EVERGREENE
Architectural Arts

ROBERT MORRIS STATUE ASSESSMENT & CLEANING TESTS REPORT

70% draft submission

PHILADELPHIA, PENNSYLVANIA

Mills + Schnoering Architects, LLC

Prepared for:
Katherine Frey
Mills + Schnoering Architects, LLC
200 Forrestal Rd, Suite 3A
Princeton, NJ 08540
katherinef@msarchitectsllc.com

Prepared by:
Kelly Caldwell
Director of Conservation
kcaldwell@evergreene.com

Tucker Simmons
Assistant Conservator
tsimmons@evergreene.com

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INTRODUCTION

EverGreene Architectural Arts (EverGreene) was contracted by Mills + Schnoering Architects, LLC to conduct an assessment, cleaning tests and provide treatment recommendations of the bronze Robert Morris statue and marble plinth located on the grounds of the Second Bank of the United States, in Philadelphia, Pennsylvania. EverGreene performed the assessment and cleaning tests June 21st - 22nd and July 20th - 21st,2023. These site visits were performed as part of the Design Development phase of the project. EverGreene's scope of work also includes providing drawings and specifications as part of Construction Documents. This assessment, testing, and recommendations intended to guide future treatment of the Morris statue in relation to the upcoming National Park Service (NPS) capital improvement campaign, which aims to improve the greenspace where the statue is currently located. The statue will be temporarily removed from its current location, restored, and reinstalled at a later date. It is unknown if the sculpture will be reinstalled in the same location.

The goal of the assessment and testing was to determine the most effective method for cleaning the statue and to strategize recommendations for deinstallation. Visual assessment of the sculpture and base were performed on site and conditions were recorded on base line drawings provided by the NPS via Mills + Schnoering Architects, LLC (see Appendix A). Ground penetrating radar (GPR) was conducted by EverGreene's subcontractor Atkinson- Noland & Associates to identify where pins connect the sculpture and base, which would need to be cut during de-installation. The GPR study is included in Appendix B.

It was not necessary to perform cleaning tests on the bronze sculpture due to the predictable nature of the presenting conditions. Cleaning tests of the marble plinth involved:

1. Copper stain removers to reduce or remove copper staining.
2. Testing solvents and detergents to remove wax buildup on the southern facing lower sections of the plinth.
3. Testing commercial paint strippers to remove graffiti marks from the marble plinth.

Findings are elaborated upon in this report; overall the sculpture appears to be in fair condition with the bronze statue in good condition, and the marble plinth in fair condition.

This report is prepared in fulfillment of the contractual request. It is intended to provide information of existing conditions that can inform future treatment options.

Project Background

The statue commemorates the Stateman and American Revolution financer Robert Morris. The bronze figure was sculpted by American Beaux-Arts sculptor Paul Wayland Bartlett in 1923 and cast in 1925 by the J. Arthur Limerick Company in Baltimore Maryland. The plinth was carved by Piccirilli Brothers

Marble Carving Studios, and the monument was dedicated June 18th, 1926. It was initially erected on the Chestnut Street steps of the Second Bank of the United States. The monument was later moved to its current location on the other side of the Bank of the United States in 1961 by the National Parks Service.[1]

Description

The statue is located in a public plaza that is part of the Independence National Historic Park on the ground of the Second Bank of the United States. It is in the southern half of the plaza, and is oriented to the north, with the sculpture and lettering on the plinth facing the Second Bank of the United States. The public space is boarded to the east and west by South Independence Mall East, and South 4th St, and to the south by Walnut Street. The plaza is open to the public 24 hour a day, seven days a week, and the statue is in the middle of the major walkway across the plaza. It is surrounded by pavers that radiate out in a square that are at grade with the rest of the plaza. No barriers or impediments stand between the statue and the public. Trees line the walkways of the park, but no trees overhang the statue.

The statue is composed of a life-size bronze figure of Robert Morris situated on a marble plinth composed of a rough finished central block and base and two polished finish steps. For the purposes of this report the block and base are being described as the plinth, to differentiate it from the steps. The marble plinth has three lines of lettering on the north elevation only stating "Robert Morris, Patriot, Statesman, Financier, 1734-1806".

