CONSERVATION OF GRAVESTONES AT UNITED METHODIST CEMETERY EAST HARWICH, MA

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PROJECT DESCRIPTION

 In 2023, Village Green Restoration Inc conserved gravestones in United Methodist Cemetery, East Harwich for the Town of Harwich. Conservation was carried out by Michael Gallagher and Ethan Howard of Village Green Restoration Inc. Harwich Cemetery Director Robin Kelly oversaw the project.

METHODOLOGY

Conservation methods adehered to specifications as provided by Ivan Meijer of Building Conservation Inc. A brief description follows.

- Gravestones were identified and documented.
- Downed and leaning gravestones were carefully excavated and hoisted.
- Broken monuments were repaired using Bonstone Clear Knife Grade Epoxy. Stainless steel pins were inserted when necessary and feasible.
- Cracks and areas of less were repaired with the following:
 - Slate large patches and cracks Edison Coatings Custom System 45. Small cracks and areas of delamination Acryloid B-72, acetone and stone dust
 - Marble Lithomix Natural Hydraulic Cement for Stone Repair "Aged Marble" color.
- Slab Gravestones were reset in 3/4" dense grade bluestone compacted every six inches.
- If a gravestone did not have a sufficient length to set in the ground, a new custom concrete slot base was cast. The slab was set in the new base using a
 Type N mortar.
- Multi-unit gravestones were disassembled and then re-sett using stainless steel threaded pins set with Bonstone Epoxy on one side and a type n mortar on the opposite side.
- Slot base and multi-unit gravestones were set and leveled on 12" on packed 3/4" dense grade bluestone.

IN PROCESS PHOTOS







GRAVESTONES

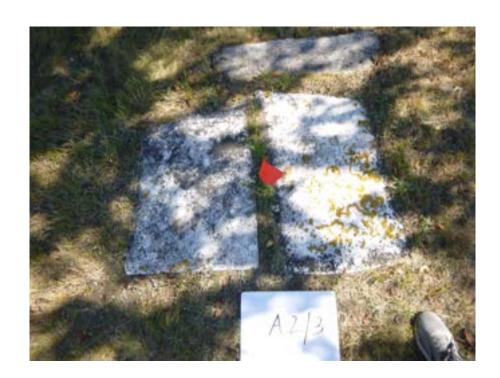
Name Mehitable Cahoon

Treatment Fragments repaired with carbon fiber pins

and epoxy. Losses and voids filled with

Lithomix. Slab re-sett.

Photo Before



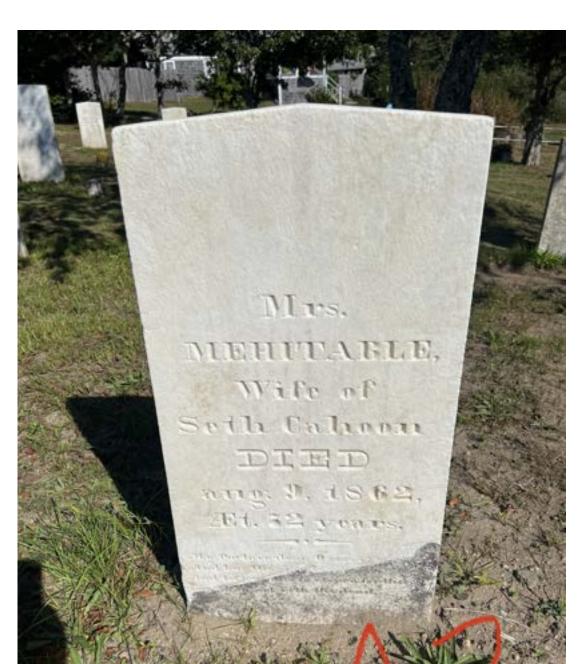


Photo After

Name

Seth Cahoon

Treatment

Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-sett.





Photo After

Name

Betsey Cahoon

Treatment

Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-sett.





Photo After

Name

Capt Samuel D Clifford

Treatment

Multipart markers repinned with stainless steel pins and Type N Mortar. Joints and areas of loss filled with Lithomix.





Name Oph

Ophelia M.L. Clifford

Treatment

Multipart markers repinned with stainless steel pins and Type N Mortar. Joints and areas of loss filled with Lithomix.

Photo Before





Grave

A12

Photo After

Name

Dilana Eldredge

Treatment

Cleaned. Resett





Grave A12F

Name DE

Treatment Footstone Re-sett.

Photo Before



Grave A13F

Name

B.E.

Treatment

Footstone re-sett.

Photo Before



Grave A14F

Name

B.E.

Treatment

Footstone re-set.

Photo Before



Photo After

Name

Abigal Eldredge

Treatment

Cleaned. Re-set.





Grave

A16

Photo After

Name

Sylvenas Eldredge

Treatment

Cleaned. Re-set.





Grave A17a Pho

Name Sylvanus Eldredge

Treatment Cleaned. Fragments repaired with carbon

fiber pins and epoxy. Losses and voids

filled with Lithomix. Slab re-set.

Re-set in new slot base.

Photo Before





Photo After

Name

Batia Nickerson

Treatment

Cleaned. Re-set. Cracks grouted with Lithomix.





Photo After

Name

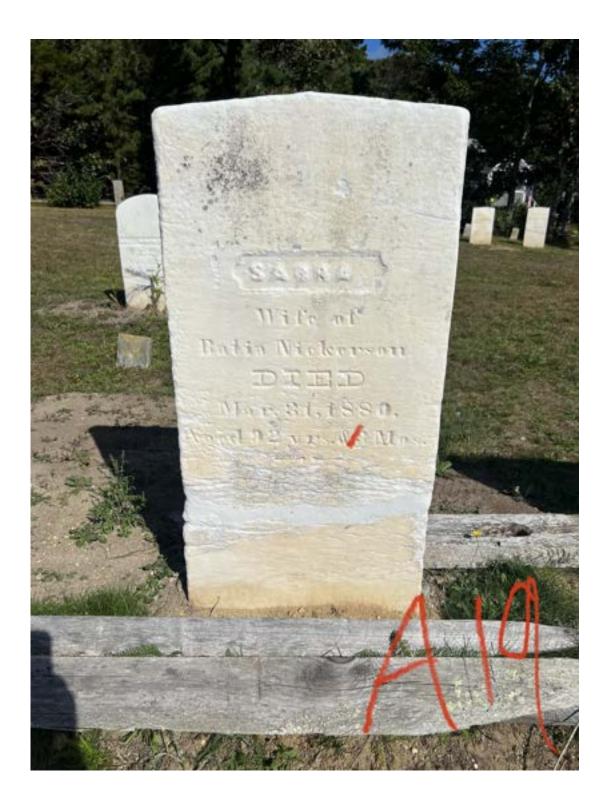
Sarah Nickerson

Treatment

Cleaned. Re-set.

