

Water Reduction Strategies

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**PRESENTATION TO THE
BALBOA PARK COMMITTEE**

November 5, 2015

**OUTLINE FOR DETERMINING
HIERARCHY OF WATER AND
TURF REDUCTIONS**

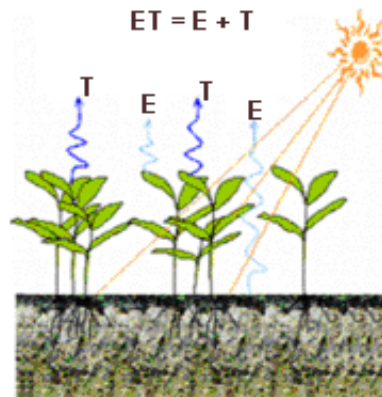
CIMIS Data

(California Irrigation Management Information System)

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Since the beginning of the CIMIS weather station network in 1982, the primary purpose of CIMIS was to make available to the public, free of charge, information useful in estimating water use for irrigation scheduling.

Evapotranspiration (ET)



Evapotranspiration (ET) is the loss of water to the atmosphere by the combined processes of evaporation (from soil and plant surfaces) and transpiration (from plant tissues).

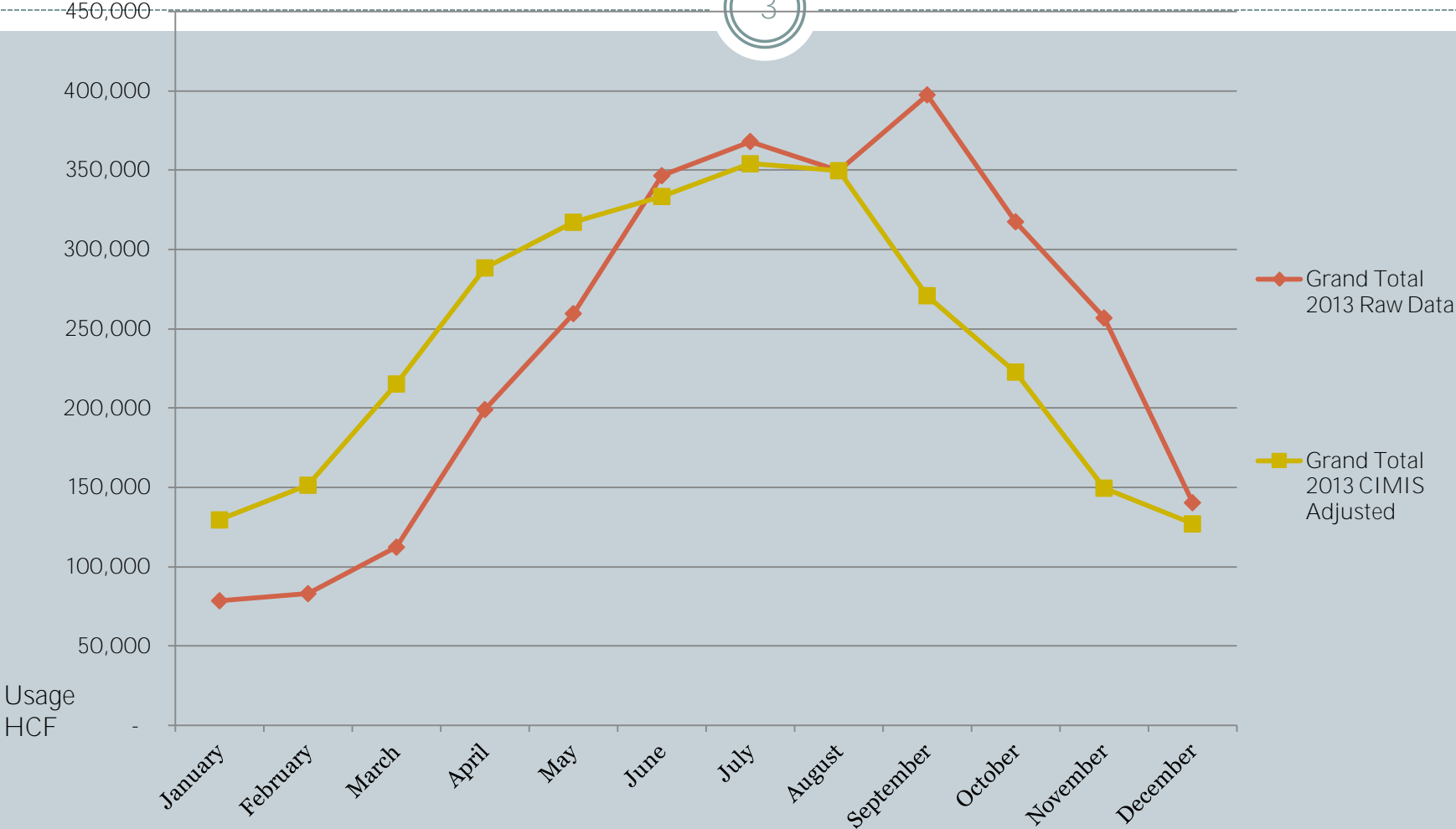
Historical ETo For San Diego

Monthly Average Reference Evaporation by ETo (inches /Month)

