Zoom Webinar Housekeeping

- Trouble with computer audio? Try using your phone instead.
  - 1-346-248-7799  Webinar ID 895 6215 2946
- 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
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 – Building Resiliency in Historic Texas Cemeteries

Stakeholder Meetings

- Highly interactive
- Group discussions
- Feedback opportunities
Stay Up to Date!

www.thc.texas.gov/Harvey-cemeteries
Post-Disaster Recovery and Restoration of Historic Cemeteries

Disaster Planning and Response in Historic Texas Cemeteries

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Review

Webinar 1
Lay of the Land: Cemetery Components, Cultural Practices, and Materials

- Recognize the physical components of cemeteries beyond grave markers
- Recognize common cultural funerary practices and recognize items located at gravesites may reflect cultural traditions that should be determined prior to removal or disturbance of these features
- Understanding of basic cemetery safety practices.
Webinar 2
Survey and Data Collection

- Historic significance of cemeteries and be able to convey the essential history contained in cemeteries to community stakeholders and potential funding partners.
- Baseline understanding of cemetery documentation methods
- Pre-disaster documentation strategies and data protection methods.
Webinar 3
Risk Assessment and Pre-Disaster Planning

• Potential threats to the cemetery from natural disaster events and identification tools
• Maintenance, landscape, and pre-disaster preparedness plans and mitigation strategies
• Tools for implementing pre-disaster mitigation plans including basic through comprehensive measures
Webinar 4
Sound the Alarm! Natural Disasters, Immediate Response, and Preservation Funding

• Unique safety considerations when working in a post-disaster cemetery environment
• Tools for identifying appropriate post-disaster response actions
• Post-disaster documentation
• Funding support and technical assistance
Learning Objective 1

• Participants will have tools to recognize typical disaster related deterioration mechanisms.

Tivydale Cemetery – Gillespie County
Learning Objective 2

- Participants will understand basic restoration/conservation strategies.

Lamar Cemetery – Aransas County
Learning Objective 3

• Participants will gain understanding of when a professional is required for the proposed work.
Learning Objective 4

• Participants will understand the safety concerns for restoration type work
Introduction

Pace Cemetery Post Ike– Jefferson Co
Standards for Restoration

- Secretary of the Interior’s Standards for the Treatment of Historic Properties
Standards for Restoration

- Secretary of the Interior’s Standards for the Treatment of Historic Properties
- American Institute for the Conservation of Historic and Artistic Works
Phased approach

- Condition assessment
- Work plan
  - Narrative scope of work
  - Quantified repair items
  - Cost proposals
- Restoration project(s)
  - Can be phased according to funding and assistance availability
What is the cause of damage?

- Conduct a comprehensive assessment prior to any work
- Assess the resource to assure material and structural stability
- Before implementing conservation techniques, understand the causes for deterioration and failure
Safety Considerations

- Be aware of hazards identified as part of your initial site assessment
- Compromised subsurface resources (burial vaults) may not be apparent initially
  - Material failure
  - Impact from machinery or debris
  - Human interaction
  - Vegetation

Old City Cemetery – Jacksonville, Florida
Common damage and deterioration types

- Freeze – thaw
- Water

Oakland Cemetery – Atlanta, Georgia
Common damage and deterioration types

- Freeze – thaw
- Water

Tivoli Cemetery – Refugio County
Common damage and deterioration types

• Construction failure

• Material failure
Common damage and deterioration types

• Construction failure

• Material failure

Old City Cemetery – Jacksonville, Florida
Common damage and deterioration types

• Construction failure

• Material failure

Old City Cemetery – Jacksonville, Florida
Common damage and deterioration types

- Construction failure

- Material failure

*Old City Cemetery – Jacksonville, Florida*
Common damage and deterioration types

• Incompatible materials and/or poor previous repairs

Broadway Cemetery – Galveston County
Common damage and deterioration types

- Incompatible materials and/or poor previous repairs

*Old City Cemetery – Jacksonville, Florida*
Common damage and deterioration types

• Incompatible materials and/or poor previous repairs

Old City Cemetery – Jacksonville, Florida
Common damage and deterioration types

- Impacts (machinery, debris)
- Disruptions due to root systems or similar vegetation

*Rockport Cemetery – Aransas County*
Common damage and deterioration types

- Impacts (machinery, debris)
- Disruptions due to root systems or similar vegetation
Important Components and Considerations