Large area of loss filled with Lithomix.





A22 Photo After Grave

Benjamin Young Name

Treatment Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.





Grave A23 Photo After

Name

Sarah C Cahoon

Treatment

Tree removed

Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.





Photo After

Name

Emma B Cahoon

Treatment

Re-set.





Grave A25 Photo After

Name

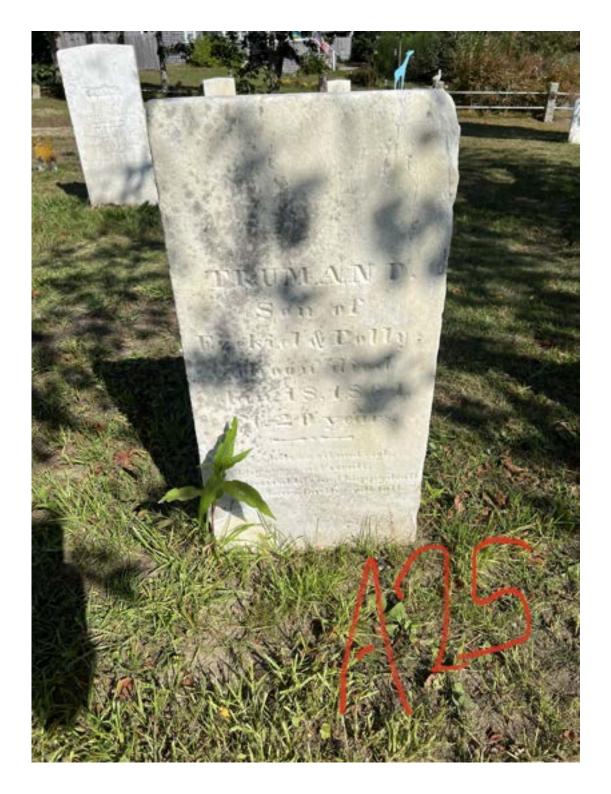
Truman D Cahoon

Treatment

Tree removed.

Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.





Grave

A26

Photo After

Name

Alonzo Cahoon

Treatment

Cleaned. Re-set.





Photo After

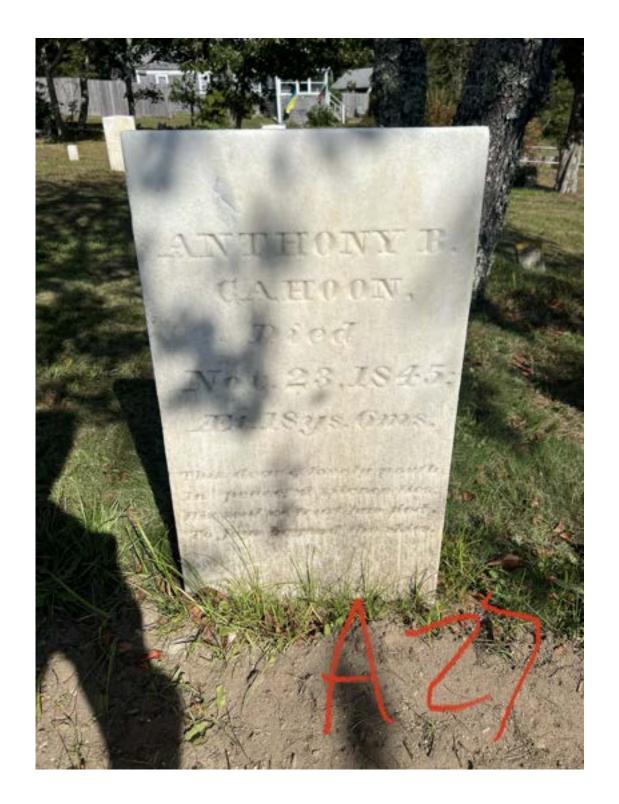
Name

Anthony B Cahoon

Treatment

Cleaned. Re-set.





A32 Grave

Orick Elwyn Doane Name

Treatment Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.

Photo Before





Grave

A33 - Additional NIC

Name

Orick Doane

Treatment

Re-set in slot base.

Photo After



Grave A35 - Footstone

Name Mary Elizabeth Doane

Treatment Cleaned. Re-set.

Photo Before



Photo After

Name

Benjamin Young

Treatment

Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.





Grave

A38

Photo After

Name

Betsey Young

Treatment

Cleaned. Re-set.





Photo After

Name

Benjamin Young

Treatment

Cleaned. Re-set.





Grave a40

Photo After

Name

Ezeikel Cahoon

Treatment

Cleaned. Re-set.





Photo After

Name

Polly Cahoon

Treatment

Cleaned. Re-set.