The sculpture was cast in two pieces, the body and base. The two bronze castings are attached together with brazed seams visible around the statue's feet (Figure 2). The bronze base has a small gap between it and the plinth, with some of this gap grouted. Two casting marks are visible on the bronze base, located on the south and east elevations.

The marble plinth surrounds a central concrete base, as noted in the GPR report. The polished marble steps are not pinned to the concrete base or upper sections of the plinth, instead the step pieces are held in position due to gravity. A single pin connects the central block to the internal concrete base, and three pins connect the bronze sculpture to the plinth.

[1] "Smithsonian Institution Research Information System." SIRIS. Accessed August 7, 2023. https://siris-artinventories.si.edu/ipac20/ipac.jsp?session=1QP7650652O19.13051&profile=ariallimg&source=~%21siartinventories&view=subscriptionsummary&uri=full&ri=5&aspect=subtab37&menu=search&ipp=20&spp=20&staffonly=&term=morris%2Bphiladelphia&index=.GI&uindex=#focus.

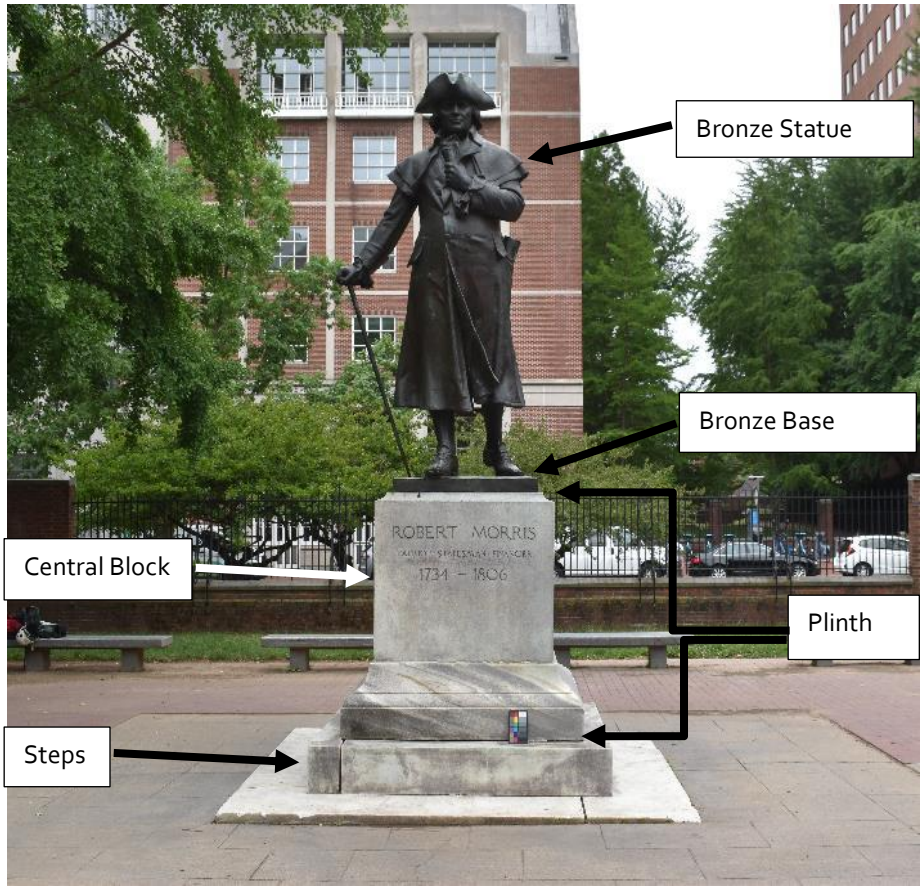


Figure 1. Overview of the north elevation of the monument with elements identified for clarity. (Photo: EverGreene, June 2023)

Figure 2. Detail of the left foot of the statue and the brazed seam connecting the statue's foot to the bronze base. (Photo: EverGreene, July 2023)

Previous Treatment

Currently "Human Trafficer" is graffitied on the north elevation of the plinth in what is likely black felt tipped pen ink (Figure 3). NPS noted that a number of removal methods including proprietary anti-graffiti products and the use of laser cleaning were previously attempted. These attempts lightened the graffiti but did not fully remove the staining. The proprietary chemicals were:

- Watch Dog produced by Dumond
- Total Solutions by Athea Laboratories
- Elephant Snot by Graffiti Solutions
- Tagaway, and Taginator both produced by Equipment Trade Service Co.