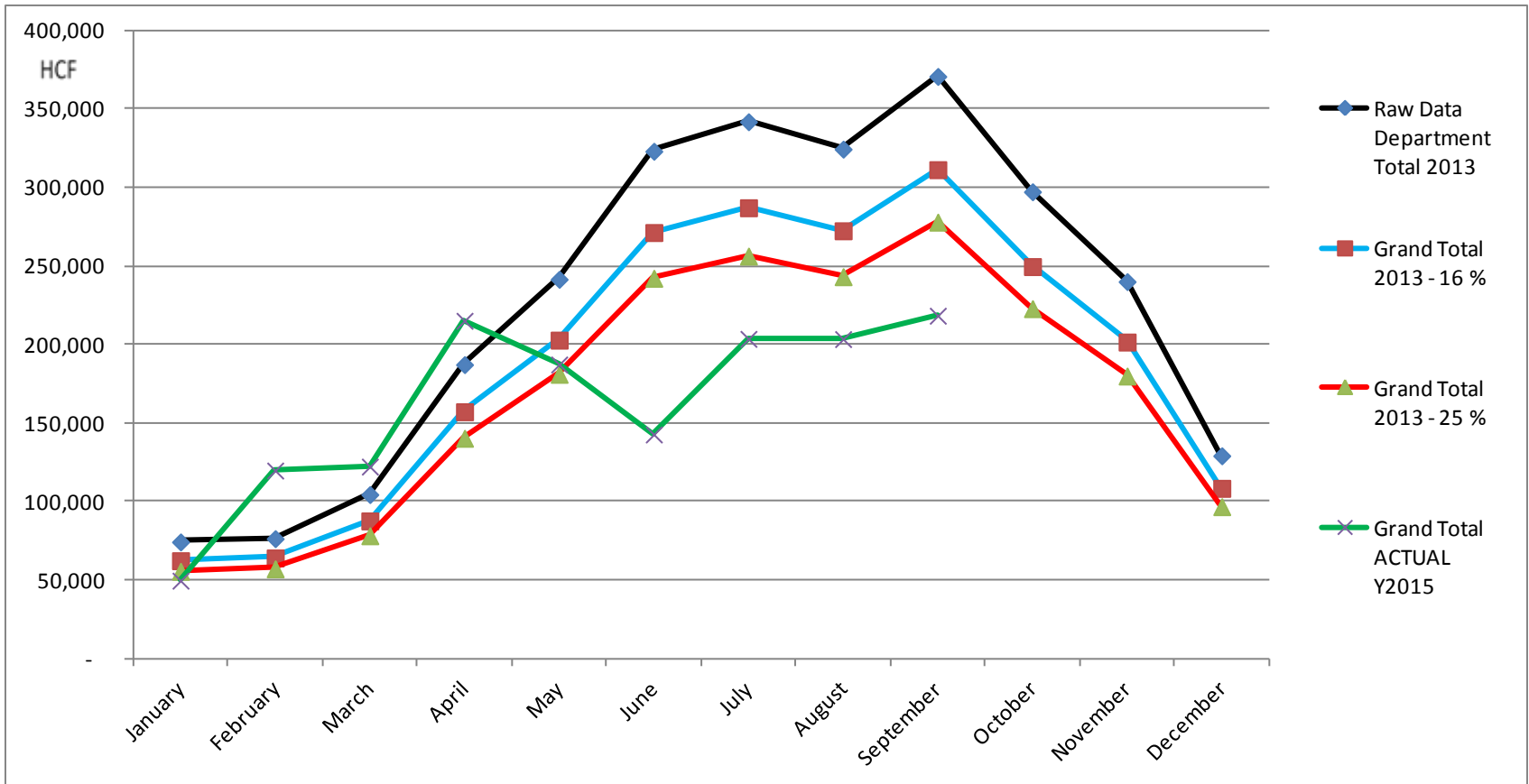
January	February	March	April	May	June	July	August	September	October	November	December	Grand Total
2.07	2.42	3.44	4.61	5.07	5.33	5.66	5.59	4.33	3.56	2.39	2.03	46.5