Grave

A42

Name

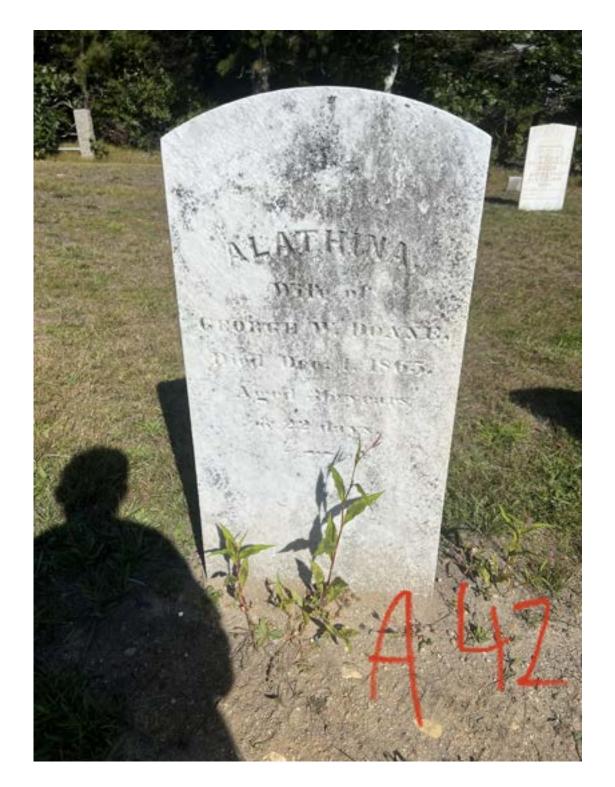
Alathia Doane

Treatment

Cleaned. Re-set.

Photo Before





Grave A45-Footstone

Name Jonathan Eldredge

Treatment Cleaned. Re-set.

Photo Before



Grave A46 Footstone

Name Rebecca Eldredge

Treatment Cleaned. Re-set.

Photo Before



A47 Photo After

Name

Elnathan Eldredge

Treatment

Cleaned. Re-set.





Grave A47 - Footstone

Name Elnathan Eldredge

Treatment Cleaned. Re-set.

Photo Before



Grave A48 - Footstone

Treatment

Name

Dorithia Eldredge

Cleaned. Re-set.

Photo Before



Photo After

Name

Eben Eldredge

Treatment

Cleaned. Re-set.





Grave A49F

Name Eben Eldredge

Treatment Cleaned. Re-set.

Photo Before



Grave A50 Footstone

Name

Deliverence Eldredge

Treatment

Cleaned. Re-set.

Photo Before



Grave

A51 Photo After

Name

Winslow Nickerson

Treatment

Cleaned. Re-set.





Photo After

Name

John CAHOON

Treatment

Cleaned. Re-set.





Grave A52 Footstone

Name

John Calhoon

Treatment

Cleaned. Re-set.

Photo Before



Name

Polly Cahoon

Treatment Cleaned. Re-set.

Photo Before





A53 Footstone Grave Polly Cahoon Name Treatment

Cleaned. Re-set.

Photo Before



A54 Grave

Photo After

Name

Jacob Crowell

Treatment

Tree removed

Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.





Photo After

Name

Betsey Eldridge

Treatment

Cleaned. Re-set.

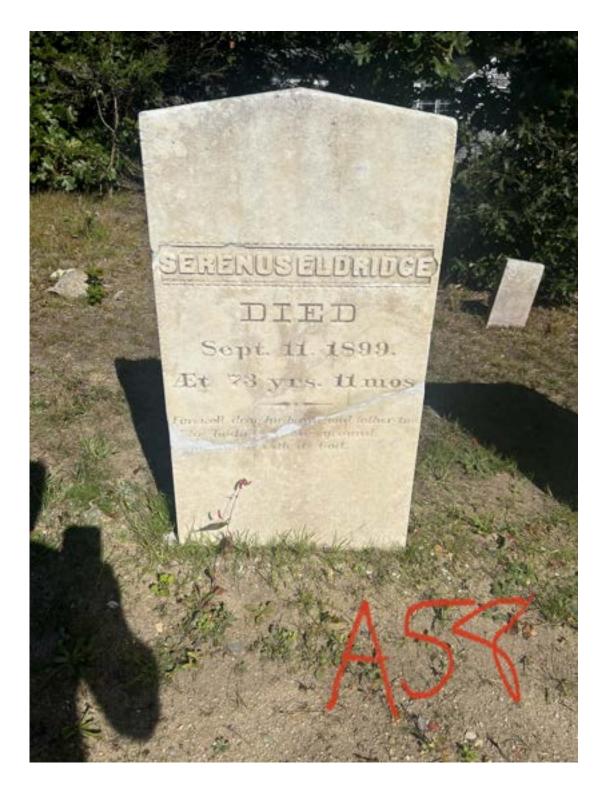




A58 - Additional NIC Photo After Grave

Serenus Eldredge Name

Treatment Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.



A59 Grave

Betsey S Eldridge Name

Treatment

Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.

Photo Before





exerms Eldaidec

Photo After

Name

Clarinton s Eldridge

Treatment

Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.



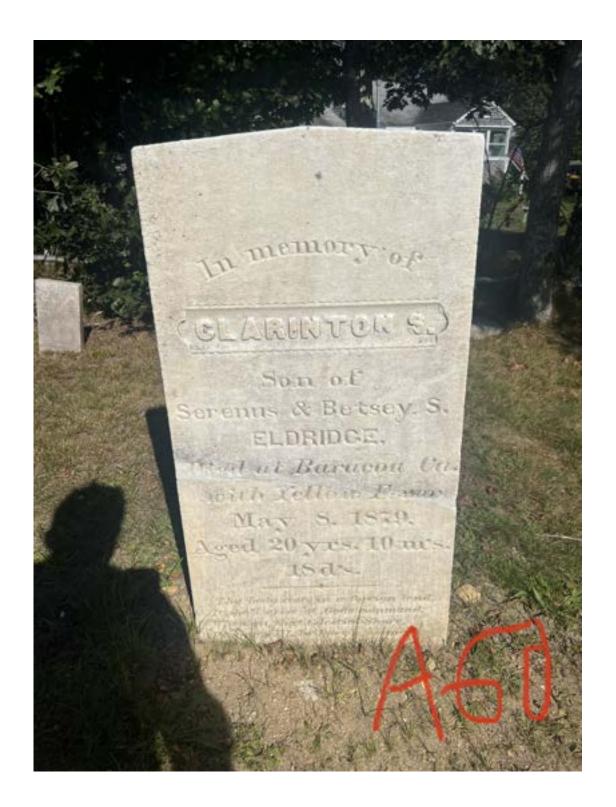


Photo After

Name

Vinson Cahoon

Treatment

Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.





