.6234	3740
7000	0.6234	4364
8000	0.6234	4987
9000	0.6234	5611
10000	0.6234	6234

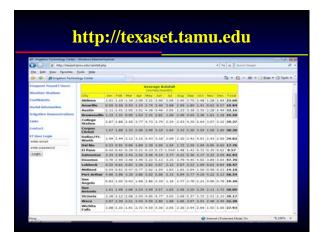


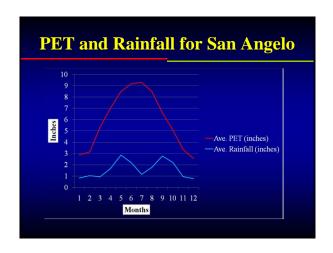


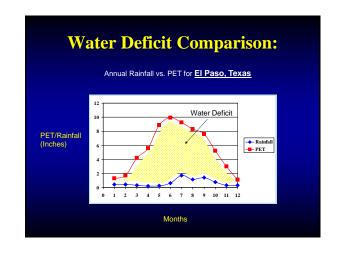


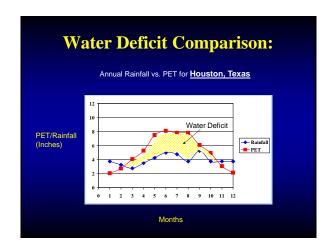


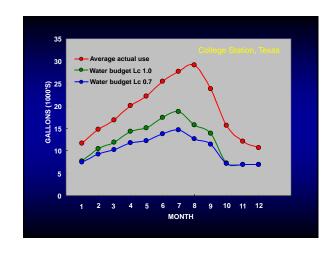












Example of a Water Budget Santa Fe Golf Course (San Angelo, Texas) 9-hole golf course Approximately 21.1 acres of fairways Underground irrigation system Average Annual PET: 71.34 inches Average Annual Rainfall: 19.20 inches Average Effective Rainfall (75%): 14.40 inches Cost of water: \$2.81 per 1,000 gallons

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Example of a Water Budget							
Fairway#	Square Feet	@ 1.0 Te (gallons)	@ 0.80 Tc (gallons)	@ 0.60 Tc (gallons)	@ 1.0 Tc (total cost)	@ 0.80 Tc (total cost)	@ 0.60 Tc (total cost)
1	84,004	2,981,839	2,234,651	1,487,463	\$8,378.97	\$6,279.37	\$4,179.77
2	191,808	6,808,493	5,102,424	3,396,355	\$19,131.86	\$14,337.81	\$9,543.76
3	176,488	6,264,688	4,694,885	3,125,082	\$17,603.77	\$13,192.63	\$8,781.48
4	45,156	1,602,875	1,201,227	799,580	\$4,504.08	\$3,375.45	\$2,246.82
5	143,382	5,089,544	3,814,209	2,538,873	\$14,301.62	\$10,717.93	\$7,134.23
6	29,590	1,050,338	787,145	523,952	\$2,951.45	\$2,211.88	\$1,472.30
7	112,294	3,986,032	2,987,214	1,988,396	\$11,200.75	\$8,394.07	\$5,587.39
8	89,714	3,184,524	2,386,547	1,588,571	\$8,948.51	\$6,706.20	\$4,463.88
9	46,689	1,657,291	1,242,008	826,725	\$4,656.99	\$3,490.04	\$2,323.10
TOTAL =	919,125	32,625,625	24,450,310	16,274,996	\$91,678.01	\$68,705,37	\$45,732,74

Civic League Park—San Angelo, Texas

- South side of the park is 121,305 square feet or 2.78 acres
- ✓ 121,305 sq. ft. x 0.6234 = 75,622 gallons/one inch of water
- ✓ 2006—hot, dry summer with high PET and little rainfall
- ✓ Irrigated twice per week in June
- ✓ Clay loam soil
- ✓ Common bermudagrass turf

Civic League Park—San Angelo, Texas ✓ June 2006 Avg. PET = 9.16" Avg. Rainfall = 2.20" Actual PET = 10.75" Actual Rainfall = 0.21"

- ✓ Using the formula: (Average)
- $[(9.16" \times 0.8) (2.20" \times 75\%)] \times 121,305 \text{ sq. ft.} \times 0.6234$ = 429,533 gallons
- ✓ Actual water use for June 2006 = 555,000 gallons
- ✓ Difference = 125,467 gallons (low)

Civic League Park—San Angelo, Texas

✓ June 2006

Avg. PET = 9.16" Avg. Rainfall = 2.20" Actual PET = 10.75" Actual Rainfall = 0.21"

- ✓ Using the formula: (Worst Case Scenaric) [(9.16" x 0.8) – (0" x 75%)] x 121,305 sq. ft. x 0.6234 = 554,158 gallons
- ✓ Actual water use for June 2006 = 555,000 gallons
- ✓ Difference = 842 gallons (low)

Civic League Park—San Angelo, Texas

✓ June 2006

Avg. PET = 9.16" Avg. Rainfall = 2.20" Actual PET = 10.75" Actual Rainfall = 0.21"

✓ Using the formula: (Actual)

[(10.75" x 0.698) – (0.21" x 75%)] x 121,305 sq. ft. x 0.6234 = 555,330 gallons

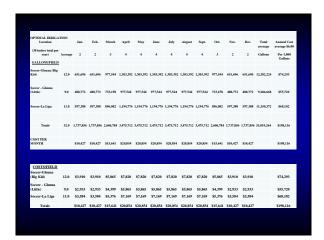
- ✓ Actual water use for June 2006 = 555,000 gallons
- ✓ Difference = 330 gallons (high)

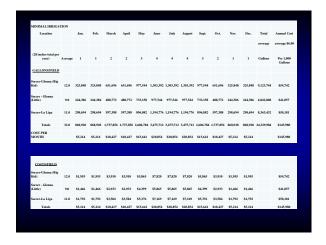
Things to Consider with PET Water Budgets

- ✓ Remember, the figures you calculate are <u>ESTIMATES!</u>
- PET, rainfall, turf coefficients, surface area, soils, etc. can change over time.
- ✓ These estimates do not include indoor water use!
- ✓ Use different numbers and scenarios to obtain water budgets.
- Utilize gallon and cost <u>ranges</u> when providing water budget information to clientele or administrative personnel.
- Review past records to compare against your calculated water budget. You need to remember that PET, rainfall, turf coefficients or expected turf quality, surface area, soils, etc. may be different.

Another Water Budget Example

| SASA Soccer Field Complex Potential Irrigation Water Usage Report (2015)
| Jam. Feb. March April May June July August Sept. Oct. Nov. Dec. | Total Inches | Landscape | PET | Relative Inches | Pet | Pet | Relative Inches | Pet | Pet | Relative Inches | Pet | Pet | Relative Inches | Pet | Pet





Budget Review Committee Meetings Dress appropriately Speak in a clear manner Try not to act nervous or frustrated Respond to questions with concise answers Come prepared and organized Bring appropriate documentation Stay focused, professional, and maintain steadfastness Do not "B.S." your way through the questions