2013 Raw Data Vs. Adjusted Data

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Raw Data Department Total



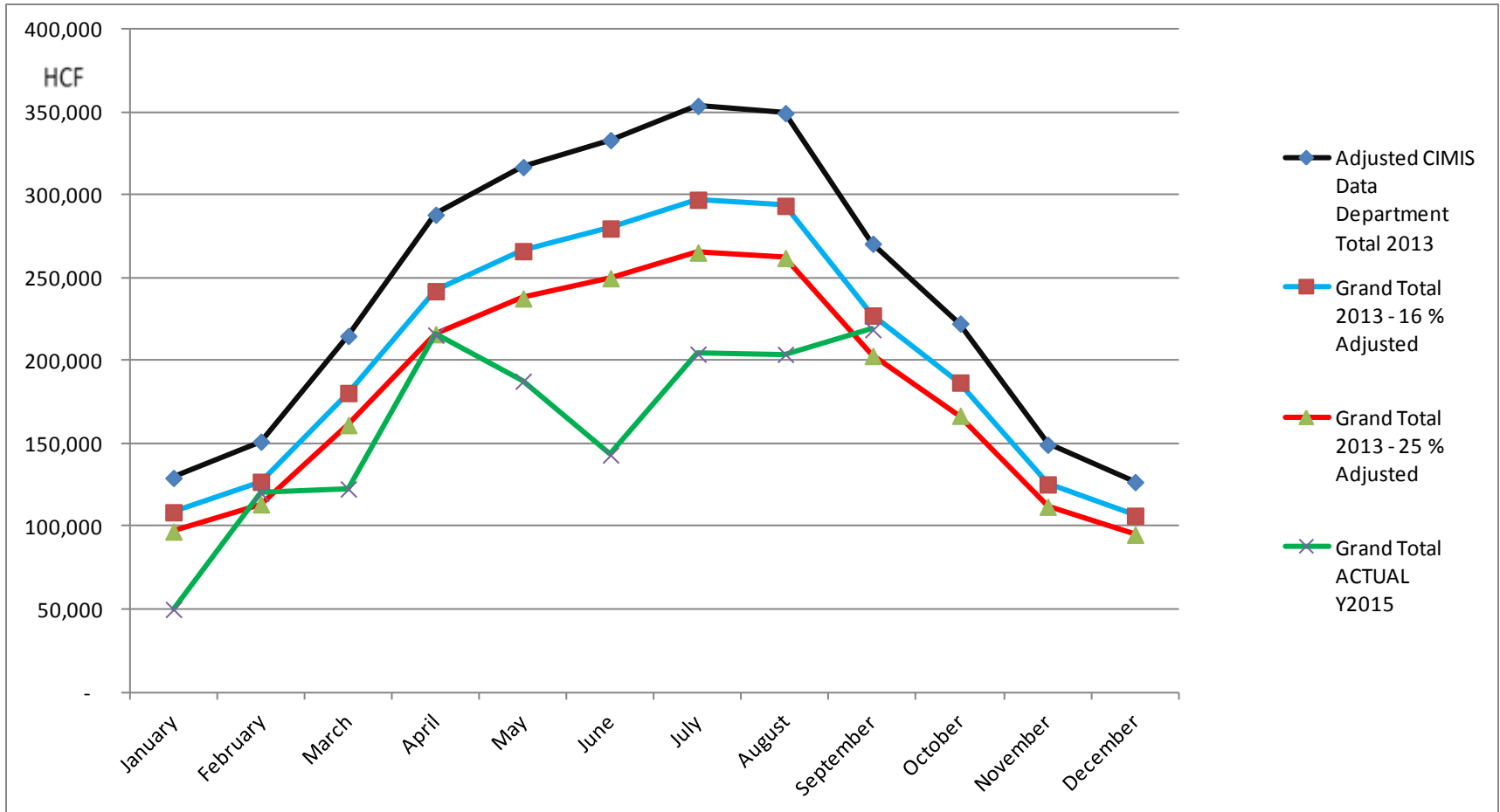
Raw Data Department Total

	Raw Data Department Total 2013	Grand Total 2013 - 16 %	Grand Total 2013 - 25 %	Grand Total ACTUAL Y2015
January	74,787	62,821	56,090	50,123
February	76,872	64,572	57,654	120,291
March	104,970	88,175	78,728	122,791
April	187,769	157,726	140,827	215,693
May	242,117	203,378	181,588	187,853
June	323,713	271,919	242,785	143,284
July	342,525	287,721	256,894	204,178
August	325,048	273,040	243,786	204,045
September	371,393	311,970	278,545	218,925
October	297,899	250,235	223,424	
November	240,653	202,149	180,490	
December	129,688	108,938	97,266	
Grand Total	2,717,434	2,282,645	2,038,076	1,467,183

Percentage of Savings Per Governors Mandate			
	Raw Data Department Total 2013	Grand Total ACTUAL Y2015	Percentage
June	323,713	143,284	- 55.74%
July	342,525	204,178	- 40.39%
August	325,048	204,045	- 37.23%
September	371,393	218,925	- 41.05%

Running percentage = 44%

Adjusted CIMIS Data Department Total



Adjusted CIMIS Data Department Total

	Adjusted CIMIS Data Department Total 2013	Grand Total 2013 - 16 % Adjusted	Grand Total 2013 - 25 % Adjusted	Grand Total ACTUAL Y2015
January	129,449	108,737	97,087	50,123
February	151,336	127,123	113,502	120,291
March	215,123	180,703	161,342	122,791
April	288,290	242,163	216,217	215,693
May	317,056	266,327	237,792	187,853
June	333,315	279,985	249,986	143,284
July	353,952	297,320	265,464	204,178
August	349,575	293,643	262,181	204,045
September	270,780	227,455	203,085	218,925
October	222,627	187,007	166,970	
November	149,460	125,547	112,095	
December	126,947	106,636	95,211	
Grand Total	2,907,910	2,442,644	2,180,933	1,467,183

TYPES OF PARK LANDSCAPE

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- A) ACTIVE TURF AREAS (GREEN)**
- B) PASSIVE TURF AREAS AND PLANTER BEDS (YELLOW)**
- C) ORNAMENTAL TURF AREAS (ORANGE)**
- D) NON-IRRIGATED AND OPEN SPACE AREAS (BLACK)**

AREAS OF NO CHANGE

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A) ACTIVE TURF AREAS (GREEN)

NO CHANGE TO IRRIGATION (3X/WEEK)

A) ACTIVE TURF AREA

No change to irrigation (3x/wk): *Sports Fields*

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Ocean Air:
Multi-Purpose Fields

A) ACTIVE TURF AREA

No change to irrigation (3x/wk): *Historically Designated Areas*

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Balboa Park (central mesa):
Historically designated & high-tourism area