Photo After

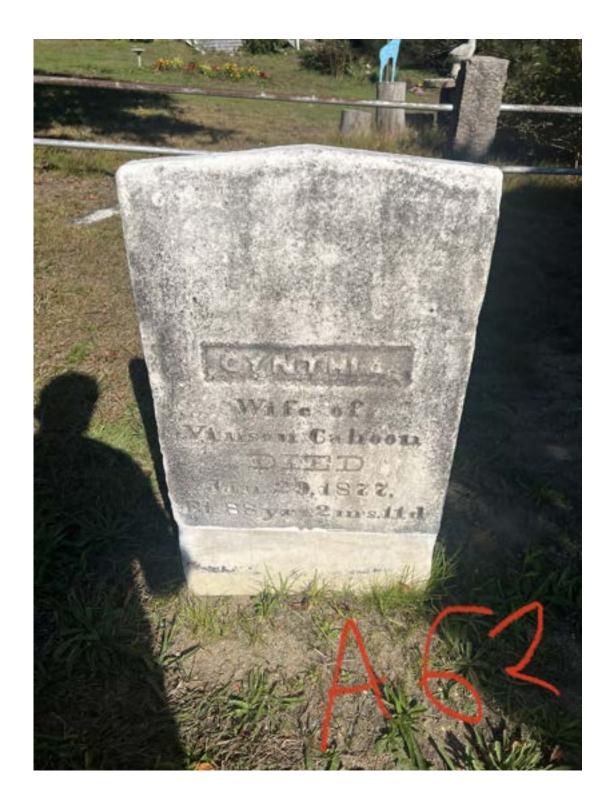
Name

Cynthia Cahoon

Treatment

Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.





Grave

B01

Photo After

Name

"An Infant" Nickerson

Treatment

Cleaned. Re-set.





Photo After

Name

Maria K Nickerson

Treatment

Cleaned. Re-set.





Bethiah Nickerson

Treatment

Name

Cleaned. Re-set.

Photo Before



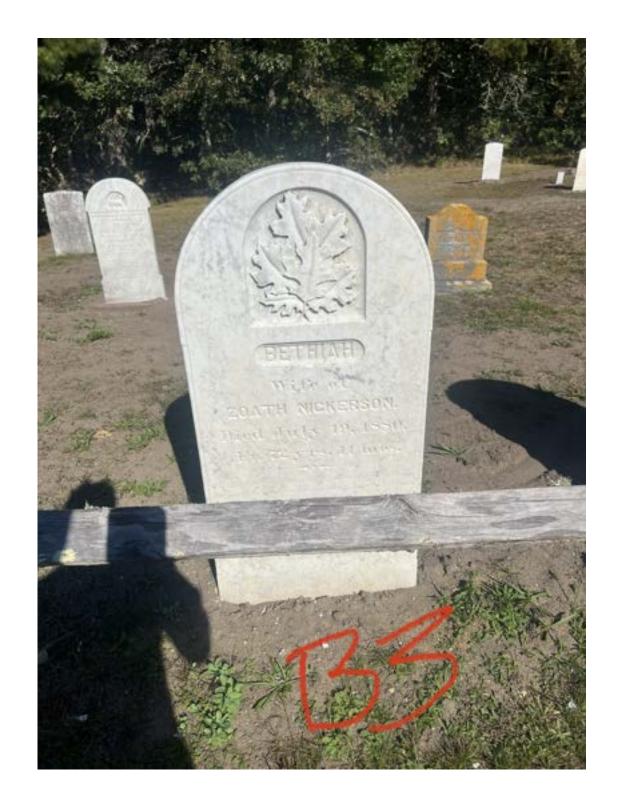


Photo After

Name

Woodbury Norcross Gardner

Treatment

Cleaned. Re-set.





Name Mother

Treatment Cleaned. Re-set.

Photo Before





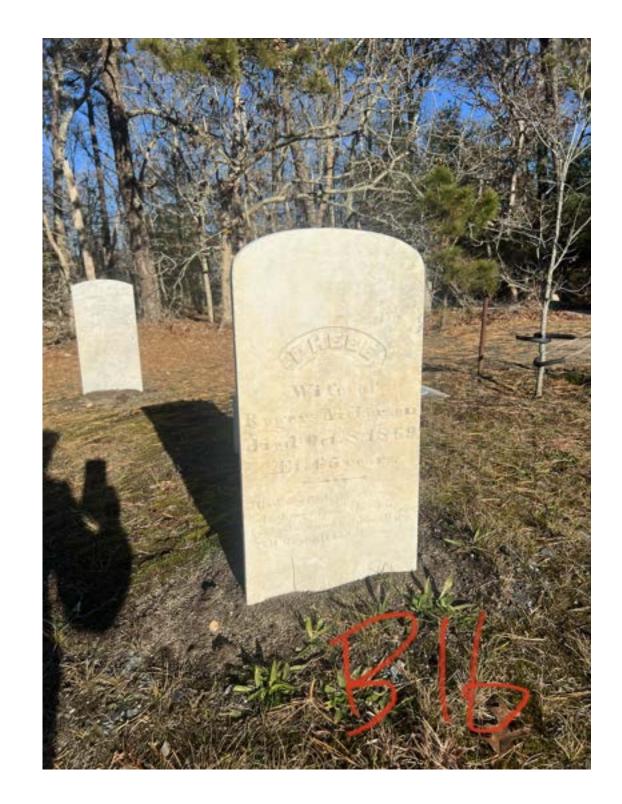
Name

Phoebe Nickerson

Treatment Cleaned. Re-set.

Photo Before





Name

Hezekiah Nickerson

Treatment Cleaned. Re-set.

Photo Before





Name

Hezekiah E Nickerson

Treatment Cleaned. Re-set.

