

data capture

Terracotta Replication

Using Laser Scanning Metrology



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Reason for engagement: Terracotta elements have failed and the building needs to be brought in to compliance with mandates made as a result of local law 10/11 inspection.

Objectives:

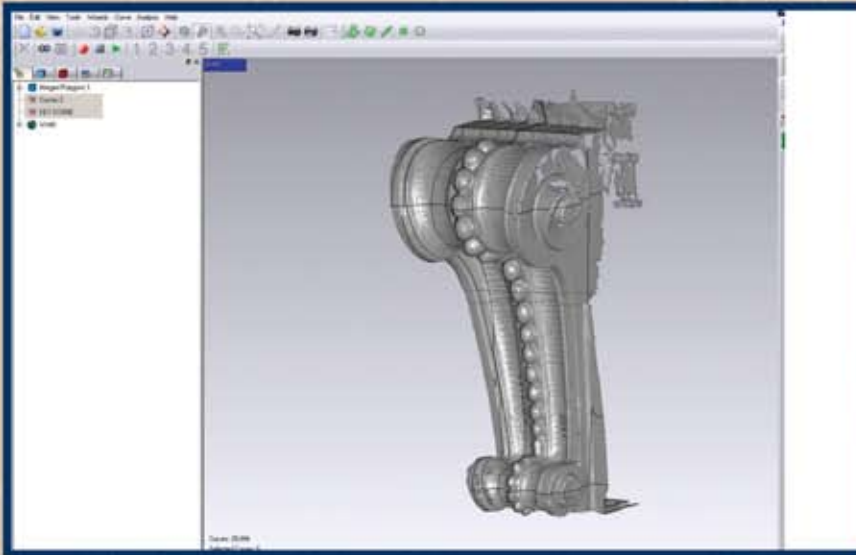
- Minimize disruption of the building envelope thus replicate the units without removing them from the building.
- Provide existing conditions documentation and archiving with high-precision laser Scanning Metrology.
- Maintain historic and architectural intent of the cast stone units.
- Replace existing terracotta with cast stone elements that replicate with exactitude the original units.

Technology used: Handheld field scanner

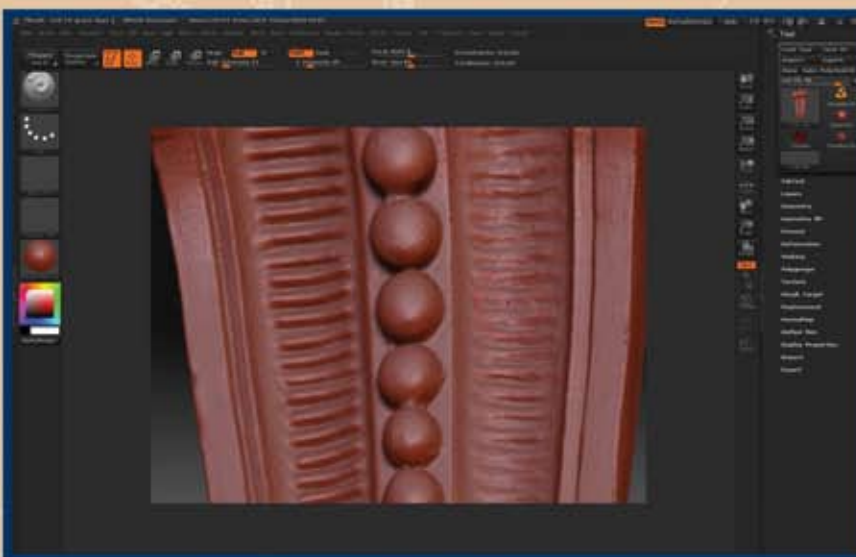
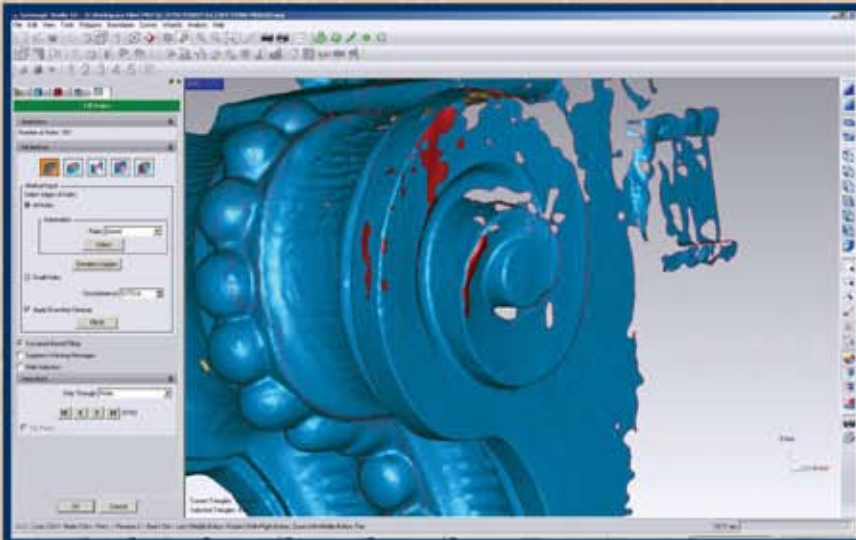
- Fast and accurate (within 1/25th of an inch) field measuring/recording of existing elements in dense 3D models.

