



# Survey and Data Collection

Disaster Planning and Response in Historic Texas Cemeteries

# Zoom Webinar Housekeeping

- Trouble with computer audio? Try using your phone instead.
  - 1-346-248-7799 Webinar ID 893 3265 1269
- All attendees are in listen-only mode
- This session is being recorded for later viewing
- Use the **chat box** to
  - Ask for help
  - Make comments during the presentation
  - Share links or tips
- Use the **Q & A box** to
  - Ask the presenters a question
  - We'll answer them live at the end of the presentation





# Disaster Planning & Response in Historic Cemeteries

# Webinar Series Introduction and Overview

- The National Park Service (NPS) awarded THC **\$12.3 million** from the Emergency Supplemental Historic Preservation Fund (ESHPPF) to address the consequences of Hurricane Harvey on historic properties.
- THC has awarded over **\$9.2 million** in sub-grants to date.



*Rosewood Cemetery, Galveston County*



*Wood Mansion, Refugio County*

## Online Training Series: Disaster Preparedness & Response for Historic Cemeteries

- **Goal:** Provide cemetery caretakers with the knowledge and skills necessary to build greater resiliency to withstand and recover from future disasters
- **Timeline:** Summer 2021 – Summer 2022
- **Project Team:** Led by Terracon Consultants, Inc.
- **Program:** Six webinars + six stakeholder meetings



*Rockport Cemetery, Aransas County*

## Instructional Webinars

1. Lay of the Land: Cemetery Orientation
2. Cemetery Survey and Data Collection
3. Risk Assessment & Pre-Disaster Planning
4. Immediate Response to Natural Disasters, plus Preservation Funding
5. Post-Disaster Recovery & Restoration
6. People's Choice!

## Stakeholder Meetings

- Highly interactive
- Group discussions
- Feedback opportunities



*McGaffey Cemetery, Jefferson County*

**Stay Up to Date!**

[www.thc.texas.gov/Harvey-cemeteries](http://www.thc.texas.gov/Harvey-cemeteries)



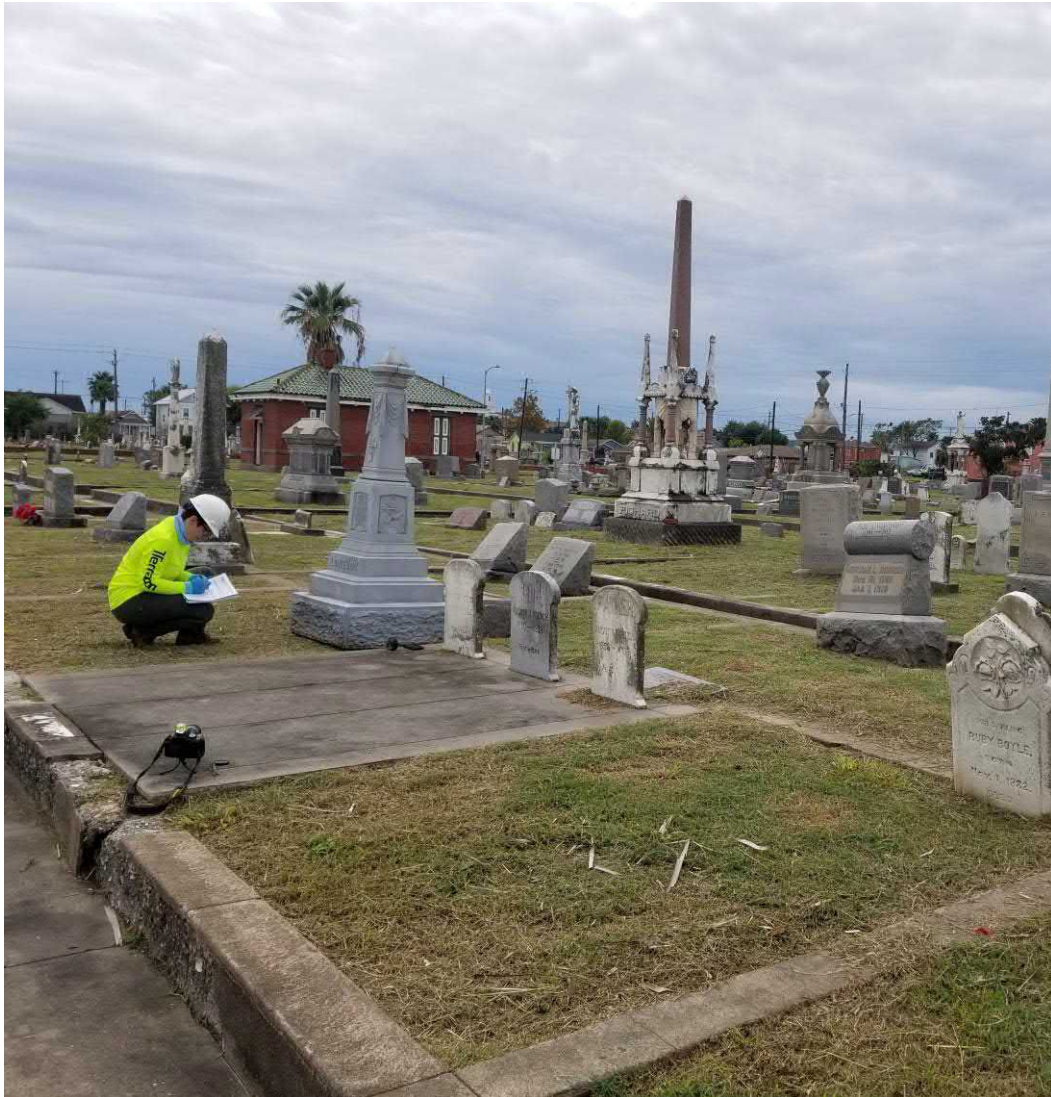
# Survey and Data Collection

Disaster Planning and Response in Historic Texas Cemeteries

*This material was funded by the Emergency Supplemental Historic Preservation Fund, National Park Service, Department of the Interior. Any opinions, findings, and conclusions or recommendations expressed in this material do not constitute endorsement or necessarily reflect the views of the Department of the Interior or U.S. Government.*



# Importance of Documentation

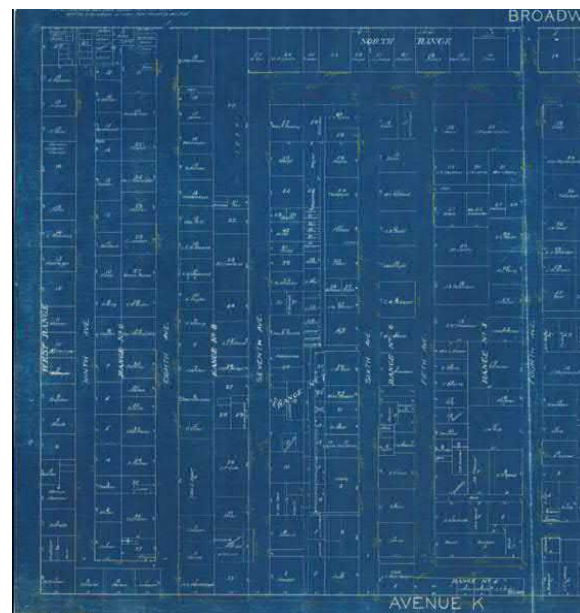
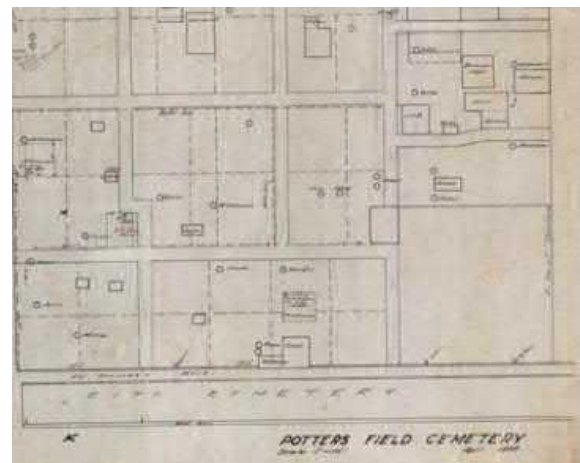