Photo Before





Grave C08

Photo After

Name

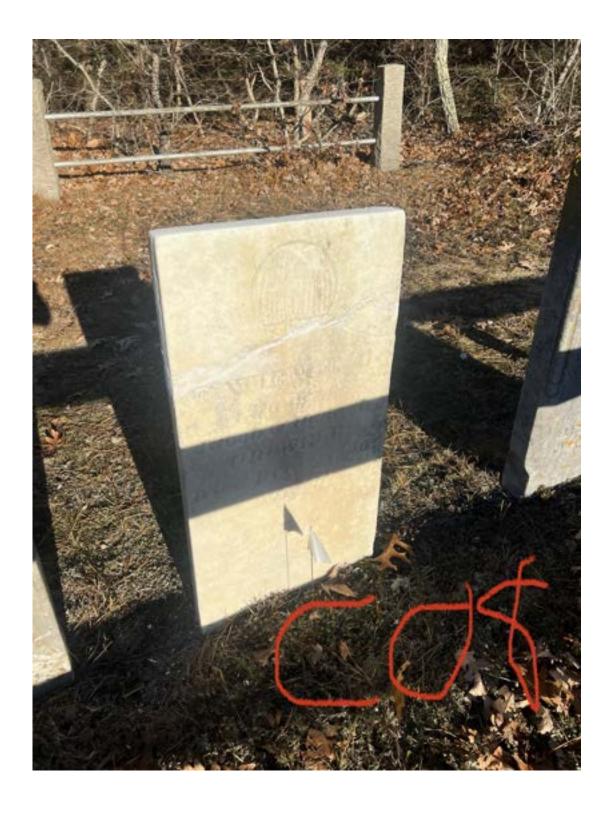
Patience

Treatment

Cleaned. Losses and voids filled with

Lithomix.





Grave C16

Photo After

Name

Elnathan Nickerson

Treatment

Voids and cracks filled with lithomix





C16a - Not in Contract Photo After Grave

Otis Allen Name

Treatment Tree removed. Reset in existing slot base. Cleaned



Grave C17

Name

Mabel C Cahoon

Treatment Cleaned. Re-set.

Photo Before





Grave D01

Emma N Cahoon

Treatment

Name

Cleaned. Re-set.

Photo Before





Grave D03

Name

Seth Nickerson

Treatment

Cleaned. Re-set.

Photo Before





Grave E01

Name

Unknown

Treatment

Cleaned. Re-set.







Grave E02

Photo After

Name

Rebecca Small

Treatment

Cleaned. Re-set.





Grave F04

Photo After

Name

Rachel Linnel

Treatment

Cleaned. Re-set. Voids and blisters filled

with sandstone lithomix.





Grave F12 Photo After

Name

Treatment

Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.





Grave

F12

Capt. James Taylor

Treatment

Name

Photo Before





Name

Ebenezer Beares

Treatment Cleaned. Re-set.

Photo Before





Name Priscilla Beares

Treatment Cleaned. Re-set.

Photo Before





Name

Temperance Rogers

Treatment Cleaned. Re-set.

Photo Before





Photo After

Name

Erastus o Cahoon

Treatment

Cleaned. Re-set.

Re-set in new slot base.



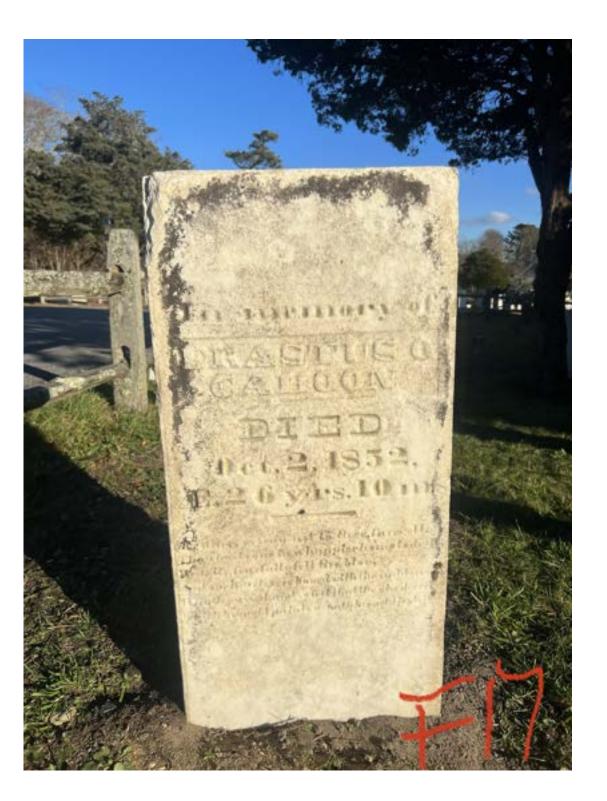


Photo After

Name

Joseph Mayo/Jonathan Cahoon

Treatment

Cleaned. Re-set.





Name

Rueben Cahoon Esq

Treatment Cleaned. Re-set.

Photo Before



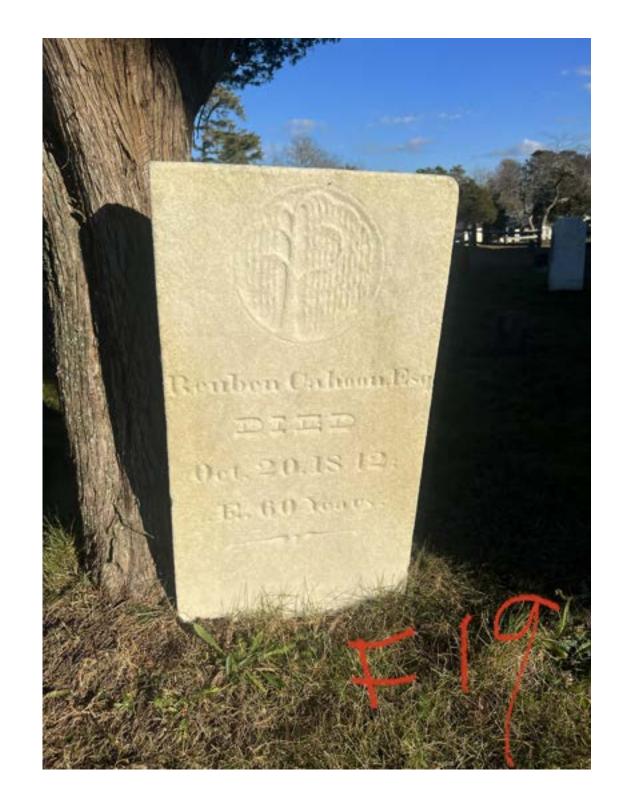


Photo After

Name

Abbot L Pierce

Treatment

Cleaned. Re-set.