Result: Prior to the removal of existing stones from the site,

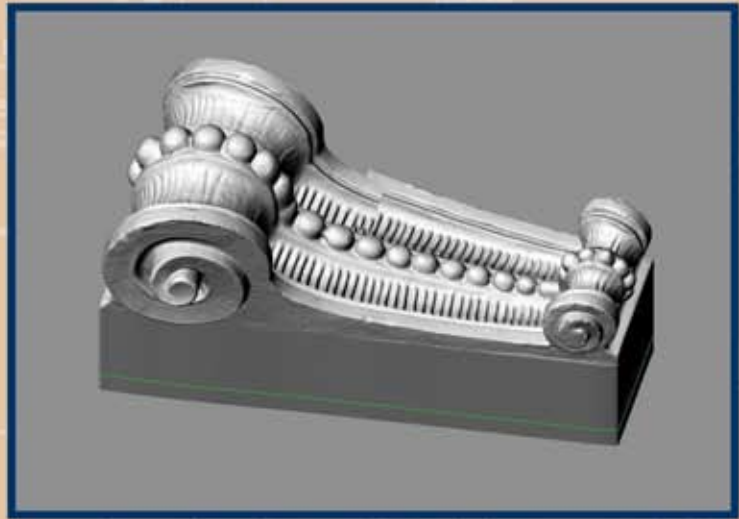
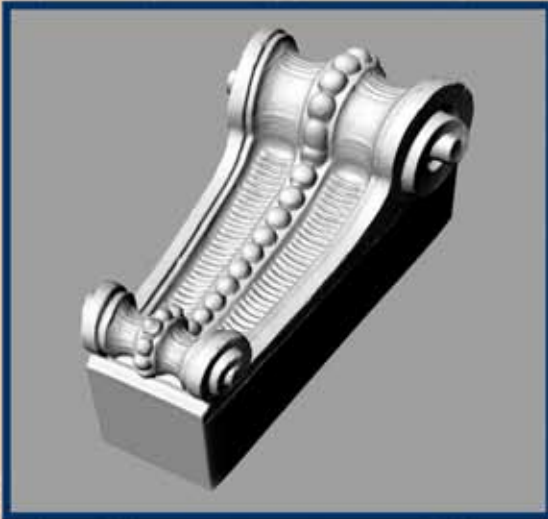
- We documented the existing elements and the adjacent conditions,
- Digitally sculpted the broken and missing units – restoring them to the original condition,
- carved models on our CNC machines and
- fabricated new cast stone units to be installed by the stone setter.



Top and middle:
Scanned image of the decorative keystone. Areas missing and damaged will be digitally sculpted-restored to like-new condition.



Left:
Decorative bracket is being digitally sculpted to restore the fine detail lost over time.



Above:
Decorative bracket has been completely remodeled and is ready to be sent to the CNC machine for positive creation.