- Surveys represent a cemetery's history at a specific time
- Surveys provide data and mapping of cemetery conditions for preservation
- Surveys provide important information should a disaster strike
- Surveys record historic and genealogical information

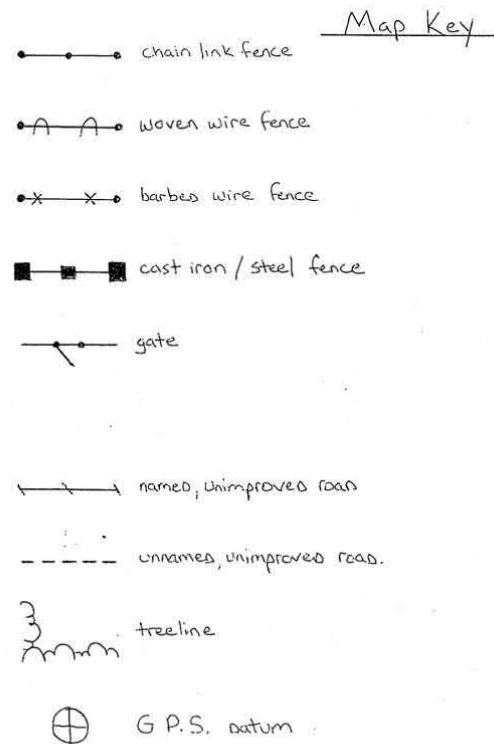
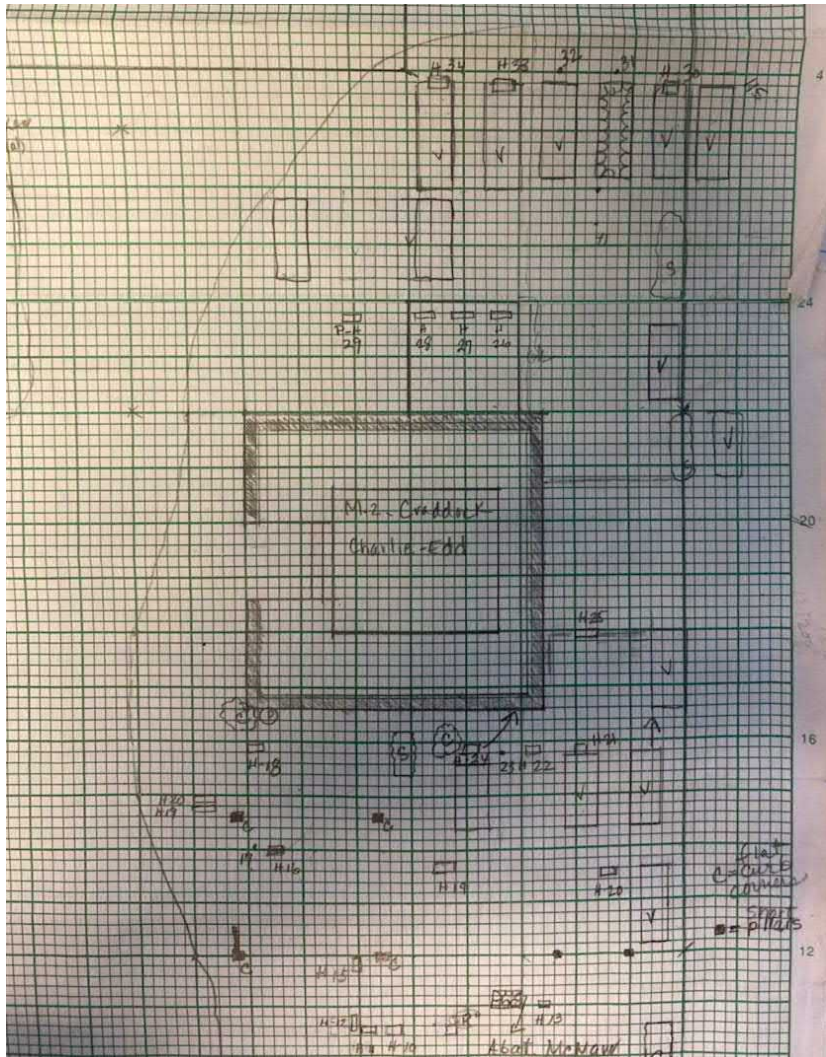
Broadway Cemetery - Galveston County

# Pre-Survey Work

- Identify existing documentation resources (burial or sexton records)
- Interview interested caretakers and families
- Look at existing map data



# Building the Survey



- Record physical aspects of the burial, marker, or funerary offerings
- Information about the interred as inscribed
- Identifying number
- Additional Notes
- Photographs
- Geospatial/mapping

# Building the Survey

## Numbering Approach:

- Determine if a numbering system already exists
- If there is no numbering system, divide the cemetery into **sections or quadrants** and number plots or graves in rows
- Record numbering methodology and share with surveyors
- Make sure sections and quadrants are clearly marked



Dory Hill Cemetery - Black Hawk, CO

# Building the Survey

## Physical aspects to record:

- **Names**
- Birth and death dates
- Full inscriptions
- Iconography
- Associations
- Marker Type
- Material
- Conditions observed
- Orientation