None of the chemicals NPS tried were effective and NPS brought in a third party, Lodestone Conservation, to perform laser cleaning. The laser cleaning lightened the ink but did not fully remove it. This was then followed up with the use of Felt pen Fadeout, produced by Urban Restoration Group to further lighten the lettering, but not remove it completely. Methodologies of these treatments were not provided to EverGreene at this time, only a general overview of the work via email.

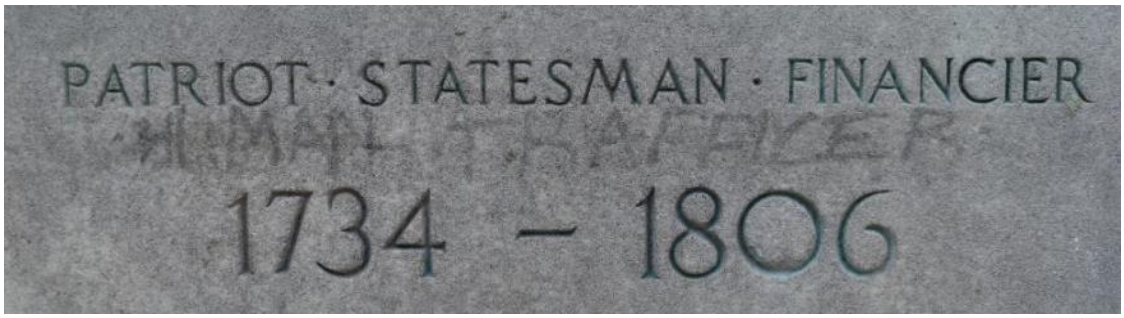


Figure 3. Close up photograph of the graffiti after NPS had attempted to remove it with both laser removal and chemical treatment methods. But prior to EverGreene removal testing. (Photo: EverGreene, July 2023)

CONDITIONS

The statue was visually and physically examined to observe its overall condition and testing was performed to determine best methods for treatment. Conditions were photographically recorded and documented on base line drawings provided by Mills + Schnoering Architects, LLC. Observations were conducted from the ground. EverGreene looked for signs of active corrosion, pitting, and loss of material on the bronze, along with copper staining, soiling, and losses on the plinth.

Overall Conditions Summary

The bronze casting from visual inspection appears to be in good condition with light levels of copper corrosion present, and no signs of pitting or losses (Figures 4 & 5). The corrosion was located mainly on skyward facing surfaces and flat areas like the bronze base. The extent wax coating has blanched in areas, and the patina is a consistent dark brown overall.

The marble plinth is in considerably worse condition then the bronze statue. A number of spalls and losses are present on the lower steps. Large sections of the joints are missing (Figures 6). The lower steps also appear to have shifted which is evident from the large gaps in-between steps. There is a general soiling found across the entire plinth and copper staining is endemic across it as well. The staining is most concentrated on the flat skyward facing surfaces of the plinth and in the carved lettering on the front (north) elevation (Figure 7). The south elevation of the plinth also has significant buildup of wax, likely from skateboarders (Figure 8).

