

*Environmental Compliance for San
Antonio Water System Twin Oaks
Brackish Groundwater
Desalination Plant*

SWCA[®]

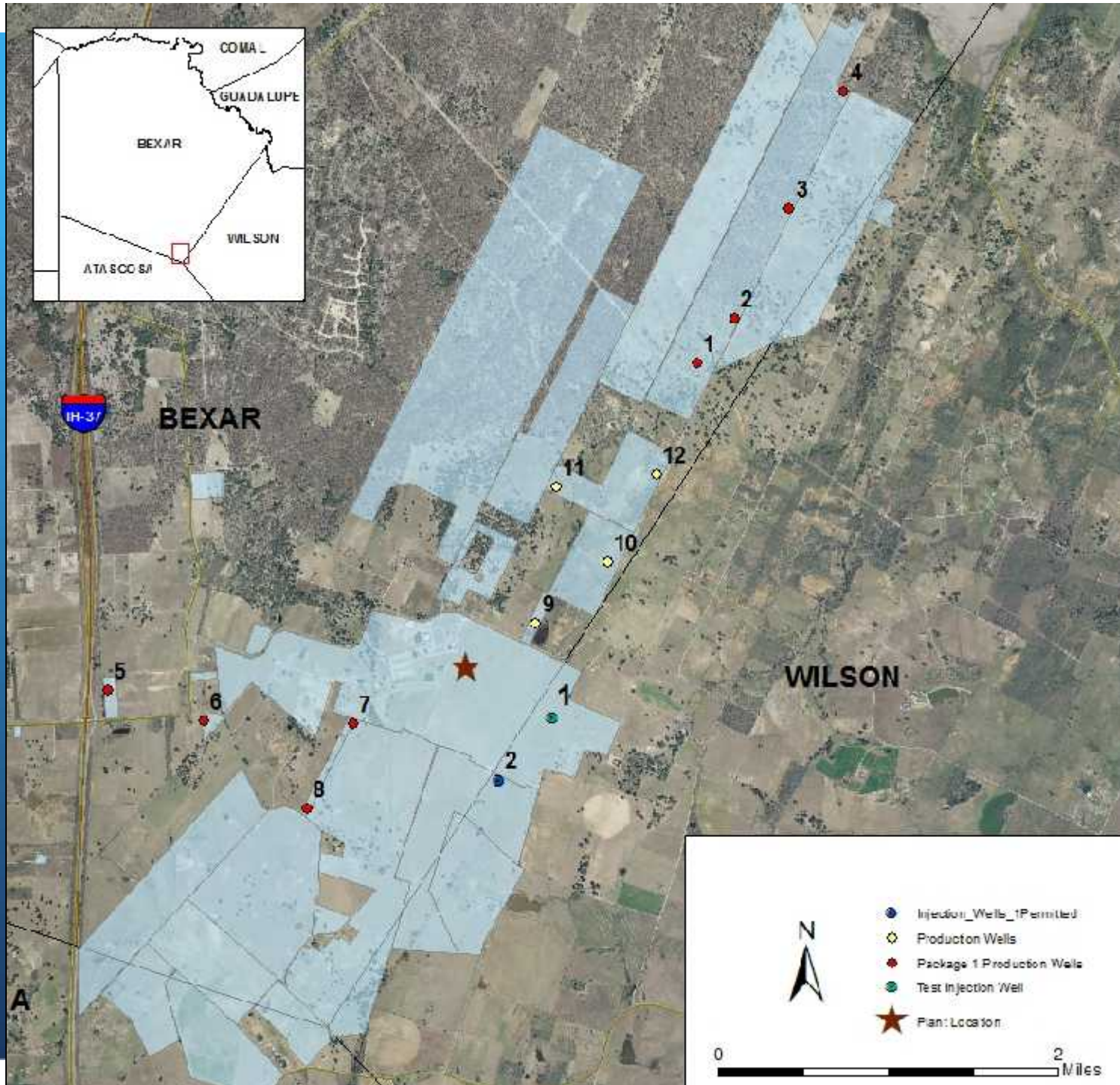
ENVIRONMENTAL CONSULTANTS

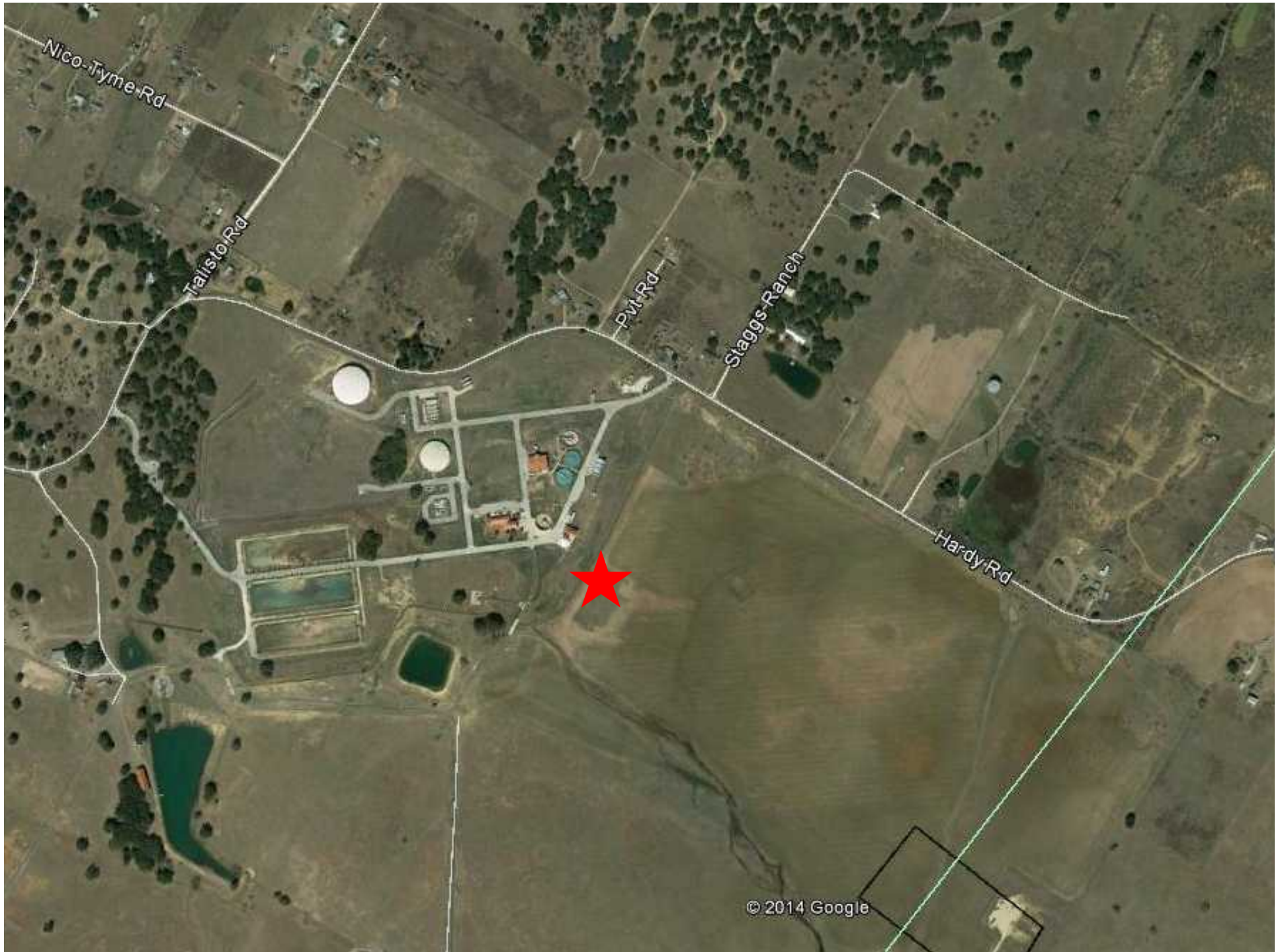
Sound Science. Creative Solutions.