Family (last) Name

Wife's First (given) Name and Middle Initial

Husband's First (given) Name

Broadway Cemetery, Galveston County

# Building the Survey

## Physical aspects to record:

- Names
- **Birth and death dates**
- Full inscriptions
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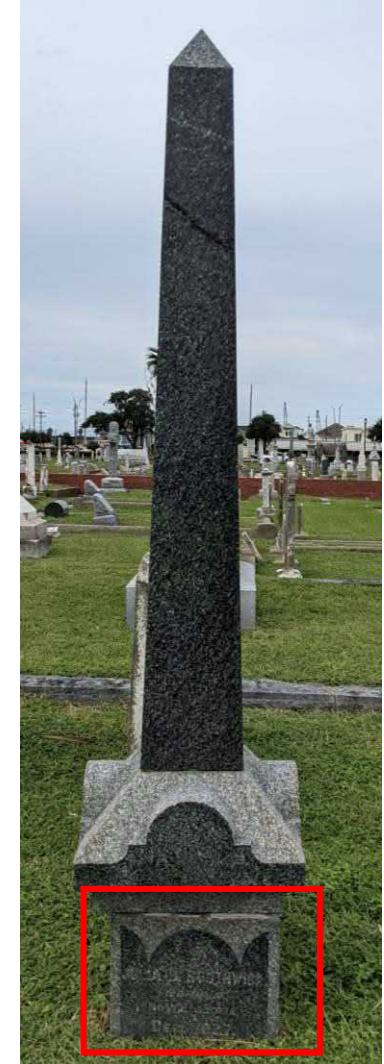
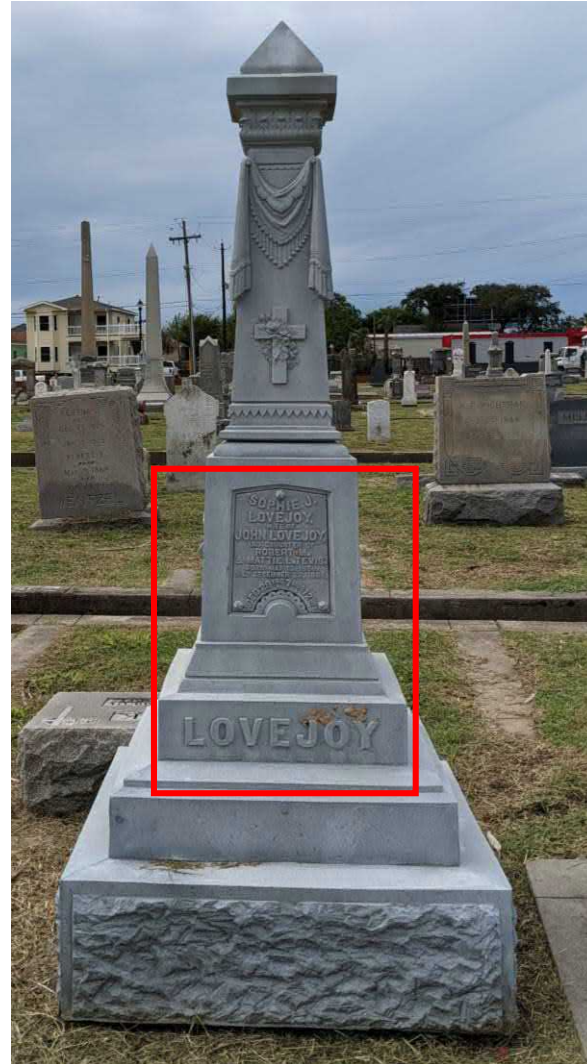


Broadway Cemetery, Galveston County

# Building the Survey

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- Orientation

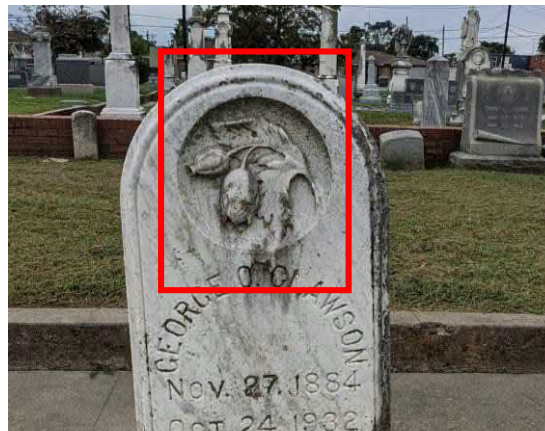


Broadway Cemetery, Galveston County

# Building the Survey

## Physical aspects to record:

- Names
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- **Iconography**
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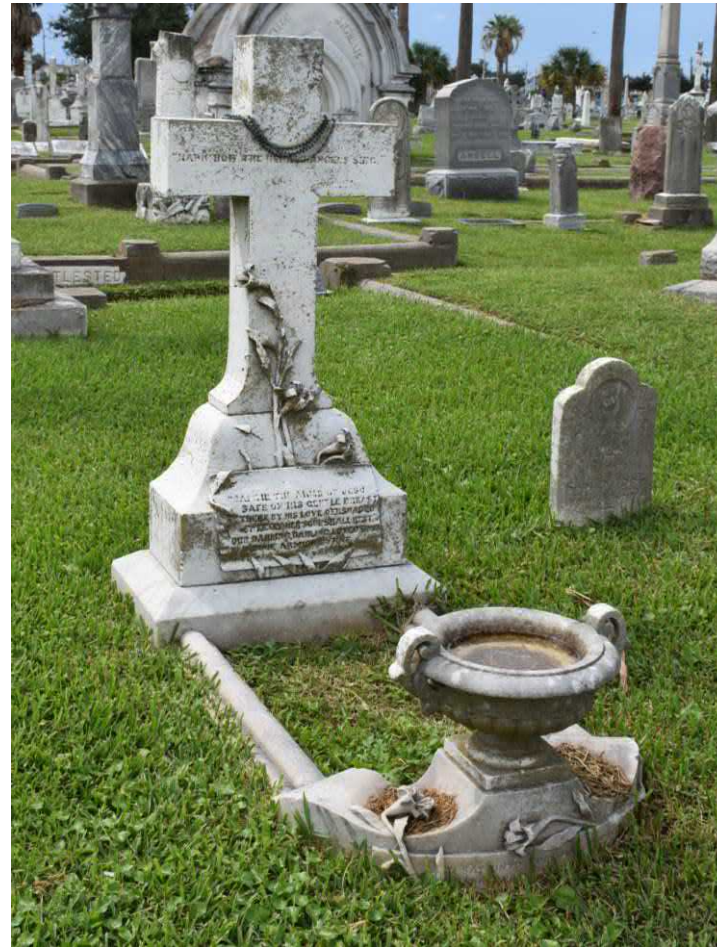
Broadway Cemetery, Galveston County



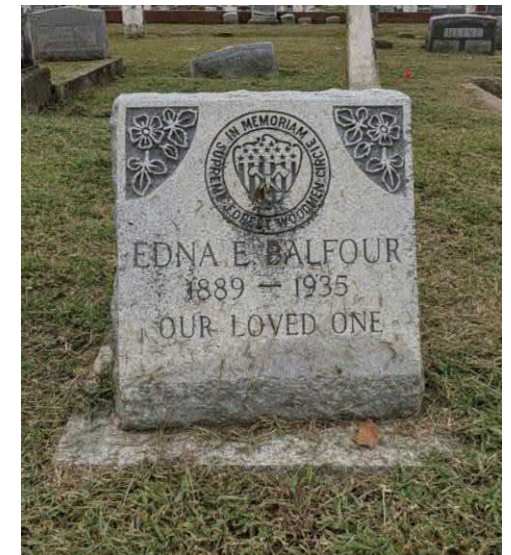
# Building the Survey

## Physical aspects to record:

- Names
- Birth and death dates
- Full inscriptions
- Iconography
- Associations
- **Marker Type**
- Material
- Conditions observed
- Orientation