A) ACTIVE TURF AREA

No change to irrigation (3x/wk): *High-Tourism Areas*

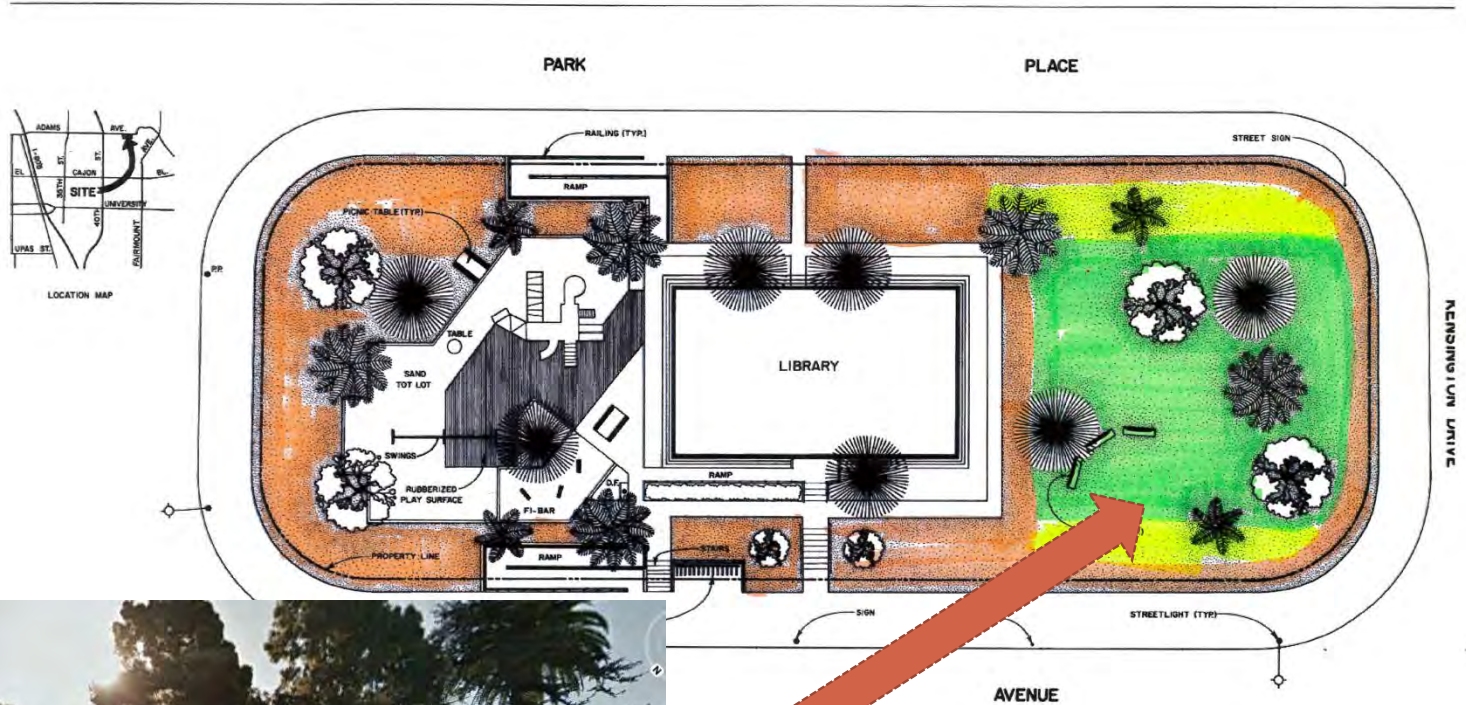
11



E.B. Scripps Park:
High-tourism area

A) ACTIVE TURF AREAS:

No change to irrigation (3x/wk): *Active/Passive Turf Area*



ITEM	QUANTITY	ITEM	QUANTITY
ST. DRIVE MARKS	10,800 SF	SECURITY L/S	5100
ST. PARK ROADS	SF	BALL FIELD L/S	5100
ST. PARKING LOT	SF	TENNIS CT. L/S	5100
ST. STALLS STD.	STANDARD PRODUCT CT.	ST. STALLS HOOP	STANDARD PRODUCT CT.
ST. BENCH TABLES	2 EA.	SHOWER PORTALS	1 EA.
ST. BENCHES	3 EA.	BUSSE RAILS	1 EA.
ST. LAWN EDGING	1,028 LF		
PERSON	T.R. 4/10/95		

CITY OF SAN DIEGO PARK and RECREATION DEPARTMENT

THE GENERAL DEVELOPMENT PLAN

KENSINGTON

MINI - PARK

COUNCIL DIST. NO. 3 COMM. PLAN AREA MID-CITY 4121 ADAMS AVE. PSD #: LAMBERT COORDINATES 218-1736 THOMAS BROS. PG. 1269, 9-3 601

B) PASSIVE TURF AREAS (YELLOW)

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**REDUCE IRRIGATION:
2X/WEEK**

B) PASSIVE TURF AREA

Reduce irrigation from 3x/wk to 2x/wk: Passive turf that abuts active turf (no clear border or delineation)

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Linda Vista CP:
Passive Turf Area where picnic area, playground and ball-field
(active turf area) intersect