Figure 4. Light corrosion and failing wax visible on the vertical surfaces of the Morris sculpture's long coat. (Photo: EverGreene, July 2023)

Figure 5. Detail of the skyward facing surfaces of the bronze base and figure's right shoe. Notice the greater amount of light copper corrosion present on these surfaces compared to the polished finish of the tip of the shoe, where people frequently touch the area. (Photo: EverGreene, July 2023)

Figure 6. Photo of a spall located on the NW corner of a plinth step with a penny for scale. The joint present in the photo is also completely deteriorated and open. (Photo: EverGreene, June 2023)

Figure 7. Detail of copper staining located on the flat skyward facing step of the north elevation of the plinth. (Photo: EverGreene, June 2023)

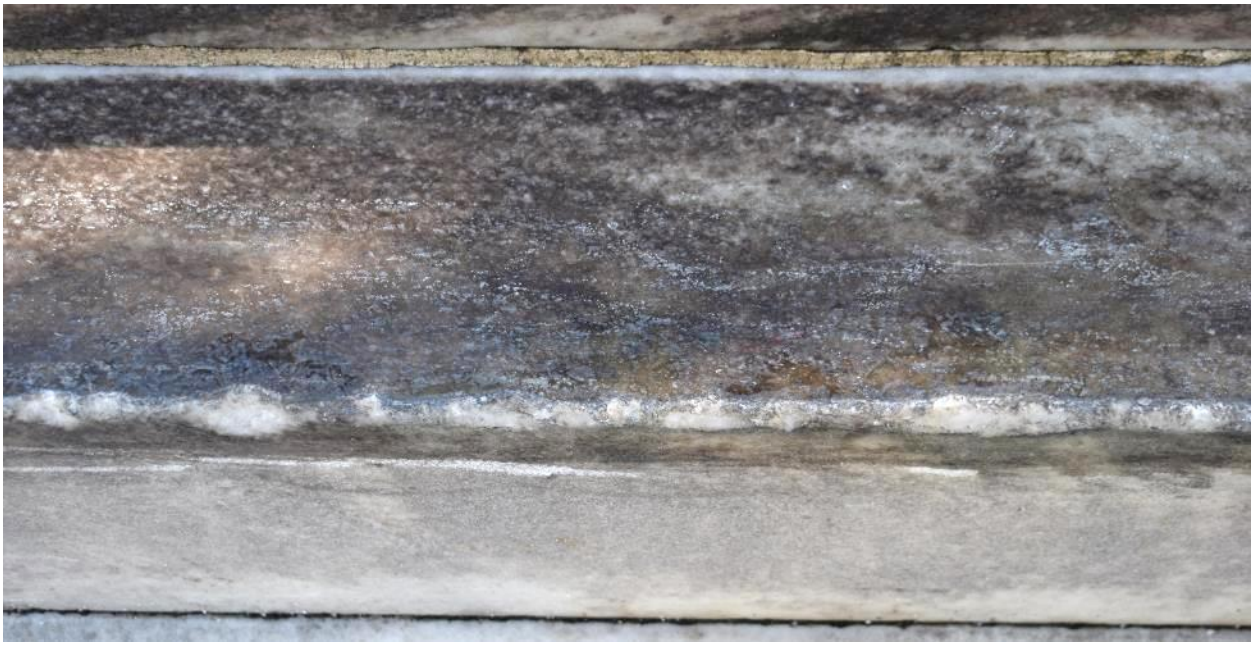


Figure 8. Photo of the wax buildup on the skyward facing step of the south elevation of the plinth. (Photo: EverGreene, July 2023)

TESTING AND ANALYSIS

A range of tests were carried out onsite to develop the noted recommendations for treatment. All cleaning tests were carried out by EverGreene conservation staff, with GRP testing carried out by Atkinson-Noland & Associates, as a subcontractor to EverGreene. All required manufacturers recommendations were followed and safety protocols for handling of chemicals and disposal were utilized.

GPR STUDY

From the ground penetrating radar survey, it was determined that the bronze statue is connected to the top of the plinth with three pins. One larger central pin and two smaller pins located in the northwest and southeastern corners of the monument respectively. These pins are also not located under the feet of the statue, but instead in the opposite corners, meaning they are not bearing the weight of the bronze statue into the plinth itself.

The GPR survey also identified a central concrete base on the interior of the plinth. From the GPR survey and visual inspection it appears that the central block rests on this central base, connected with a single central pin, visible in the GPR survey. The lower sections of the plinth are not connected to the central concrete base and there is a void between the sections. For further reference please see the GPR Study in Appendix B.