• Address post-disaster treatments to bring cemetery and its elements back to pre-disaster state
  • Same treatments can be done on monuments pre-disaster and as necessary
• Emergency stabilization may be needed while awaiting repairs
• Prioritize list of repairs to be undertaken based on funding and assistance availability
Important Components and Considerations

- **ALWAYS** use the gentlest method to clean or repair
- **ALWAYS** make repairs reversible
- **ALWAYS** use tools and materials according to the manufacturer’s instructions

Restland Memory Park – Nueces County
Common treatments post-disaster

- Stabilization
- Cleaning
- Repointing/Joint Repair
- Resetting
Preservation and Restoration Treatments

Stabilization

- Stabilize while awaiting repair actions to avoid/minimize additional damage
- Not just markers and monuments – stabilization can include structures and site elements
Cleaning Considerations

- How will cleaning affect the monument?
  - Will the soiling accelerate deterioration?
  - Will it cause loss of original materials?
  - Will it affect long-term stability?
Preservation and Restoration Treatments

Cleaning Considerations

- Cleaning may trigger additional repairs
  - Know your materials
  - Identify the element is being cleaned (organic, inorganic)
  - Gentlest method first
  - Test the cleaning materials before full use
  - When in doubt, do nothing!

Restland Memory Park – Nueces County
• Cleaning video demonstration
Repair Considerations

- Consider the materials before deciding on repair materials
- Differences in strength and permeability will affect the repair and resource longevity
Repair Considerations

- Historic bricks, stone, and mortar are not compatible with most contemporary materials.
  - Avoid using Portland cement-based products such as Quickcrete.

*Damage to historic brickwork by Portland cement repointing*
Repair Considerations

- Historic lime-based mortars are softer than today’s readily available concrete mixtures
  - Procure historic mortar from a reputable company
  - Slaked (wet) lime should ONLY be handled by qualified individuals as it has a chance to burn the user and/or explode if not mixed properly
  - Source materials such as sand near production location of mortar

Damage to historic grave marker by Portland cement repair
Epoxy Repairs

- Epoxy repairs are virtually irreversible and should only be conducted when absolutely necessary.

- These repairs should be handled by a trained professional.
• Repointing/Joint Repair video demonstration
Resetting Considerations

- Should only be done within your limits. Resources are heavy and should not be lifted without appropriate ability, assistance, or equipment.

Old City Cemetery – Jacksonville, Florida
- Resetting video demonstration
Properly trained volunteers can help with:

- Maintenance activities
- Debris cleaning
- Cleaning of markers
- Minor stabilization
Considerations when using volunteers

- Record of volunteer activities (when, what, where)
- Record cleaning methods and locations
- Make sure volunteers have proper training for the tasks they are conducting
KNOW YOUR LIMITS

- Know when to call a conservator or similarly qualified individual
- List contacts within your post-disaster plan
- Relationships should be built prior to a disaster
Volunteer versus Professional assistance

**KNOW YOUR LIMITS**

- Conservation, preservation, and restoration work should be done by an appropriately qualified individual
  - Architectural or artistic conservator
  - Preservationist
  - Preservation architect
  - Mason specializing in historic materials/structures.

*Old Hallettsville Cemetery – Lavaca County*
KNOW YOUR LIMITS

• For complex restoration projects, documentation of the resource in-situ may be required

• Especially if an advanced repair needing a climate-controlled environment is required

• Resource’s placement, orientation, and setting should be thoroughly documented and photographed prior to removal of the resource from site.
KNOW YOUR LIMITS

- Resources for finding a conservator
  - American Institute for Conservation of Historic and Artistic Works (AIC)
- Standards for conservation work
  - NPS - Secretary of the Interior’s Standards for the Treatment of Historic Properties
  - AIC - Standards of Practice and Code of Ethics
  - Department of Veteran Affairs (VA) - setting standards
Conclusions

- Recognize typical disaster related deterioration mechanisms

*Tivydale Cemetery – Gillespie County*
Conclusions

• Understand basic restoration/conservation strategies

Lamar Cemetery – Aransas County
• Understand when a professional is required for the proposed work

Broadway Cemetery, Galveston County
Conclusions

• Understand the safety concerns for restoration type work

Port Bolivar Cemetery, Galveston County
Resources and References

• Handouts
  • Hazard Safety Sheet
  • Restoration recordation form/conservators report
  • Webinar 5 Slides

• Resources
  • Preservation/Restoration/Rehabilitation Standards
  • Cleaning Procedures/Standards
  • Resetting and Repair
  • Material Specific Repair
Webinar Series Information

Stay Up to Date!

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Questions?

Next time… Building Resiliency in Historic Cemeteries