DATA LOG FOR ACTION	REFERENCE DOCUMENTS	CONTRACT NO.	ACRES
3. SITE REVIEWED	REQD. NO.	0-15890	15.50
3.1. SITE RESPONSE	DATE NO.	0-15890	ACRES 15.50
3.2. SITE VISITATION	REQD. NO.		
3.3. ROAD APPROVAL	REQD. APPROVAL		
3.4. UTIL. DEVELOPMENT	REQD. NO.	21295	2820-D
3.5. REC. BLDG. ADD.	REQD. NO.	21974	3755-D
3.6. KITCHEN ADD.	REQD. NO.	21295	12700-L
3.7. IMPROVEMENTS	REQD. NO.	17204	10507-D
3.8. IRRIGATION	REQD. NO.	17251	10508-D
3.9. LIGHTING	REQD. NO.	17570	12282-D
3.10. IMPROVEMENTS	REQD. NO.	17687	12706-D
3.11. IMPROVEMENTS	REQD. NO.	17746	13024-D
3.12. TENNIS CT. LTD.	REQD. NO.	11250	
3.13. PARKING LOT	REQD. NO.	29-812.0	11251B
	REQD. NO.		27385-D

IMPROVEMENTS SUMMARY (DATA FROM AS-BUILT DRAWINGS)			
ITEM	QUANTITY	ITEM	QUANTITY
TOTAL SITE	15.50 AC	PARK AREA	10,150 SF
IMPROVED AREA	13.09 AC	MULTI-PURPOSE CT.	8,188 SF
PAVING	8.65 AC	TENNIS CT.	27,104 SF
SHRUB BED	.31 AC	RESTROOM	900 SF
NATURAL	2.41 AC	REC. BLDG.	6,812 SF
OTHER LANDSCAPING	.01 AC	POOL BLDG.	57 SF
DET. PATHWAYS	2.08 AC	BEEN	57 SF
		WATER	57 SF
		WOODWORK	6,893 SF
		PAVED WALKS	40,988 SF
		PAVING	7,200 SF
		PARKING LOT	30,157 SF
		STALLS STD.	132
		STALLS MOD.	3
		COURT SIDE AREA	57 SF
		HANDBALL COURTS	3,062 SF
		SECURITY LTS.	9 STPS
		BALL FIELD LTS.	8 STPS
		TENNIS CT. LTS.	10 STPS
		MULTI-PURPOSE CT.	3 STPS
		BACKSTOP	2 EA
		SECURITY LTS.	4 EA

CITY OF SAN DIEGO PARK and RECREATION DEPARTMENT

THE GENERAL DEVELOPMENT PLAN

LINDA VISTA

COMMUNITY PARK

COUNCIL DIST NO. 5 COMM PLAN AREA LINDA VISTA - 12 7064 LEVANT ST
 LANSBET
 COORDINATES 229-1717 THOMAS BROS. PG 1226, 3-6

REVISION T.R. 4/5/96

B) PASSIVE TURF AREA

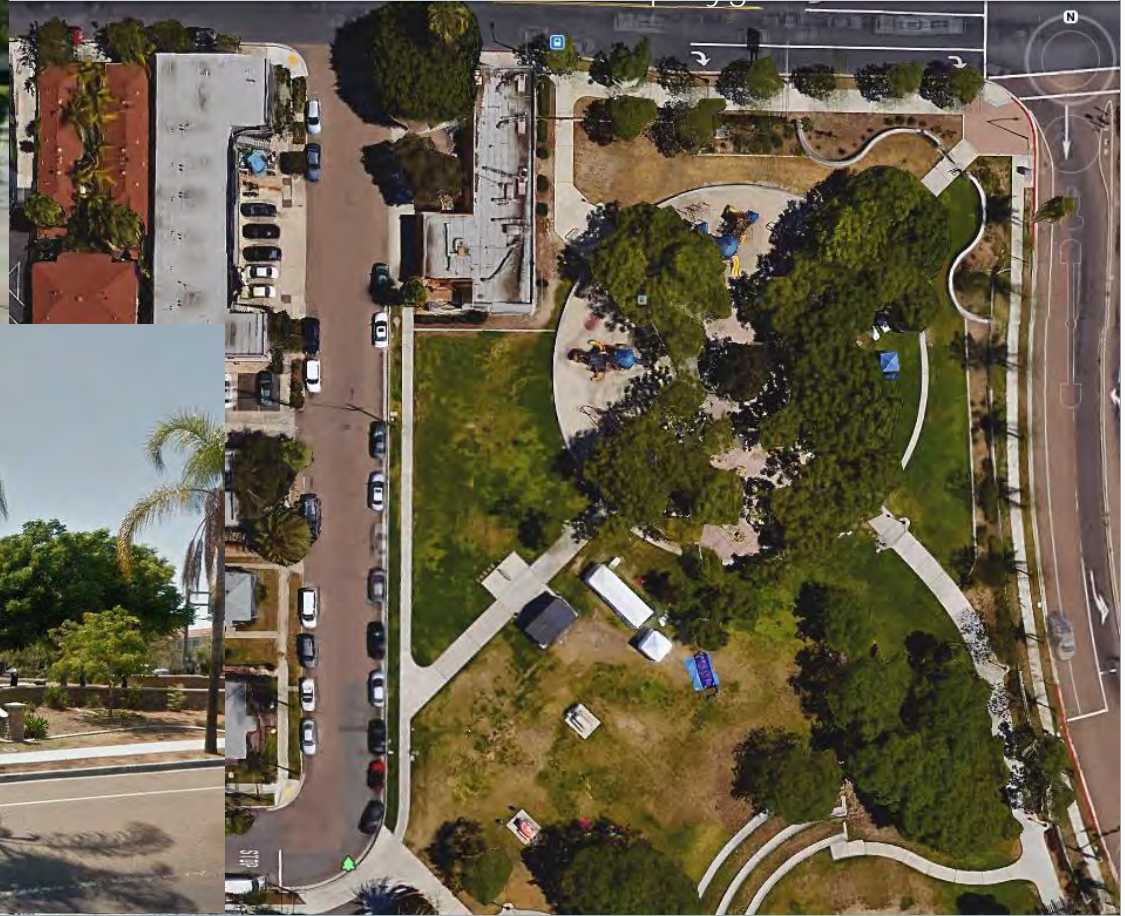
Reduce irrigation from 3x/wk to 2x/wk: Areas adjacent to playgrounds; should be well utilized and/or area with trees (shade) or seating