Name Ebenezar Nickerson

Treatment Cleaned. Re-set.

Photo Before





Grave F22f

Name Ebenezar Nickerson

Treatment Footstone re-set.

Photo Before



Photo After

Name

Thankful Young

Treatment

Cleaned. Seams filled with Acryloid B-72 and stone dust.





Name Zebina E Higgins

Treatment Cleaned. Re-set.

Photo Before





Grave F27f

Name Zebina Higgins

Treatment Cleaned. Re-set.

Photo Before



Photo After

Name

Polly Robbins

Treatment

Cleaned. Re-set.

Re-set in new slot base.





Photo After

Name

Horris Higgins

Treatment

Cleaned. Re-set.





Photo After

Name

Alpha Nickerson

Treatment

Cleaned. Re-set.





Name Abijah Long

Treatment Cleaned. Re-set.

Photo Before





Grave G01F

Name Abijah Long

Treatment Cleaned. Re-set.

Photo Before



Betsey Long

Treatment

Name

Cleaned. Re-set.

Photo Before





Name

Seth Cahoon

Treatment Cleaned. Re-set.

Photo Before





Photo After

Name

Anna Eldredge

Treatment

Cleaned. Re-set.





Grave G09 - footstone

Name Jesse L Eldredge

Treatment Footstone re-set.

Photo Before



Grave G10 - Footstone

Name Lucy A Eldredge

Treatment Footstone re-set.

Photo Before



Grave G11 - Footstone

Name

Isaac Eldredge

Treatment

Footstone re-set.

Photo Before



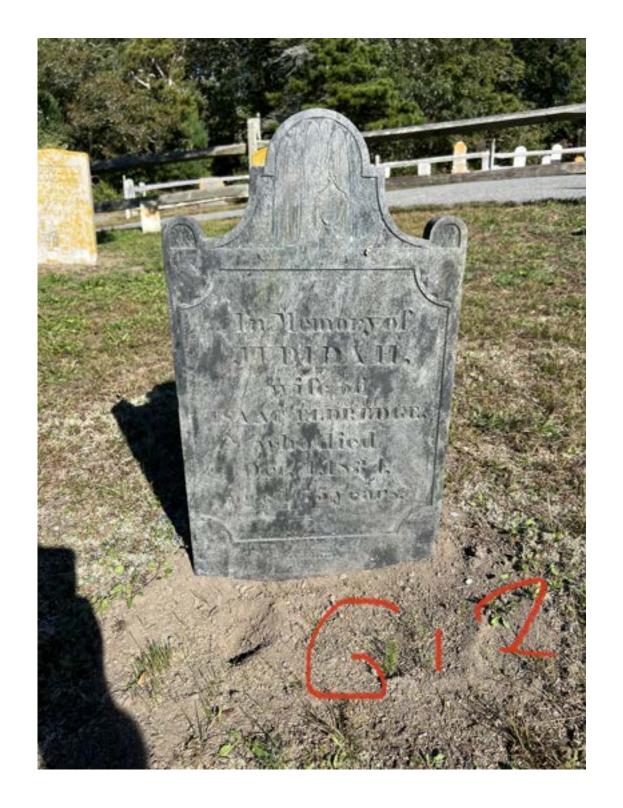
Name

Judidah Eldredge

Treatment Cleaned. Re-set.

Photo Before



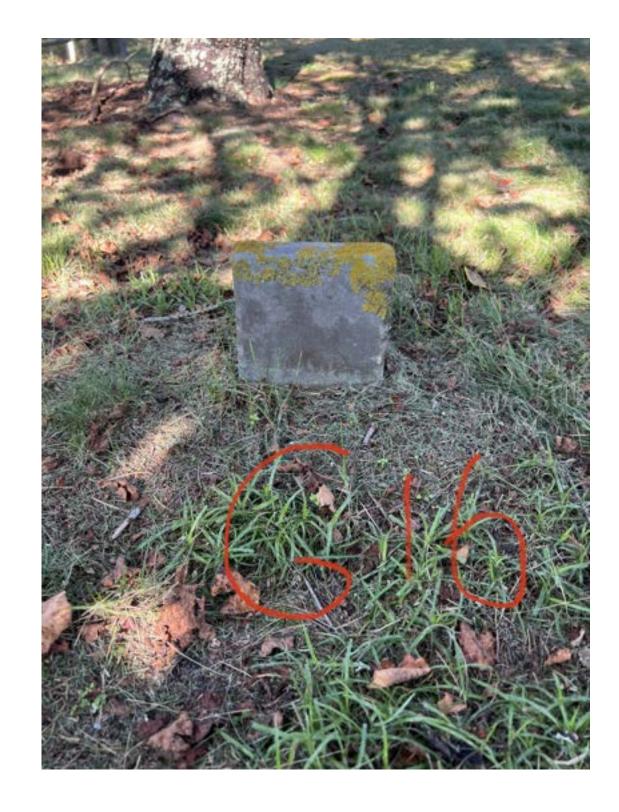


Grave G16 - Footstone

Name Bethia Eldredge

Treatment Footstone re-set.

Photo Before



Grave G17 - Footstone

Name

Treatment

Footstone re-set.

Photo Before



Photo After

Name

Ursilla Kenney

Treatment

Concrete removed from void. Void filled with lithomix.





G19 Grave

Allen Kenney Name

Treatment Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.

Photo Before





Name Priscilla Kenney

Treatment Cleaned. Voids filled with Lithomix.