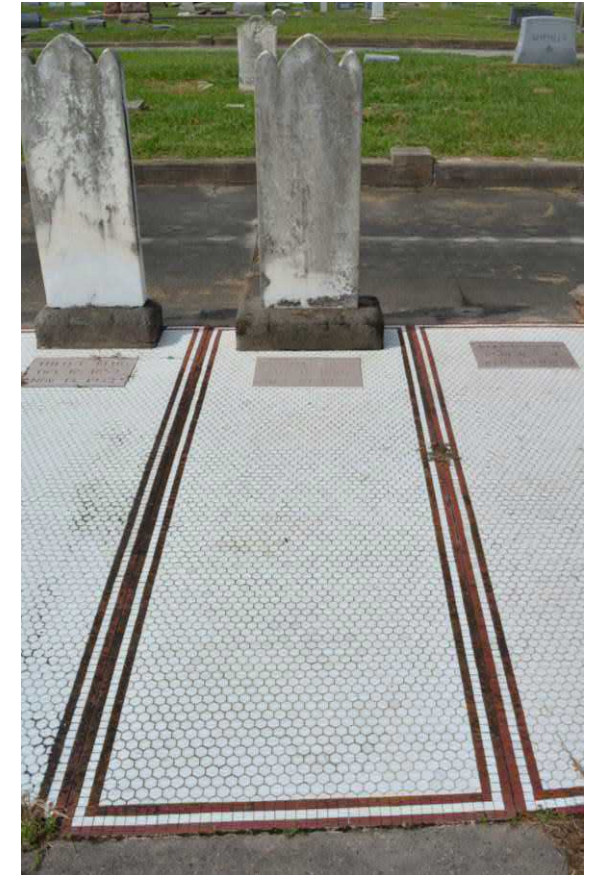
Broadway Cemetery, Galveston County



# Building the Survey

## Physical aspects to record:

- Names
- Birth and death dates
- Full inscriptions
- Iconography
- Associations
- Marker Type
- **Material**
- Conditions observed
- Orientation

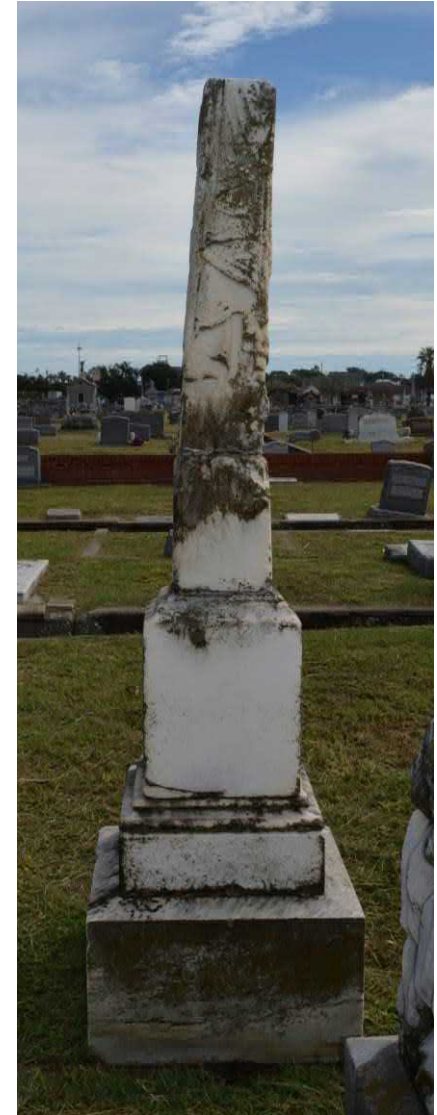
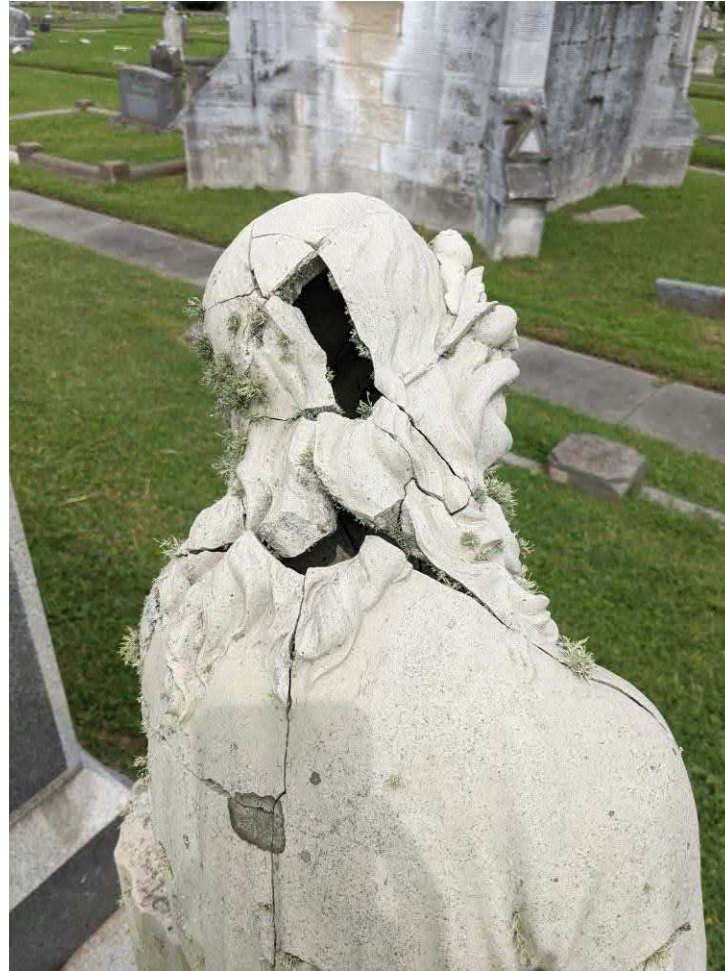


Broadway Cemetery, Galveston County

# Building the Survey

## Physical aspects to record:

- Names
- Birth and death dates
- Full inscriptions
- Iconography
- Associations
- Marker Type
- Material
- **Conditions observed**
- Orientation



Broadway Cemetery, Galveston County

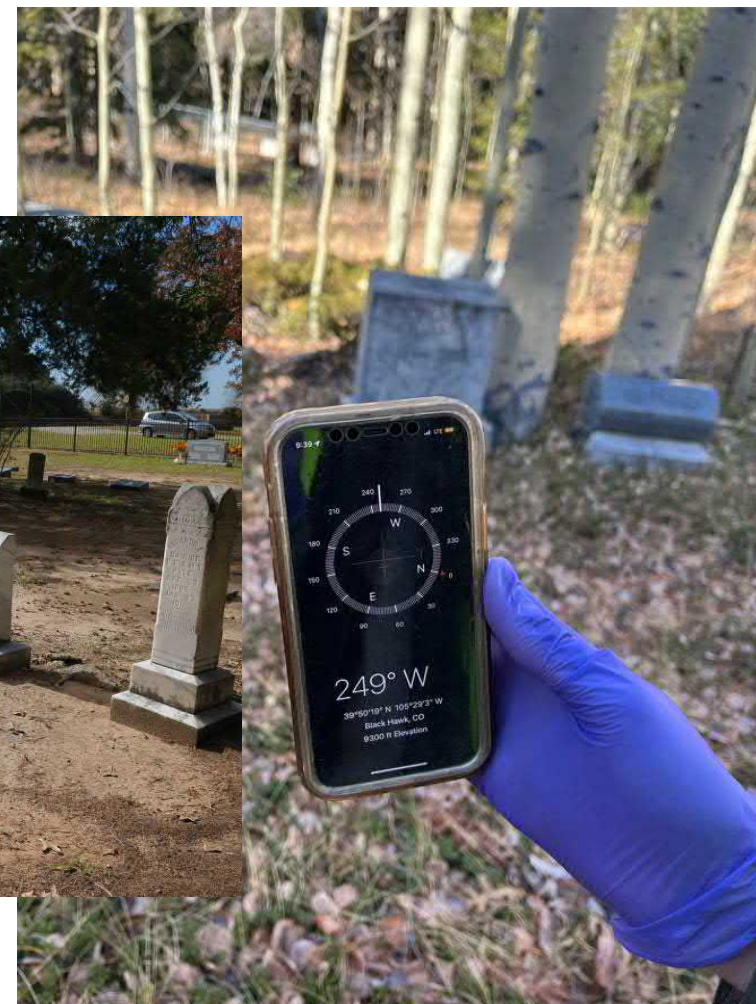
# Building the Survey

## Physical aspects to record:

- Names
- Birth and death dates
- Full inscriptions
- Iconography
- Associations
- Marker Type
- Material
- Conditions observed
- **Orientation**