Twin Oaks Brackish Groundwater Desalination

- Purpose is to supplement and diversify SAWS' water resources portfolio to meet the City of San Antonio's water needs over the next 50 years, while reducing dependence on the Edwards Aquifer.
- Phase I of the Twin Oaks BGD plant will generate about 12 million gallons of water per day (mgd) or 13,440 acre-feet per year from the Wilcox Aquifer.







Environmental Compliance Goals

- Address multiple layers of natural and cultural resources regulations as efficiently as possible
- Proactively identify environmental/permitting issues that could affect project schedule (environmental constraints)
- Avoid/minimize environmental impacts (alternatives)



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Regulatory Layers - Applicable Permits and Agency Coordination

	Regulatory Framework	Agency	Permit/Review
Federal	Clean Water Act Endangered Species Act (ESA) Migratory Bird Treaty Act (MBTA) National Historic Preservation Act (NHPA)	US Army Corps of Engineers US Fish and Wildlife Service Texas Historical Commission	Section 404 Permit ESA/MBTA Review NHPA Review
State	Texas Antiquities Code Texas Water Development Board Environmental Determination Texas Parks and Wildlife Code	Texas Historical Commission Texas Water Development Board (TWDB) Texas Parks and Wildlife Department (TPWD)	Antiquities Permit TWDB Environmental Assessment TPWD Review/ Recommendations
Local	City of San Antonio Unified Development Code (applies to extra-territorial jurisdiction)	City of San Antonio Development Services	City of San Antonio Historic Preservation Office Review City of San Antonio Tree Permit City of San Antonio Habitat Compliance Process

Environmental Constraints Analysis



EXHIBIT "A"

Hardy Rd.
Sandy Hills Rd.
Hardy Rd.
Sandy Hills Rd.
John Shock Shely Cemetery
Boxer Co.
Wilson Co.

no scale

Vicinity Map

well storage plant
Hardy Rd.
barbed wire fence
gate
perimeter pipe fence
John Shock Shely Cemetery
101 ft.
122 ft.
Surrounding Landowner: San Antonio Water System

Map adopted from data provided by the applicant
Located at John S. Shely Survey, A-589, DeWitt County, Texas
Latitude: 29.14521° N Longitude: 98.38872° W (NAD83).

JOHN SHOCK SHELY CEMETERY
Also known as The Old Shely Cemetery
Cemetery No. BX-C189
Boxer County

Please check and sign and return to the TDC
PO Box 12370, Austin TX 78711-2370. Thank you.

I approve this map as drawn.
Please consider this map as included on this copy.