Photo Before





Grave G23 Photo After

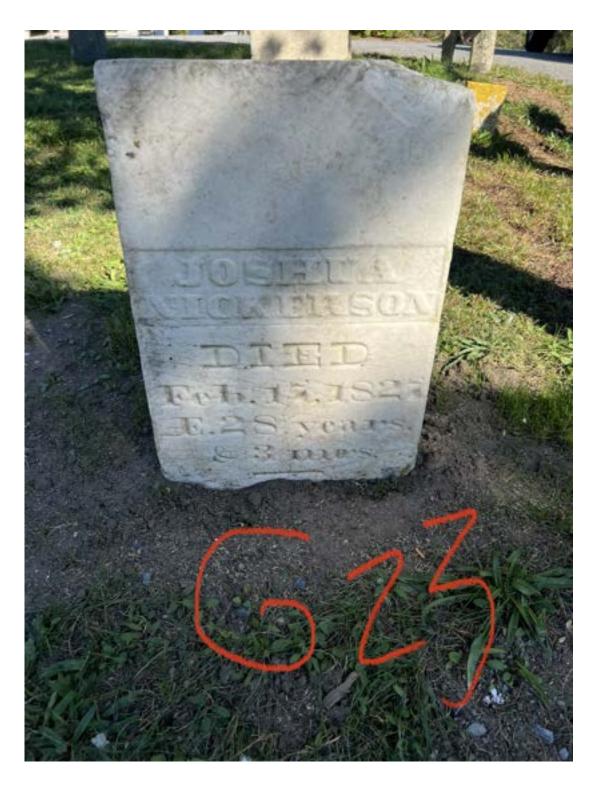
Name

Joseph A Nickerson

Treatment

Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.





Grave G24- Footstone

Name Orick Nickerson

Treatment Cleaned. Re-set.

Photo Before



G25 Photo After Grave

Name

Capt. Edward Nickerson

Treatment

Fragments excavated.
Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.





Grave G25 - Footstone

Name Capt. Edward Nickerson

Treatment Cleaned. Re-set.

Photo After



Name

Asenath young

Treatment Cleaned. Re-set.

Photo Before





Name John Debear

Treatment

Re-set.

Photo Before



G28 Photo After Grave

Sally Kenney Name

Treatment Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.





Photo After

Name

Allen Kenney

Treatment

Cleaned. Re-set.





Photo After

Name

Grafton Cahoon

Treatment

Cleaned. Re-set.





Grave G32 - Footstone

Name Deliverence Long

Cleaned. Re-set.

Photo Before

Treatment

Photo After



Photo After

Name

Levi Long

Treatment

Cleaned. Re-set.





Rebecca L Cahoon

Treatment

Name

Cleaned. Re-set.

Photo Before





Grave G34- Footstone

Name Rebecca Cahoon

Treatment Footstone re-set.

Photo Before

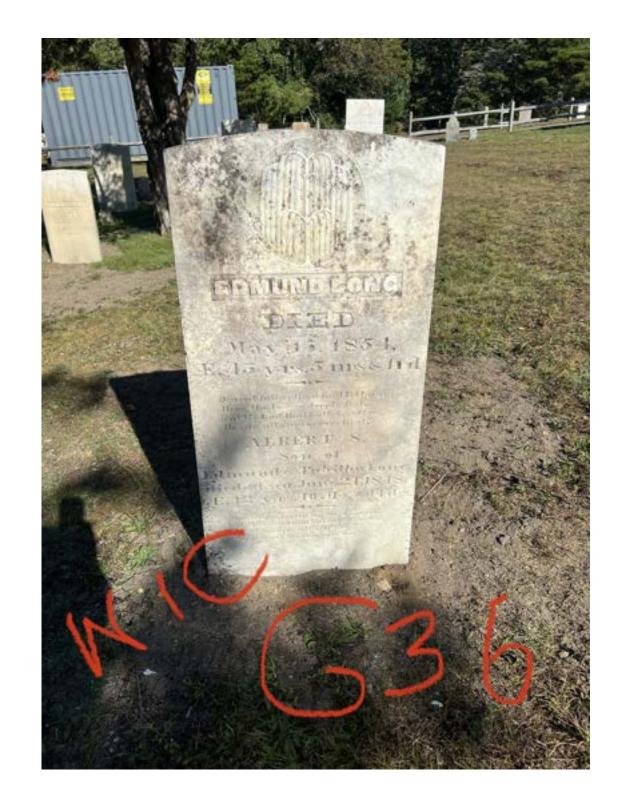


Name

Edmund Long

Treatment Cleaned. Re-set.

Photo Before



Grave G41 Photo After

Name

Sarah Nickerson

Treatment

Bolts removed.

Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.





Grave G42 Photo After

Name Tull

Tully Nickerson

Treatment

Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.





Capt Elra Eldredge

Treatment

Name

Cleaned. Re-set.

Photo Before



Grave G44 - Footstone

Name Mahitable Eldredge

Treatment Footstone re-set.

Photo Before



G45 Photo After Grave

Cyrena Eldredge Name

Treatment Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.



Grave G45 - Footstone

Name Cyrena Eldredge

Treatment Footstone re-set.

Photo Before



Name Hannah Nickerson

Treatment Re-set.

Photo Before



G49 Photo After Grave

Rogers Name

Treatment

Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.



Grave

G49 - Footstone

Name

Enos Rogers

Treatment

Photo Before



Photo After

Name

Molly Rogers

Treatment

Cleaned. Re-set.

Re-set in new slot base.





Grave G50 - Footstone

Name

Molly Rogers

Treatment

Footstone re-set.

Photo Before



Grave H01

Name

James C Higgins

Treatment Cleaned. Re-set.