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Ward N.P.

Well utilized turf associated with playground



C) ORNAMENTAL TURF AREA (ORANGE)

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**NO IRRIGATION *EXCEPT*
*SIMULATED RAIN EVENTS (1-
2X/MO FOR TREES)***

C) ORNAMENTAL TURF AREA

Turn off irrigation: Under-utilized areas and slopes, preferably bordered by hardscape and/or fence-line

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Emerald Hills Park

Sloped turf in narrow unusable area. Bordered by hardscape & fence-line.



COUNCIL DIST. 3 CONN. PLAN AREA, S.E. SAN DIEGO ST. P.S. 871

DATA LOG FOR			
DATE	ACTION	REFERENCE DOCUMENTS	
1963	SITE ASSIGNED	REQ. NO. E-111A07	COST # ACRES 9.53
1967	SITE DESIGNER	ORD. NO. D-15672	ACRES 9.53
1968	SOP CONSULTANT HIRE	REQ. NO.	NAME STAFF (C.N.A.)
1-71	P&R BOARD APPROVAL	P&R APPROVAL	DATE
10-17-71	INITIAL DEVELOPMENT	CIP NO.	JO. NO. 11955
1-20-77	ADD IMPROVEMENTS	CIP NO.	JO. NO. 20680
		CIP NO.	JO. NO.
		CIP NO.	JO. NO.
		CIP NO.	JO. NO.
		CIP NO.	JO. NO.
		CIP NO.	JO. NO.

IMPROVEMENTS SUMMARY (DATA FROM AS-BUILT DRAWINGS)					
ITEM	QUANTITY	ITEM	QUANTITY	ITEM	QUANTITY
TOTAL SITE	9.59 AC	PLAY AREA	9,520 SF	PIKED WALKS	39,076 SF
IMPROVED AREA	8.07 AC	HAZ. PURPOSE CT	3,260 SF	PARK SEATS	5,200 SF
JURP	9.41 AC	TENNIS CT	19,200 SF	PARKING LOT	11,519 SF
SHRUB BED	-60 AC	RESTROOM	525 SF	" - STALLS STD.	41
NATURAL	1.52 AC	REC. BLDG.	57 SF	" - STALLS WOOD	
OTHER LANDSCAPING	AC	POOL BLDG.	57 SF	COURT SHADE AREA	57
DRY INFIELDS	AC	" - BECK	57	TENNIS CT LYS	2 EA
		" - WALTER	57	TENNIS EYE	2 EA
		LAWN EDGING	9,990 LF		

CITY OF SAN DIEGO PARK and RECREATION DEPARTMENT

THE GENERAL DEVELOPMENT PLAN
EMERALD HILLS PARK

BETHUNE CT.
 REVISION S.M. 12/26/04

LAMBERT COORDINATES 205-1167 THOMAS BROS. Pg. G1-CG

H-434

C) ORNAMENTAL TURF AREA

Turn off irrigation: *Off Leash Dog Parks*

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C) ORNAMENTAL TURF AREA

Turn off irrigation: Narrow unusable strips

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Miramar Overlook:
Narrow strip of turf adjacent to playground



Linda Vista CP:
Narrow turf area with poor view of ball-field (unusable)