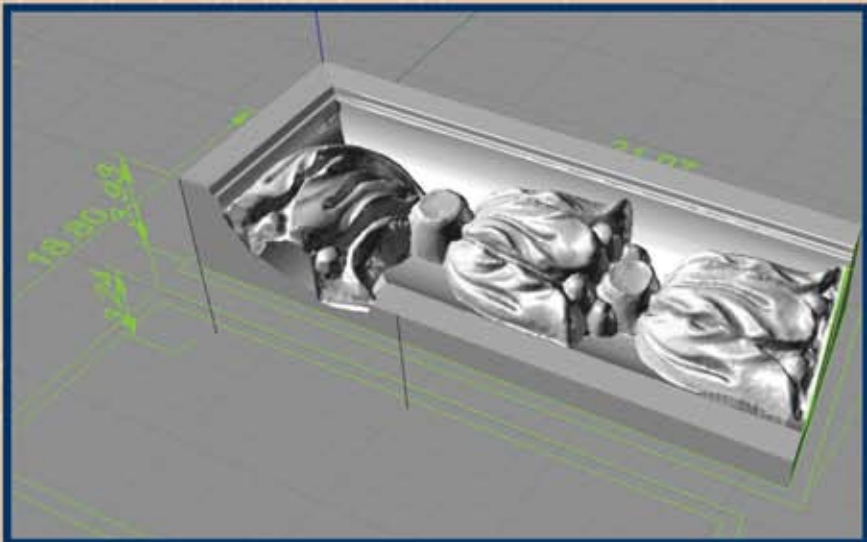
Left:
The CNC carved model/positive which will be used to make a mold in our manufacturing facility, under controlled conditions.



Below:
Finished product – cast stone unit that matches the original terracotta detail exactly.



Original broken terracotta – if this was to be removed, it would fall apart resulting in many additional hours of work and significant cost, to put “Humpty Dumpty” back together again.



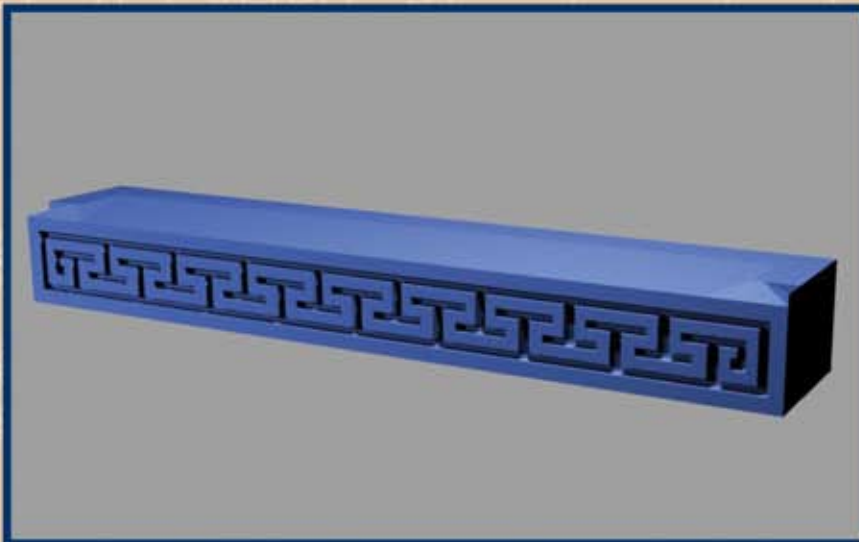
Digital restoration of the scan of the architectural element – restored to its original condition.



Fabricated cast stone unit to be installed.



The Greek key band and sill have been abused by time and building renovations.



Scan and 3D model of the new Greek key window sill.



New cast stone units ready to be installed.

The Corinthian Data Capture Solution

A unique laser scan metrology based approach to the recreation of our architectural history, borne from the absolute necessity for exact replication with minimal penetration to the building envelope and NO damage to the architectural artifact.

- As a matter of fact – the only penetration to the facade required is that of a probe for depth of the artifact being replicated.
- **So how does Corinthian Data Capture do it? What makes us uniquely qualified to be yours and others manufacturers' "go-to-guy"?**
 - Our laser scan metrology division started out as a way for Corinthian Cast Stone to accurately and quickly field measure projects without the need for ever going back to a site for a missed dimension. Once we coupled the information gathered with our CNC departments' capabilities, we had a winning solution. We scan, we digitally sculpt, we carve, we cast, we deliver – right the first time.
 - Corinthian Data Capture and Corinthian Cast Stone are here to provide you with solutions whether we are the cast/natural stone fabricators or not.