

C1.06 – Sustainable Biogarden Solutions

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SAMMARCOS

Team



Next Steps

Detailed Site Visit

Soil Property Analysis

Update Life Cycle Cost Update Sustainability Score

Reconsider Planter Box

System Design

Project Overview

Background

Current stormwater management practices are not sufficiently sustainable with the use of impermeable materials that prohibit necessary infiltration and filtration adding pollution to natural water resources. San Marcos is especially of concern due to its proximity to the Edwards Aquifer and ongoing drought conditions.

- Project
- Sponsor is City of San Marcos
- > Goal is to incorporate Low Impact Designs (LID)
- > Designed to capture all runoff from home property during a typical rainstorm

Alternatives



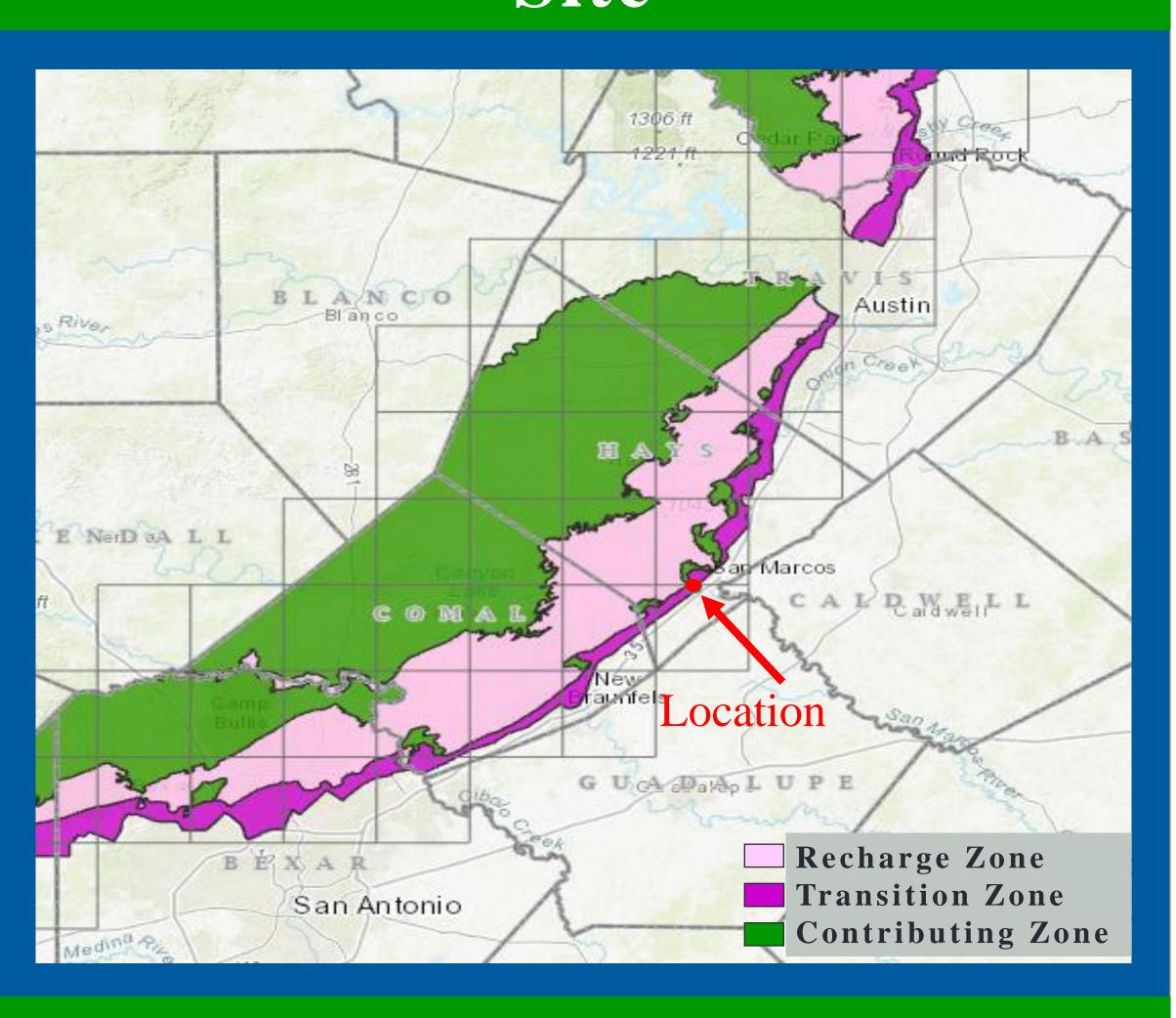
Bioretention & Planter Box Criteria:

- Infiltration - Filtration - Runoff Capture

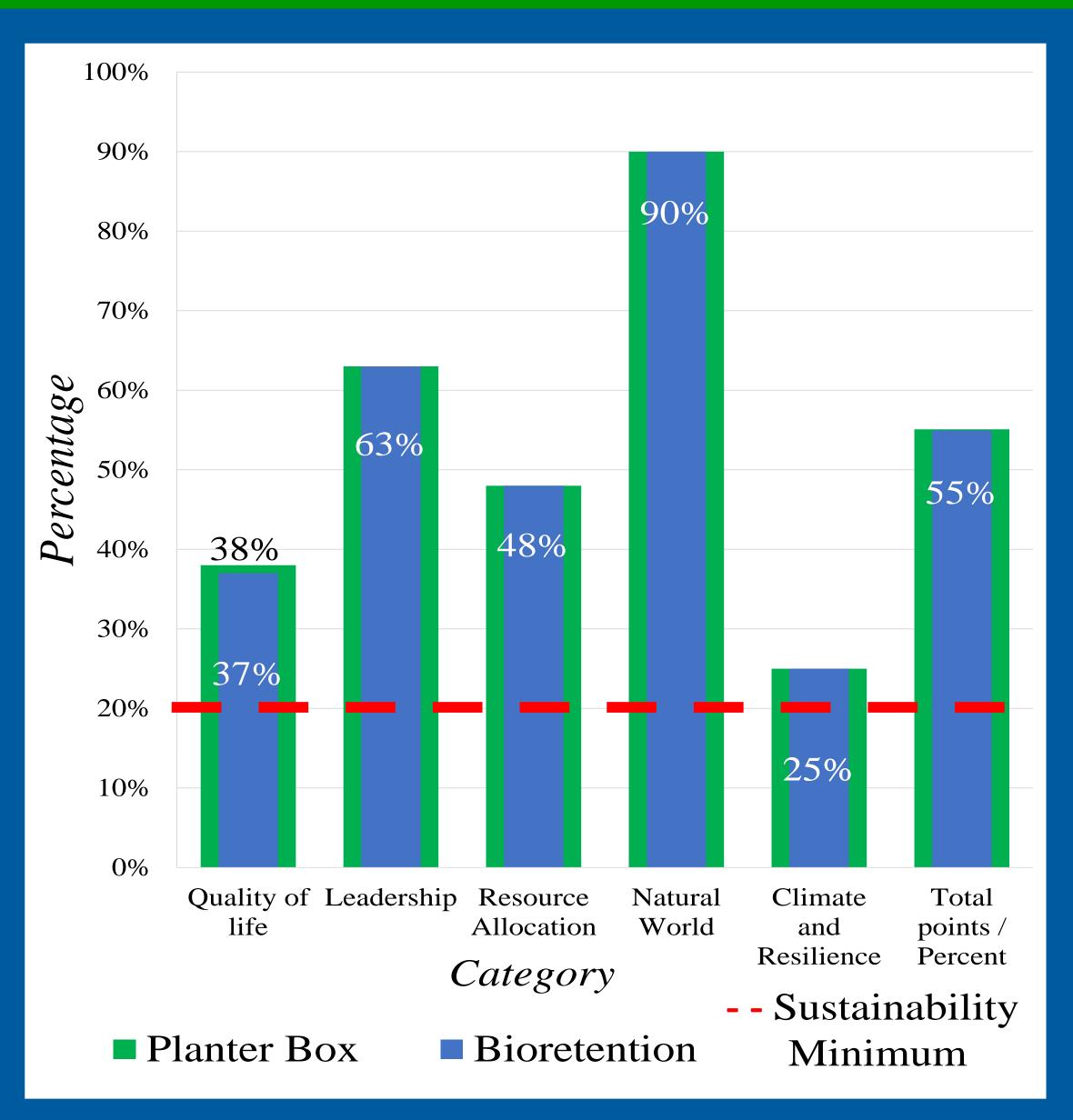
Costs

Capital Components	Life-Cycle Components	\$400								\$400	
Bioretention	Maintenance				3888						
Mulch	Both every year	\$300								\$300	
	Mulch										
Vegitation	25% of the Vegetation	∫ \$ \$200								\$200	
	Rehabilitation	tens o								osts (
No. 8 Aggregate	Bioretention at year 15	# \$100				. 388				+ \$100 o	
	100% of errosion control	al Cost					m.			\$0 \$0 Fife-Cycle	
Planter Boxes	Planter box at year 10	liitii \$0								\$0 · · · · · · · · · · · · · · · · · · ·	
Wood 2"x4"	25% of the Wood										
Mulch	Salvage / Analysis Period	-\$100								-\$100	
Sand	Bioretention at year 30										
Gravel (3/8) " No. 2	50% of the errosion control	-\$200								-\$200	
Gravel (3/4) " No. 5	Planter box at year 10	42 00	0	5	10	15	20	25	•	30	
Wood 4"x4"	5% of the wood		D.			Years		_			
Vegitation	50% of the aggregate	Green Bioretention			Ē	☐ Initial Cost ☐			■ Maintenance Cost		
Net Present Value (NPV) = \$2769.71		Blu	Blue Planter Box				Rehabilitation Cost			Salvage Value	

Site



Sustainability Summary



Utilizing Envision, the Planter Box and Bioretention both received a platinum score of 55% total.



PLATINUM 55%