CLEANING TESTS

EverGreene performed cleaning tests to determine how to successfully remove the graffiti, copper staining, wax buildup, and soiling of the marble plinth. In total, two copper poultices were tested, along with three paint strippers, two general detergents, and a number of solvents.

Product Name	Manufacturer	Treatment Type
Sure Klean Copper Stain Remover	Prosoco	Copper staining removal
SB2380 Copper Stain Remover Gel	Shorebest	Copper staining removal
Graffiti Remover	Cathedral Stone	Graffiti removal
Light Duty Paint Remover	Cathedral Stone	Graffiti removal
Heavy Duty Paint Remover	Cathedral Stone	Graffiti removal
Enviro Klean 2010 All Surface Cleaner	Prosoco	General purpous cleaning
Orvus WA Paste Cleaner	Procter & Gamble	General purpous cleaning
Denatured Alcohol	Klean Strip	Wax removal
Acetone	Klean Strip	Wax removal
Mineral Spirits	Klean Strip	Wax removal

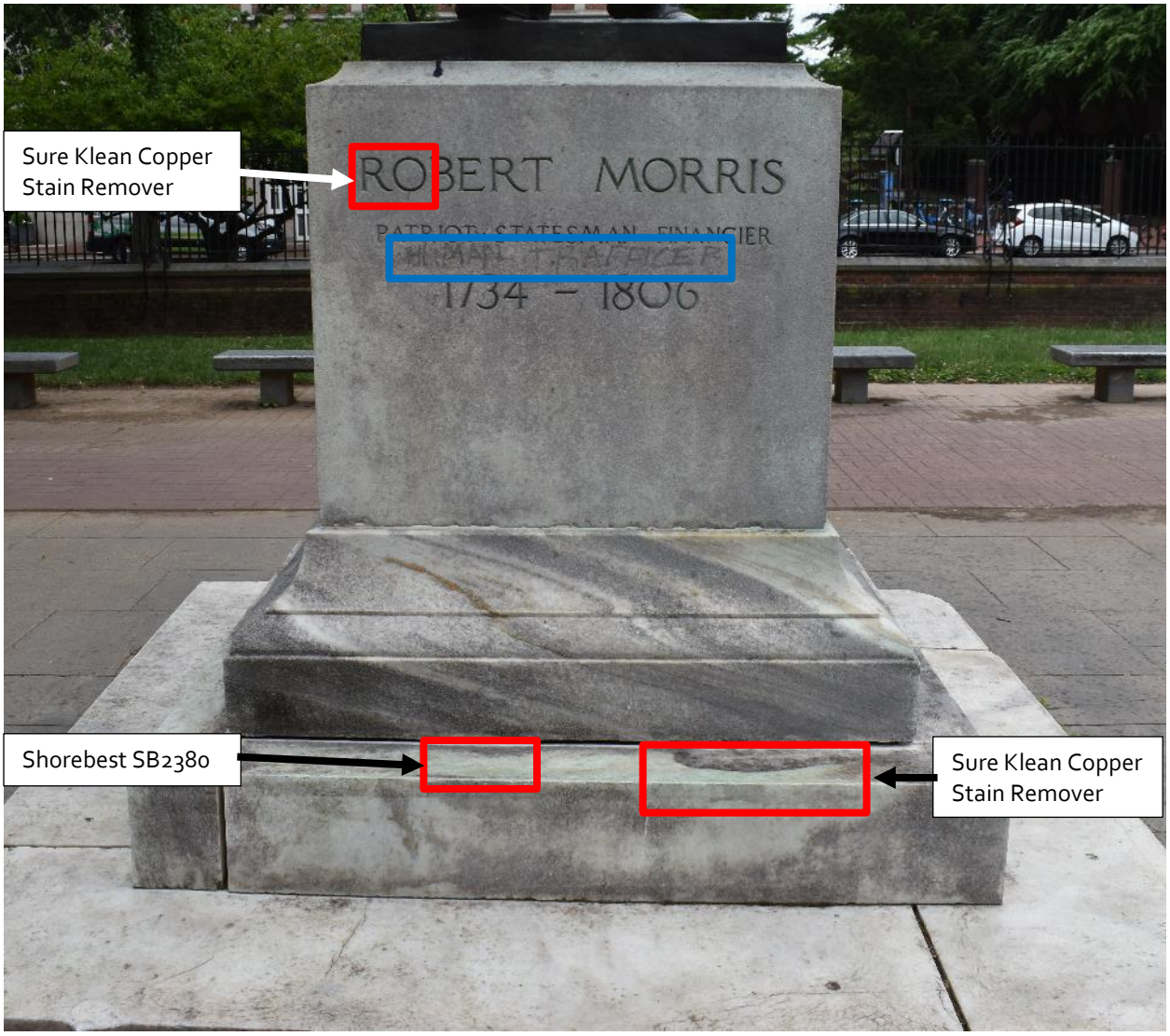


Figure 9. Photo denoting the testing area locations on the north elevation of the plinth. Red denotes poultice testing areas while blue denotes graffiti removal areas. Wax removal was performed on the south elevation of the plinth. (Photo: EverGreene, June 2023)

Copper Staining Removal Testing

The two poultices were testing, these were applied and allowed to dwell for an allotted time, as per manufacturers recommendations. The Shorebest was applied to the flat skyward facing polished marble surface of the plinth. Sure Klean Copper Stain Remover was applied to both the skyward facing polished surface and rough marble lettering.

1. Shorebest SB2380 Gel: The gel was applied, evenly applied across the entire testing area using a standard chip brush. It was initially left to dwell for 15 minutes as recommended in the product data sheet. During the dwell time, the gel was observed to look for a change in color to

bright blue, signaling the gel had reached its max cleaning ability. Over the 15-minute testing period, the gel had a slight color shift to blue, but did not reach a bright blue color (Figure 10). The gel was scrapped off the surface using a plastic spatula and then the surface area was flushed with clean water and a nylon bristle scrub brush to neutralize the area.

Figure 10. Photo of the SB2380 Gel during the application process. (Photo: EverGreene, July 2023)

The test area was examined once dry, and showed minor improvement; the gel was reapplied and allowed to dwell for a total of 30 minutes. During this dwell period no color shift was observed and once removed, and rinsed, no change was evident.