Gene Wayne Miller

Alternatives

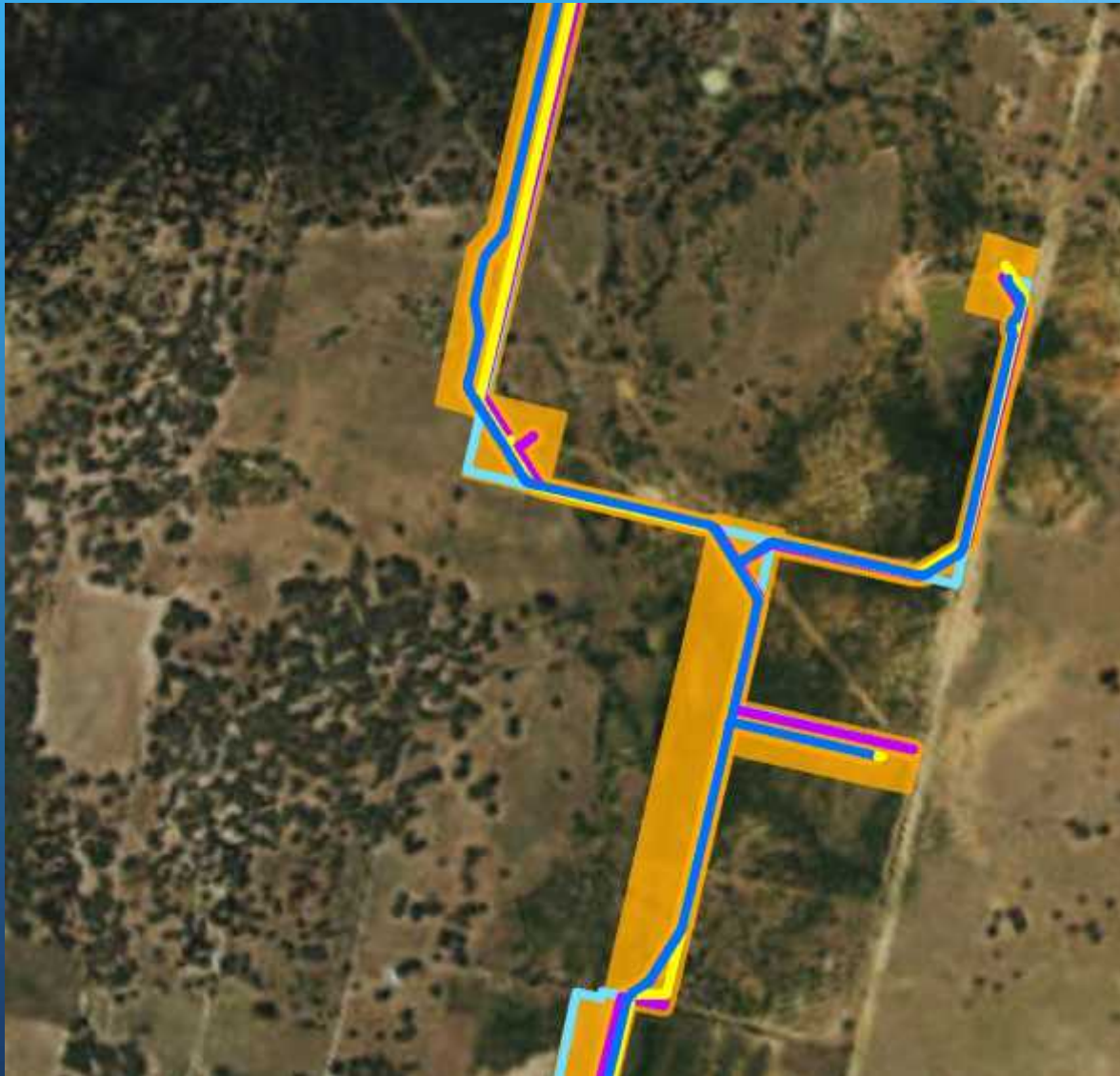
- Overlay environmental constraints and potential project layouts (e.g. historic cemetery)
- Identify alternative options (e.g., pipelines)
- Evaluate a larger footprint (alignments, facilities)



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Alternatives



Avoid/Minimize/Mitigate Environmental Impacts

Cemetery - avoided
through
implementation of
200-foot avoidance
buffer

Avoidance plan
required Texas
Historical
Commission
review/approval



Avoid/Minimize/Mitigate Environmental Impacts

Texas Parks and Wildlife Department state listed species

- Species surveys and relocations, if needed
- Educational outreach to staff and contractors

WANTED - ALIVE!



Texas Horned Lizard (aka *Phrynosoma cornutum*)



The Texas Horned Lizard is a protected species under Texas state law. As a Texas Water Development Board funded project, the SAWS Brackish Water Desalination project is committed to protection of state threatened species.

If you see a Texas Horned Lizard on the project site:

- Do not handle or touch; do not disturb nearby burrows
- Contact Sheldon Eskelson with Zachry-Parsons ◊ cell 210 819 1054 ◊ Sheldon.Eskelson@Parsons.com or
- Brian Lennard with Zachry-Parsons ◊ cell 210 871 2785 ◊ Brian.Lennard@ZachryCorp.com

These supervisors will contact SAWS biological consultants for proper removal of lizards to a safe location.

Questions

cwesterman@swca.com