Photo Before





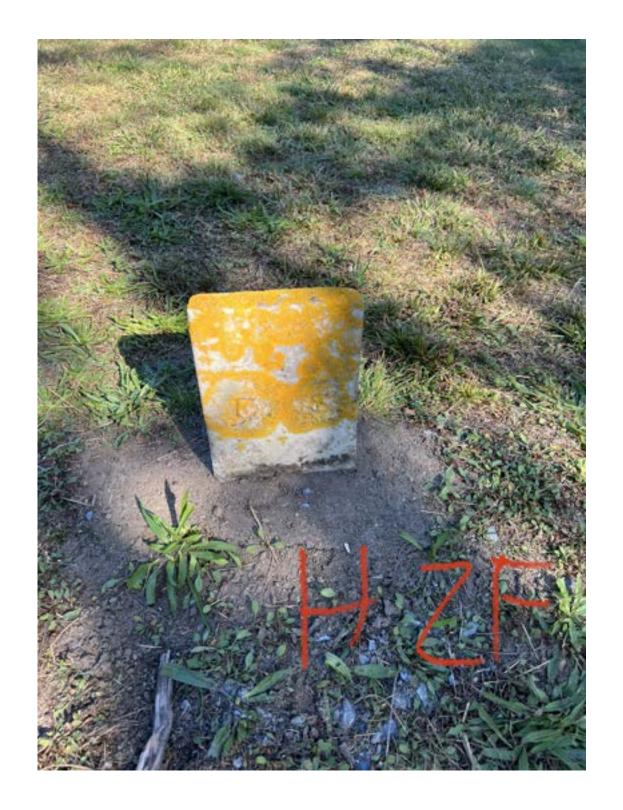
Grave H02-Footstone

Name Eli Small

Footstone re-set.

Photo Before

Treatment



Grave H03

Photo After

Name

Elizabeth Small

Treatment

Cleaned. Re-set.





Grave

H05 - Footstone

Name

Not Readable

Treatment

Footstone re-set.

Photo Before



Grave H06 - Footstone

Name

John Young

Treatment

Footstone re-set.

Photo Before



H07 Photo After Grave

Name

Bathsheba Young

Treatment

Old repair removed.
Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.





Grave H07-Footstone

Name Bathsheba Young

Treatment Footstone re-set.

Photo Before



Grave H08 Photo After

Name

Samuel Doane

Treatment

Moved away from tree. Re-set in new slot base.

Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.





Grave H09

Name

Sallie Doane

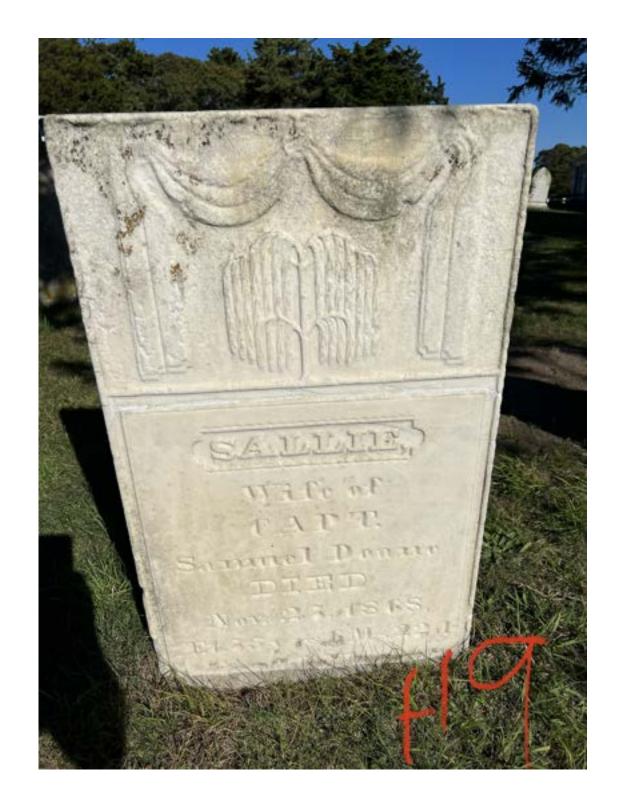
Treatment

Cleaned. Re-set.

Crack filled with Lithomix.

Photo Before





H10 Photo After Grave

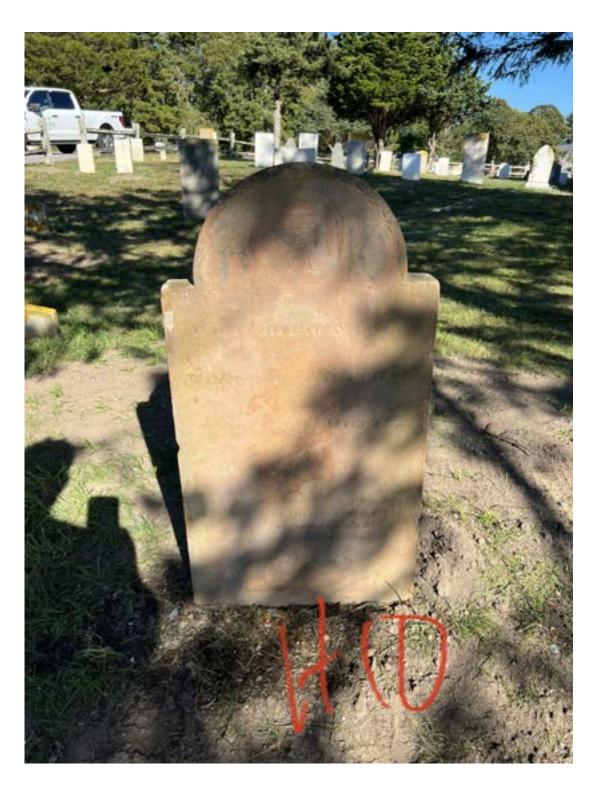
Name

Rueben Eldredge

Treatment

As much grafitti removed as possible without further damage to stone. Re-set.
Voids and blisters repaired with Sandstone Lithomix.





H11 Photo After Grave

Sarah Eldredge Name

Treatment

As much grafitti removed as possible without further damage to stone. Voids, cracks and blisters filled with sandstone lithomix.





Grave H12

Photo After

Name

Samuel Ellis

Treatment





Grave

H13

Name

Juliatta Rogers

Treatment

Photo Before





Grave H14 - Footstone

Name Capt Zachariah Small

Treatment Footstone re-set.

Photo Before



Grave

H15 - Footstone

Name

Meribah Small

Treatment

Footstone re-set.

Photo After



H16 Photo After Grave

Capt Elry Small Name

Treatment Cleaned. Fragments repaired with carbon fiber pins and epoxy. Losses and voids filled with Lithomix. Slab re-set.