Grimes Co. Pleasant Hill Cemetery



Dory Hill Cemetery - Black Hawk, CO

# Building the Survey

## Survey Consistency:

- Deviations in word choice due to personal opinion and/or knowledge (headstone vs. tablet)
- Deviations in surveying of iconography and associations (generic flower vs. rose)
- Use drop-down lexicons or provide an explanation in the written report to create consistency
- Create a shared vocabulary and punctuation and abbreviation system



Broadway Cemetery, Galveston County

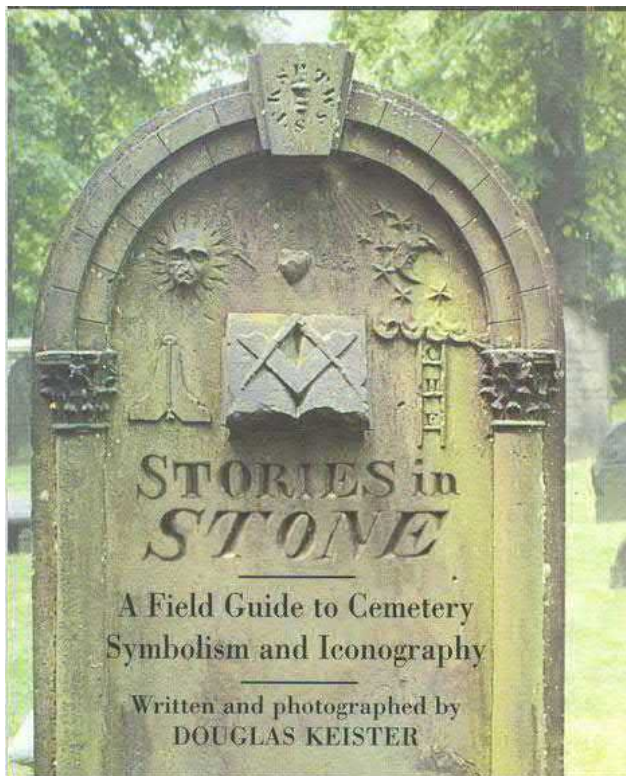
# Survey Abbreviations and Notations

- Create a shared vocabulary and punctuation and abbreviation system
  - ? For existing but illegible text
  - / for a line break
  - (R) for reversed letters
  - Consult our handout on marker types to create consistent language
  - Some memorials will have abbreviations (Wm. = William)

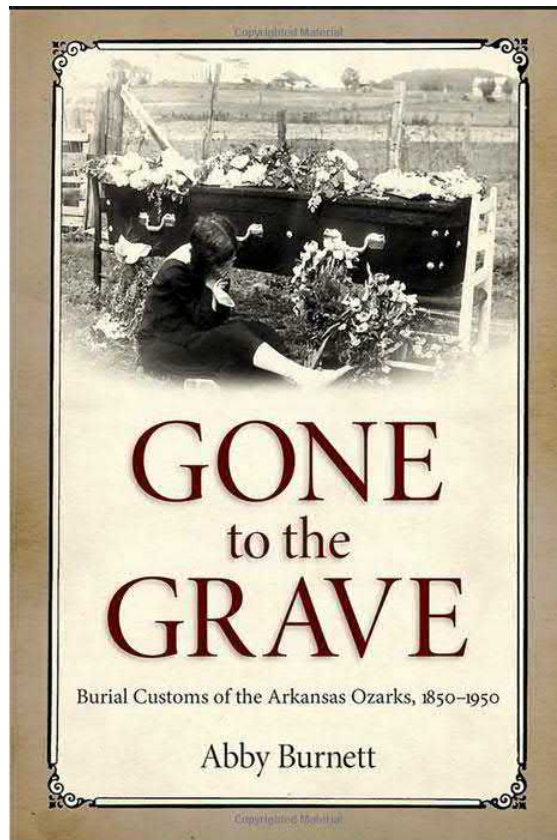


The above memorial's inscription would be recorded as:  
I.H.S. (Christogram) / JOHN ?. BRIGHT / DIED / Oct. 17,  
1882 / AGED 49. YEARS

# Suggested Resources



Definitions, photographs, iconography and symbology



Region-based cultural practices and historical information

DEEP EAST TEXAS  
GRAVE MARKERS

TYPES, STYLES, AND MOTIFS



1. San Augustine County, San Augustine City Cemetery

Region-based definitions, iconography, photographs

# Building the Survey

## Photographs:

- Include at least one photo directly facing each resource in the survey
- Additional photos should include:
  - Details of iconography
  - Details showing the conditions
  - Additional sides or back of resource
  - Zoomed out view of resource in its context



Dory Hill Cemetery -  
Black Hawk, CO



# Building the Survey

## Photographs:

- Photos should adhere to preservation standards
- Texas State and NPS National Register photographic requirements:
  - Largest pixel dimension possible, minimum of 2,000 x 3,000 pixels at 300 dpi
  - TIF or RAW format preferred, but JPG is acceptable
  - Digital and in color; 8-bit or larger color format
  - Images may not be modified in any way

# Survey Methods and Tools

- Traditional pen and paper survey
  - Use a sturdy notebook/clipboard and non-smudge or waterproof ink-pen or pencil
  - Use clear and legible handwriting
  - Use established terminology, abbreviations, and notations
  - Translate handwritten records into a digital format which is easy to share and store
  - Develop a good approach to cataloging photographs and label appropriately ("TX – County-Cemetery name- Block-plot #- photo number.format)