C) ORNAMENTAL TURF AREA

Turn off irrigation: Ornamental turf at Recreation Centers

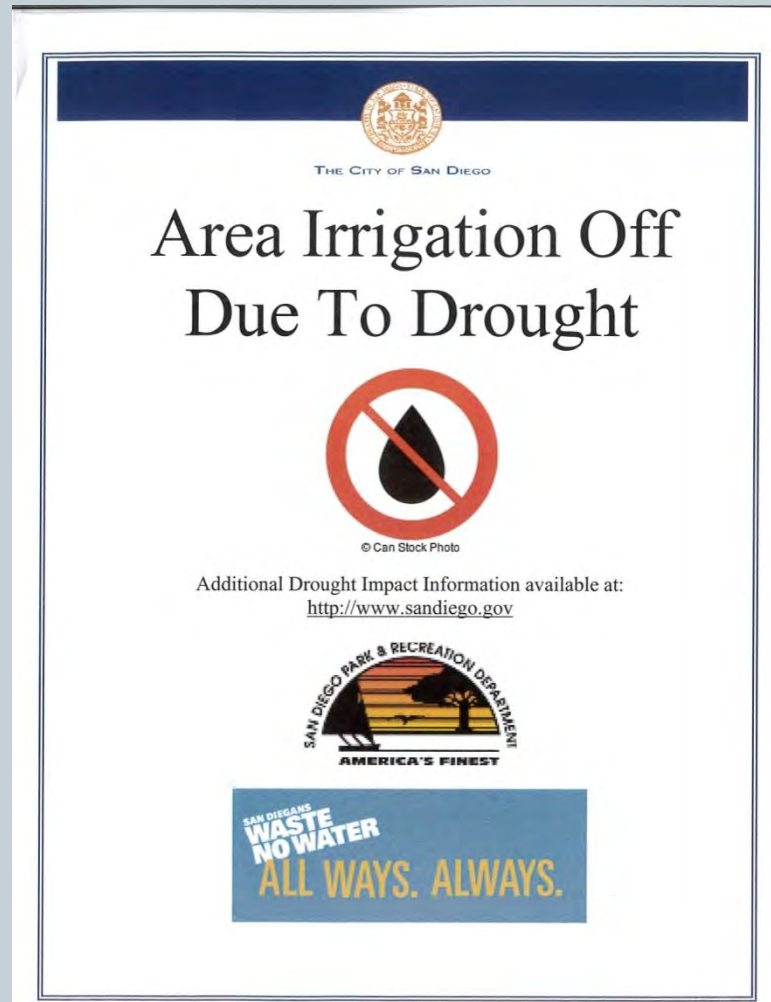
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Pacific Beach Recreation Center
Turf adjacent to recreation center

Drought Signage for Decommissioned Areas

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Irrigation Savings Reinvested into Parks

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- Drought Tolerant Plantings
- Smart Controllers
- Irrigation Head Replacement
- Irrigation Renovations
- Fertilization for Athletic Fields



Golf

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DECOMMISSIONED TURF

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- Staff will take five (5) photos of each turf area to be decommissioned. Photos should be taken before turf dies.
- Staff will not remove dead, or dying, turf unless there is a plan and funding for replacement. This will reduce erosion and landfill concerns.
- Staff will ensure that trees within decommissioned turf are irrigated as outlined above.

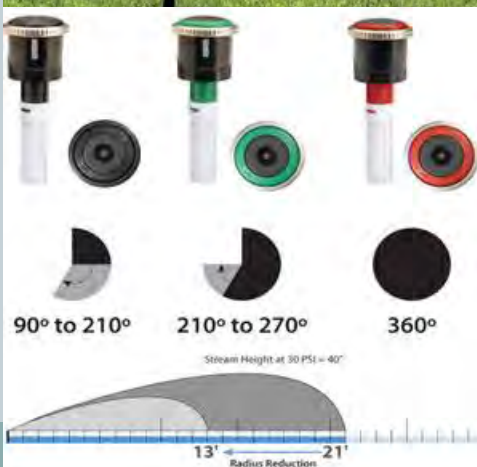


**Pop up Spray Head
Limited in days and
times by SDMC
Drought Levels.**

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**POP UP STREAM
HEAD
NOT LIMITED IN TIME
BY SDMC DROUGHT
LEVELS. **DAYS OF
OPERATING ARE
LIMITED.****

**Conversion is easy but
run times
will increase.**





Pop-Up (Stream) Rotor Heads:

NOT Limited in run time by SDMC Drought Level 2.

Days of the week are!

PARK AND RECREATION WILL REDUCE WATER USE BY THE MANDATED AMOUNT!

Proposed Amendments to City Drought Ordinance (SDMC)

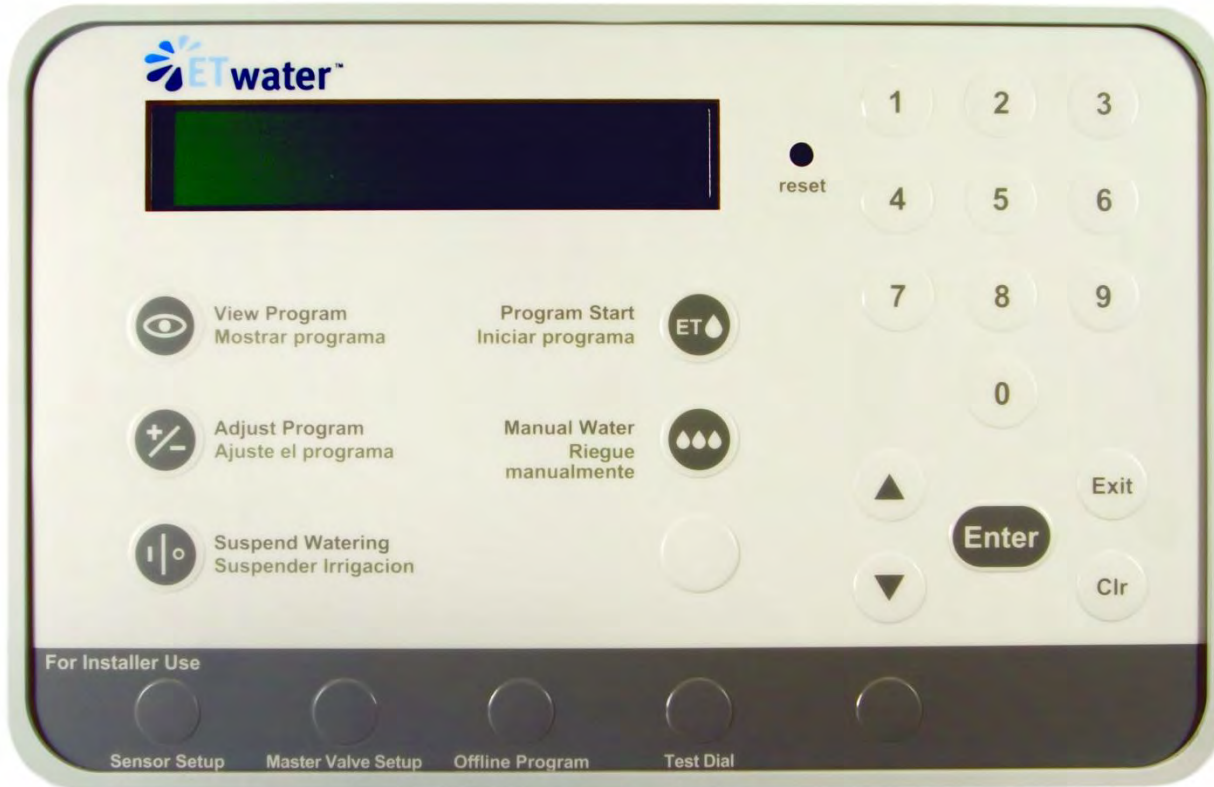
Parks are exempt from watering time restrictions but must comply with targeted water use reductions.

