

### Background and Project Scope

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The City of Goodyear approached ASU's Urban Sustainability Best Practices/ Case Studies course led by Dr. Nalini Chhetri at Arizona State University's School of Sustainability to assist them in looking at best practices for demonstration gardens.

### Research Questions

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The resources used for this project all focused on the following research questions:

1. How have other demonstration sites been used in the Phoenix Metropolitan Area?
2. What are best practices used at other repurposed Superfund sites?
3. What are the best strategies to reduce the urban heat island effect using water efficient landscaping?

#### 1. How have other demonstration sites been used in the Phoenix Metropolitan Area?

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Through analyzing other demonstration sites in the Valley, it was determined that education, community engagement, and art in the garden are important and essential components of a demonstration garden. The picture to the right was part of neighborhood community art project at the Chandler Xeriscape Garden, and is titled "Use Water Wisely; A Desert Diamond" by local artist Juanita Hull-Carlson.



Chandler Xeriscape Garden Website

#### 2. What are best practices used at other repurposed Superfund sites?

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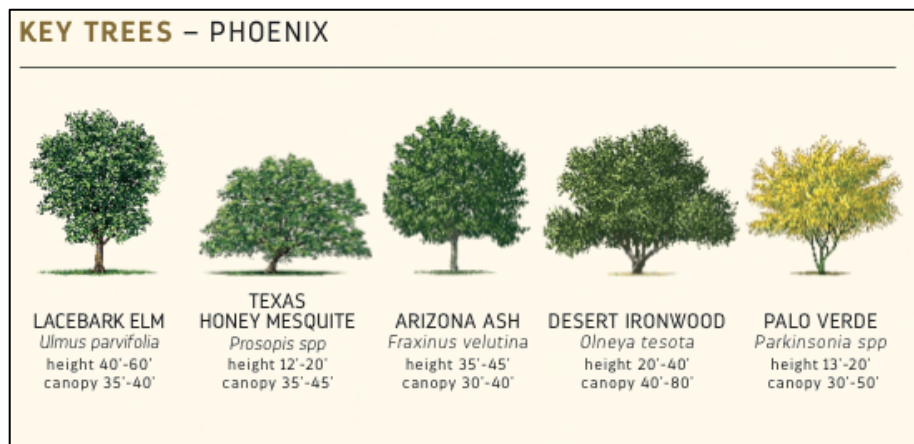
There are dozens of projects throughout the United States that have clearly demonstrated the benefits of taking Superfund sites and transforming them into educational and research sites. The Village of Questa in New Mexico partnered with Chevron Technology Ventures and the EPA to turn an old mining site into a demonstration and research site for concentrated photovoltaics (CPV).



EPA Superfund Redevelopment Fund Initiative

### 3. What are the best strategies to reduce the urban heat island effect using water efficient landscaping?

The urban heat island effect has many negative impacts throughout the Valley, and the proper use of trees may be one way to help mitigate problems. The Goodyear Demonstration Garden could be an optimal research site to look at how trees can be used to solve some of these issues, while also minimizing water use. Some of the best practices include bundling trees together to provide more canopy coverage, which would also decrease water use. Different trees are more sensitive than others and may become sun burned from the sun reflecting off the pavement. Therefore, it is recommended to look at each tree species specifically and decide if they will perform better in either residential or commercial areas.



Source: Project Desert Canopy Arizona

### Recommendations and Conclusion

Based on the research, it has been determined that the Goodyear Demonstration Garden should include: engaging signage to identify plant life, water management practices and other educational features. It is also recommended that they continue to build partnerships and have research be a cornerstone for their site. By adopting some of these practices and recommendations, Goodyear's Demonstration Garden has the potential to become an example to other demonstration sites located in arid environments.