Oakwood Cemetery – Travis County

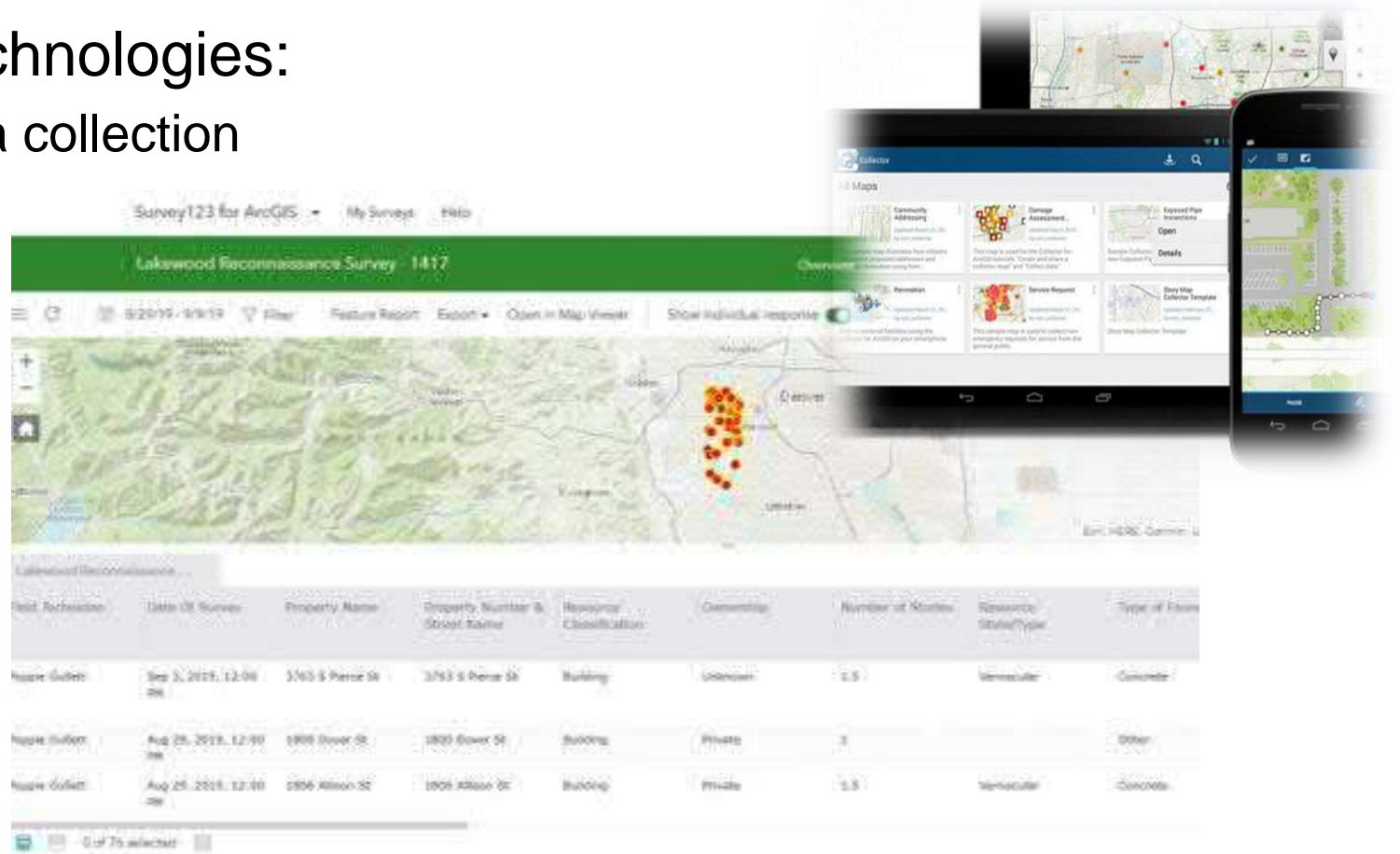
# Survey Methods and Tools

- Technical Equipment and Technologies:

- Use a laptop or tablet for data collection
- ArcGIS Survey123
- Arches
- AppSheet
- Total Station Surveying
- Tile Probe

- Limitations

- Expensive
- Varying accuracy
- Some require a professional





# Cemetery Survey and Data Collection

## Resource Documentation

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- All faces of the memorial
- Conditions
- Iconography
- Interesting details
- Contextual photos



- Length
- Width
- Height
- Footprint
- Inscription element



## RECORDING DETAILS



- All information present on memorial
  - Full name
  - Birth/death dates
  - Additional text
- Iconography
- Associations
- Conditions
- Cultural practices

Non-invasive  
methods to aide in  
legibility of inscription

- Do no harm
- Raking light
- Wet the surface
- Raking light on wet surface





# Survey Methods and Tools

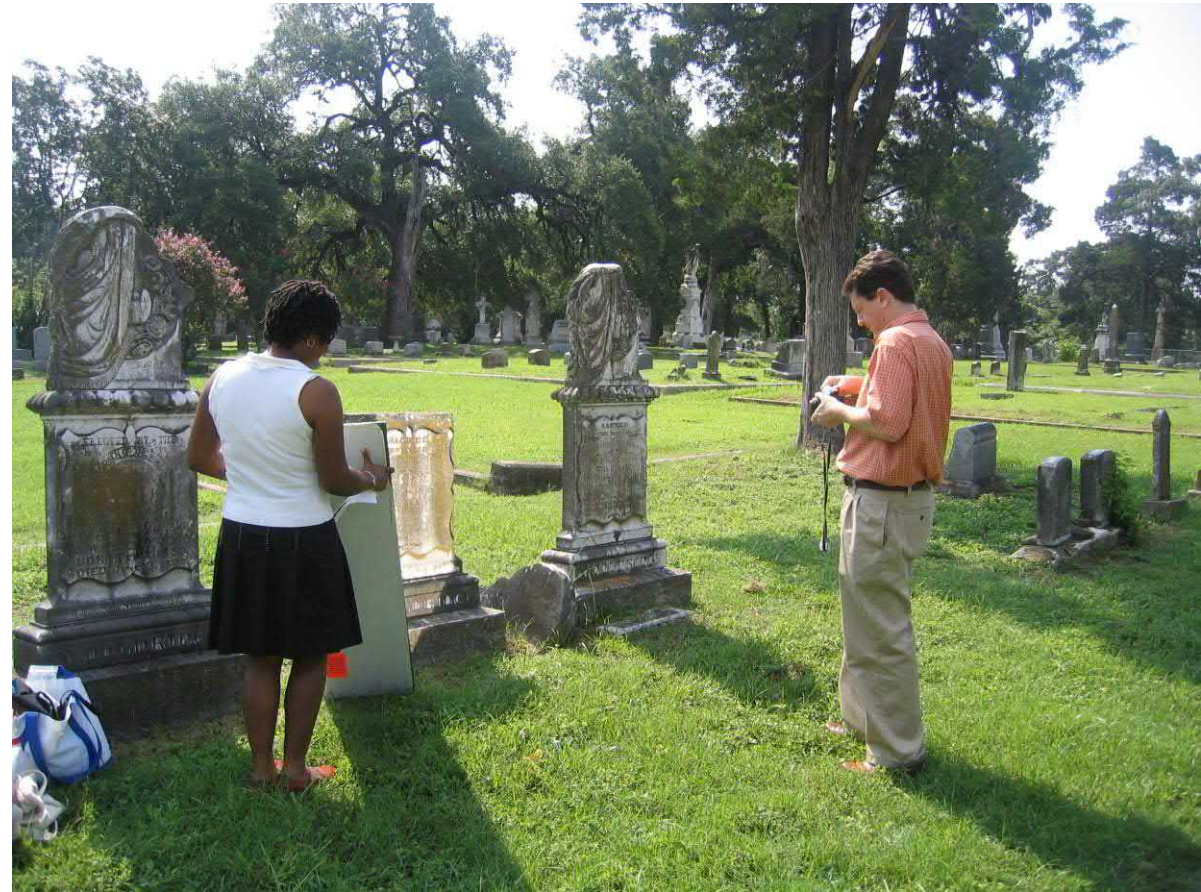
- Do No Harm!
- Tile Probe (*In Certain Circumstances*)
- Avoid rubbing ANY material on the surface of a resource
  - Including: rubbings with crayons and charcoal on paper and flour, shaving cream, etc.
- Rubbing material can be abrasive and exacerbate discoloration and deterioration



