Rhode Island Historic Cemeteries - Website Technology Overview - November 2026

1. Application Architecture

The Rhode Island Historic Cemeteries website utilizes a modern Microsoft web application architecture, transitioning from the legacy ASP.NET Web Forms environment to ASP.NET Core Razor Pages.

Component	Technology
Application framework	ASP.NET Core Razor Pages
Programming language	C#
Front-end technologies	HTML5, CSS, JavaScript
User interface	Bootstrap and custom CSS
Development environment	Microsoft Visual Studio
Deployment	Visual Studio / Web Deploy

2. Database Technology

The website utilizes a Microsoft Access database containing historical cemetery, burial and gravestone information.

Component	Technology
Database platform	Microsoft Access (.accdb)
Database connectivity	Microsoft ACE OLEDB
Database size	Approximately 200 MB
Database records	Approximately 500,000
Website database access	Read-only
Database maintenance	Microsoft Access desktop application

A future migration to SQLite is planned to improve database portability, reliability and performance while eliminating dependency on the Microsoft ACE database driver.

3. Website Hosting

The application is hosted by SmarterASP.NET in a Microsoft Windows hosting environment.

- Microsoft Internet Information Services (IIS)
- ASP.NET Core hosting
- SSL/TLS encrypted communications
- Application pool management
- IIS request logging
- Dynamic IP Restriction

4. Cloud Storage and Photographs

Cemetery and gravestone photographs are stored independently of the website application and database using Cloudflare R2 object storage.

Component	Technology
Object storage	Cloudflare R2
Storage protocol	S3-compatible API
Photo management	FileZilla Pro
File synchronization and indexing	rclone
Photograph lookup	Custom application photo indexes
Photo delivery	Cloudflare custom subdomain

This architecture separates photograph storage from the application hosting environment, reducing local storage requirements and improving scalability.

5. Mapping and Geographic Information

The website provides interactive geographic mapping of Rhode Island historic cemeteries.

- Leaflet JavaScript mapping library
- OpenStreetMap mapping data
- Database-driven GPS coordinates
- Interactive cemetery markers
- Town and veteran-related filtering
- Integration with cemetery detail pages

6. DNS and Website Security

Cloudflare provides DNS management and supports additional website security capabilities.

Current security measures include:

- HTTPS encryption
- IIS Dynamic IP Restriction
- Concurrent request limitations
- Request-rate limitations
- robots.txt crawler management
- Application-level database error logging

Cloudflare proxying, web application firewall rules, managed challenges and additional bot protection remain available for future implementation.

7. Performance and Reliability

The application incorporates several performance and reliability improvements:

- Paginated gravestone listings
- Centralized CSS styling
- Indexed photograph lookups
- Automatic photo index refresh
- External photograph storage
- Legacy URL redirection
- Database exception logging
- IIS traffic monitoring

8. Future Technology Roadmap

- Migration from Microsoft Access to SQLite
- Secure administrative authentication
- Web-based cemetery and gravestone editing
- Enhanced crawler protection
- Database query optimization
- Additional application performance monitoring

The long-term objective is to maintain a reliable, secure, scalable and easily maintained digital resource for Rhode Island historic cemetery information.