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(G) This division does not apply to areas serviced by the **Park and Recreation Department**, including public rights-of-way, street trees, or areas with significant public benefit requiring enhanced irrigation schedules, such as **public parks**, schools and federal monuments or reserves. The aforementioned areas shall be irrigated, operated and maintained according to a schedule set by the City Manager.

Smart Controllers

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Smart Controllers:

- Balboa Park
- Mission Bay Park
- Some MADs

Investment needed to expand use to other parts of park system

Staff training

Trees

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Watering approach designed to preserve trees

Recycled Water

Parks with Recycled Water



- Black Mountain Ranch Community Park
- Canyonside Community Park
- Dingeman Elementary Joint Use
- Doyle Community Park
- Hourglass Community Park
- Mandell Weiss Park
- Nobel Athletic Area
- Penasquitos Creek Neighborhood Park
- Scripps Ranch Community Park
- Spring Canyon Neighborhood Park
- South Village Neighborhood Park
- Thurgood Marshall Middle School Joint Use
- Torrey Pines Golf Course
- University Gardens Neighborhood Park
- Wangenheim/Walker Joint Use
- Westview Neighborhood Park

Maintenance Assessment Districts:

Camino Santa Fe
Campus Point
Eastgate

Genesee Ave and North Torrey Pines Rd
La Jolla Village Dr.

Miramar Ranch North
Mira Mesa
Park Village
Peñasquitos East
Scripps Ranch

Torrey Highlands



Park and Recreation Department
Water Reduction Approach
June 2015

In accordance with the Governor's Executive Order B-29-15 and direction from Mayor Kevin Faulconer, the Park and Recreation Department is implementing the following phased approach to meeting the required 16% reduction in potable water use within the City park system. Parks being irrigated by recycled water are currently exempt from these water use reductions.

- Three Tiered Turf Irrigation Reductions:
 - Active Turf (athletic fields, historically designated areas, high-tourism areas, and special community spaces): The Department continues with current irrigation practices of watering three (3) times per week and only renovates turf to address safety concerns.
 - Passive Turf (well-utilized areas around picnic areas, playgrounds, and athletic fields): The Department reduced irrigation from three (3) times per week to two (2) times per week. Turf appears stressed but is kept alive.
 - Ornamental Turf (turf useful for aesthetic purposes including strips of turf adjacent to public rights of way or buildings and other nonessential turf): The Department decommissioned turf by turning irrigation systems off except as needed to preserve trees. As funding permits, the Department will explore ways options to replace turf with drought tolerant landscape.
- Dog Off-Leash Areas: The Department eliminated the use of potable water for turf irrigation in dog off-leash areas except as needed to preserve trees.
- Eco-Ponds including Chollas Lake: The Department continues to preserve these ecologically important water bodies while exploring ways to save water.
- Facilities and Buildings: In cooperation with Public Works Department, the Department is exploring ways to save water at recreation centers, comfort stations, pools, and showers.
- New Parks: Together with Planning Department and Public Works Department, the Department will ensure future parks currently under development utilize drought tolerant landscaping and will prioritize natural turf only for active areas such as athletic fields.
- Shrub Areas (non-turf irrigated areas): The Department reduced irrigation from three (3) times per week to two (2) times per week or less depending on landscape drought tolerance.
- Special Sites (Mt. Hope Cemetery, City-operated Golf Courses, Maintenance Assessment Districts, and Gas Tax Medians): The Department reduced potable water irrigation by 16% by reducing frequency of irrigation and ceasing irrigation in certain locations.
- Trees: All existing trees will be irrigated as necessary to protect their health and to keep parks safe. The Department implemented simulated rain events to provide deep watering once or twice per month depending on tree species.
- Turf Medians: The Department eliminated the use of potable water for turf irrigation in turf medians except as needed to preserve trees.
- Water Usage: The Department monitors water usage and manages it in accordance with historical evaporation and transpiration rates as identified by California Irrigation Management Information System (CIMIS).