Oakwood Cemetery - Travis County

# Survey Methods and Tools

- Non-invasive techniques to collect data
  - Raking light from a cell phone or flashlight
  - Wetting stones with clean water
  - Bouncing light using mirrors or a reflective shield
  - Digital scanning/LiDAR
  - Ground Penetrating Radar (GPR)
  - Electromagnetic Conductivity Survey (EM)
  - Take a photo and manipulate it with editing software



Olivewood Cemetery - Harris County

# How is survey data used?

< (old) Lakewood Reconnaissance  
Survey - 1417

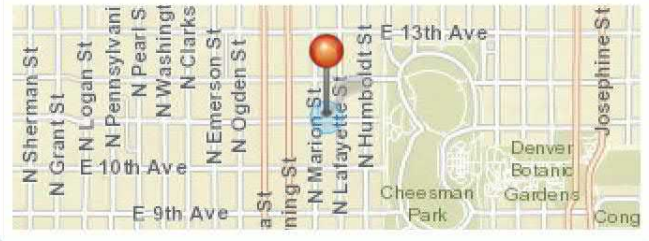
By fritz@pinyon\_env.com  
Created: 8/14/19  
Last modified: 8/19/19

Collect

Sent

Survey 123

39°44'N 104°58'W ± 64 m



Field Technician \*

Poppie Gullett

Date of Survey \*

Friday, September 6, 2019

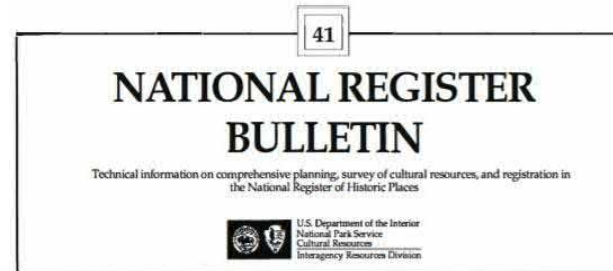
Property Name \*

Enter Name of Property (if known) and note if Historic or Current

- Genealogical and historical research
- Identifying significant issues on the property
- Helping to prioritize work
- Serving as a snapshot of the property in time
- Providing baseline data for conditions to aid in restoration or post disaster recovery

# How is survey data used?

- Determination of NRHP eligibility required for federal grants
- Data collected should support historical significance and/or architectural/artistic merit
  - Criterion A: Associated with events that have made a significant contribution to the broad patterns of our history.
  - Criterion C: Embody the distinctive characteristics of a type, period, or method of construction;
    - Represent the work of a master
    - Possess high artistic values



## GUIDELINES FOR EVALUATING AND REGISTERING CEMETERIES AND BURIAL PLACES



## II. BURIAL CUSTOMS AND CEMETERIES IN AMERICAN HISTORY

The types of cemeteries and burial places that might qualify for National Register listing are many and varied. They include:

- town cemeteries and burial grounds whose creation and continuity reflect the broad spectrum of the community's history and culture;
- family burial plots that contribute to the significance of a farmstead;
- beautifully designed garden cemeteries that served as places of rest and recreation;
- graveyards that form an important part of the historic setting for a church or other religious building being nominated;
- formal cemeteries whose collections of tombs, sculptures, and markers possess artistic and architectural significance;
- single or grouped grave-stones that represent a distinctive folk tradition;
- graves or graveyards whose survival is a significant or the only reminder of an important person, culture, settlement, or event; and
- burial places whose location, grave markers, landscaping, or other

*The Cranford-Dorsey House and Cemetery near Lovejoy, Clayton County, Georgia, represent a historic Southern plantation; the earliest graves are covered by seashells. (James R. Lockhart, 1983)*

physical attributes tell us something important about the people who created them.

Examples of these and many other types of burial places appear throughout this bulletin, especially in the section on applying the criteria. Some types of burial places represent events, customs, or beliefs common to many cultures, locations, or time periods. Others are unique representatives of specific people or events. Background information on some of the traditions in American burials that are so common that numerous examples have been, or are likely to be, identified and nominated is discussed briefly in this section; the omission of other traditions or historical developments should not be interpreted as precluding cemeteries or graves that do not fit into the topics that are included. For example, community cemeteries that reflect early settlement or various aspects of an area's long history

may not fall into one of the traditions described in this section. Yet they frequently are nominated and listed in the National Register.

### NATIVE AMERICAN BURIAL CUSTOMS

Native American burial customs have varied widely, not only geographically, but also through time, having been shaped by differing environments, social structure, and spiritual beliefs. Prehistoric civilizations evolved methods of caring for the dead that reflected either the seasonal movements of nomadic societies or the lifeways of settled communities organized around fixed locations. As they evolved, burial practices included various forms of encasement, sub-surface interment, cremation, and exposure. Custom

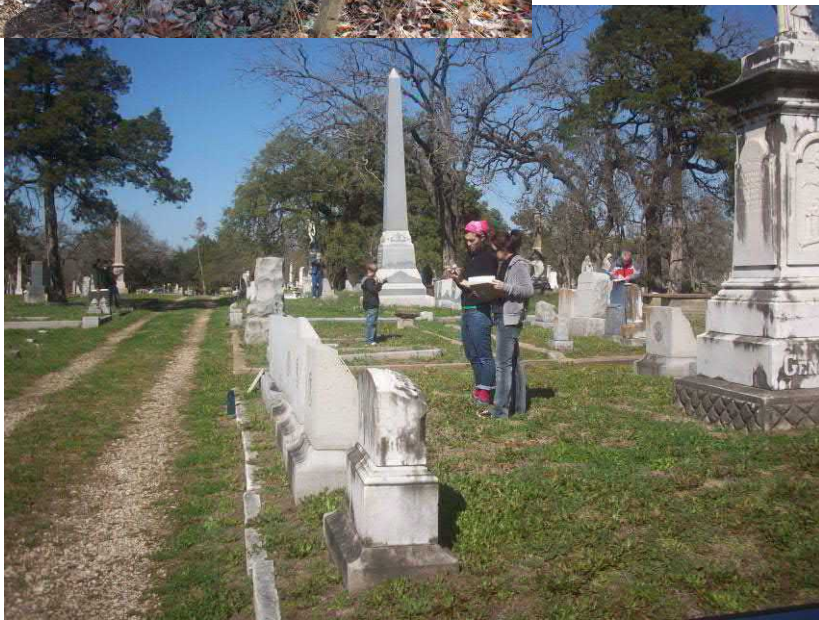


# Record Keeping and Data Storage

- Data Storage Do's
  - ✓ Make data accessible to others for research
  - ✓ Store with any preexisting cemetery documents (cemetery, office, repository, etc.)
  - ✓ Submit information to local municipalities
  - ✓ Donate records to a public institution (university, library, etc.)
  - ✓ Store data in back up repositories like state institutions, interested parties (Ancestry, Find a Grave, etc.), and/or a cloud-based platform

- Data Storage Don'ts
  - x Do not store information on a single file storage system; make sure there are multiple copies available.
  - x Do not store information exclusively in local repositories or digital storage devices because in the event of a disaster which affects the area, those records may be lost or damaged by the incident.

# Community Involvement



Oakwood Cemetery – Travis County

- **Anyone** can record cemeteries with adequate **training**; those recording should have:
  - An understanding of the data collection methodology
  - Adequate knowledge of the types of resources and materials observed
  - Respect for the historic resources or history they contain
  - Adequate data collection materials
- Volunteer outreach and training

# Funding

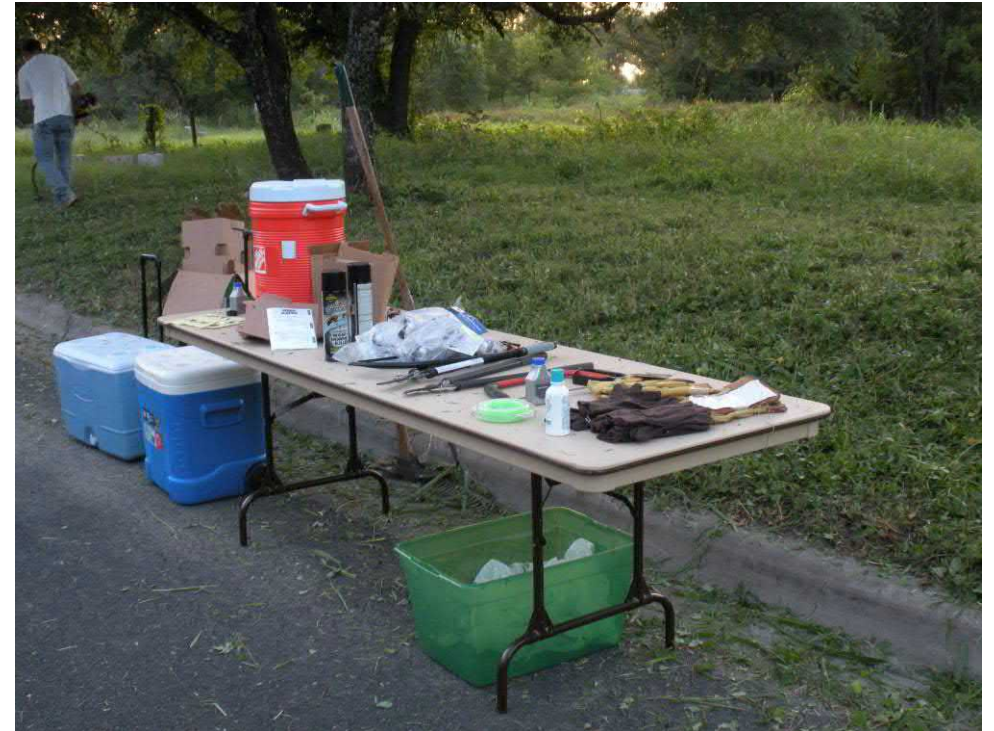
- Volunteers from Community Involvement
- Sponsorships
- Documentation for Future Funding Including Grant Opportunities
- T-Shirts
- Partnerships Including Local Universities, Master Gardeners, Master Naturalists





## You should always:

- Understand the area in which you are working
- Have written permission to be on the property
- Have at least two people on site and within line of sight and hearing distance
- Have appropriate safety equipment and prepare for the necessary weather conditions (sunscreen, water, hats, jackets, brightly colored clothing, safety vest, etc.)
- Consider reaching out to local law enforcement to let them know you will be working in the cemetery (also they may be inclined to drive by and assure you are safe on occasion)
- Remember life safety is always the most important factor



Burditt Prairie Cemetery – Travis County

# Conclusions



Dory Hill Cemetery - Black Hawk, CO

- Surveys provide baseline data supporting pre-disaster planning and understanding the specific effects of a disaster after the event

# Conclusions



- Anyone can help record a cemetery when they are appropriately trained

Dory Hill Cemetery - Black Hawk, CO

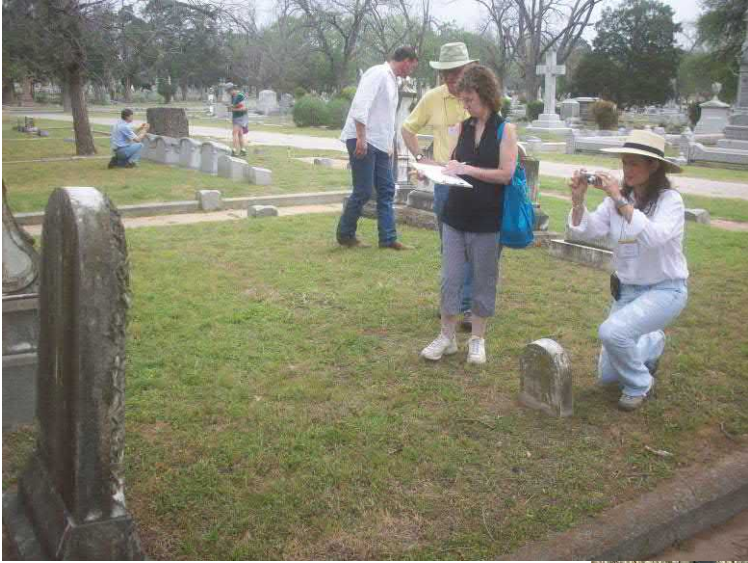
# Conclusions



Dory Hill Cemetery - Black Hawk, CO

- Surveys should be built off existing records

# Conclusions



Oakwood Cemetery – Travis County



Dory Hill Cemetery - Black Hawk, CO

- Surveys can be high tech or low tech, but should record the same information

# Conclusions

Conditions requested by owner: <hr/> <hr/> <hr/> <hr/> <hr/>	
<b>Permission granted by:</b> (check one) <input type="checkbox"/> Property owner <input type="checkbox"/> Property owner's representative <input type="checkbox"/> Lessee	Name (please print) <hr/>
	Signature _____ Date _____ <hr/>
<b>Permission received by:</b> <hr/>	Home address (if <u>lessee</u> ) _____ Phone _____ <hr/>
	Owner's home address _____ Work Phone _____ <hr/>
Name and title (please print) <hr/>	Signature _____ Date _____ <hr/>
	Department _____ Phone _____ <hr/>

- Remember to know the legal framework surrounding your cemetery

# Conclusions



Burdett Prairie Cemetery – Travis County

- Remember to be safe at all times

# Resources and References

- Texas Preservation Trust Fund:  
<https://www.thc.texas.gov/preserve/projects-and-programs/texas-preservation-trust-fund-0>
- Certified Local Government (Texas):  
<https://www.thc.texas.gov/preserve/projects-and-programs/certified-local-government/grant-information>



# Resources and References

## Handouts provided

We would like to thank the following individuals for meeting with our project team and allowing us to film and photograph cemeteries under their care.

- Barbara Sanderson, Director of Parks and Recreation, Galveston
- Brenda Holub, Orchard Cemetery
- Doug Kubicek, Chair of the Lavaca County Historical Commission
- Nancy Smith, Restland Memory Park
- Sandra Bridges, Lamar Cemetery
- Sheryl Shaw, Chair of the Chambers County Historical Commission



Questions?

Next time... Risk Assessment and  
Pre-Disaster Planning

a Terracon Pinyon production  
Environmental, Inc.