2. Prosoco Sure Klean Copper Stain Remover: The Sure Klean Copper Stain Remover was applied as a traditional poultice in two places, along the polished marble of the plinth, and in two of the incised lettering on the north elevation. The two components of the poultice were mixed on site and applied directly to the stone using a plastic spatula. The application process was performed in accordance with the manufacturer's specifications outlined in the product data sheet. The poultice was covered with a protective plastic sheeting and left to dwell for 24 hours (Figure 11). On the lettering, the poultice was applied and covered in plastic and left to dwell for 22 hours.

   During the application process a reaction on the stone around the lettering occurred, turning the surrounding stone a bluish-purple (Figure 13). Prosoco confirmed that this is a natural reaction and the discoloration will return to normal as the poultice dries out.

   After the overnight dwell the poultices were uncovered and left to dry further. The poultices were removed using a plastic spatula, wooden skewers, and thoroughly rinsed with clean water and a nylon bristle scrub brush. The poultice placed around the lettering, was removed first, after a dwell time of roughly 22 hours, with no discoloration remaining (Figure 14). After a thorough rinsing, it was determined that the poultice completely removed the copper staining

from the lettering, along with removing discoloration of the surrounding area, leaving a bright and much whiter test area.

The poultice located on the skyward facing surface was removed after a 24-hour dwell. After removal and cleaning of the testing area a distinct blue haze was noticeable on part of the test area (Figure 12). EverGreene consulted the product manufacturer and was informed that the haze was part of the poultice process and another application with a further 24-hour dwell would remove the blue discoloration. Due to time constraints on site, this was not possible, and Prosoco confirmed that leaving the blue haze would not have any long-term effects on the stone.

A short duration poultice of two hours was applied to see if it would improve the discoloration, but had no visual effect. The testing on the polished marble removed the green copper staining and brightened the stone.

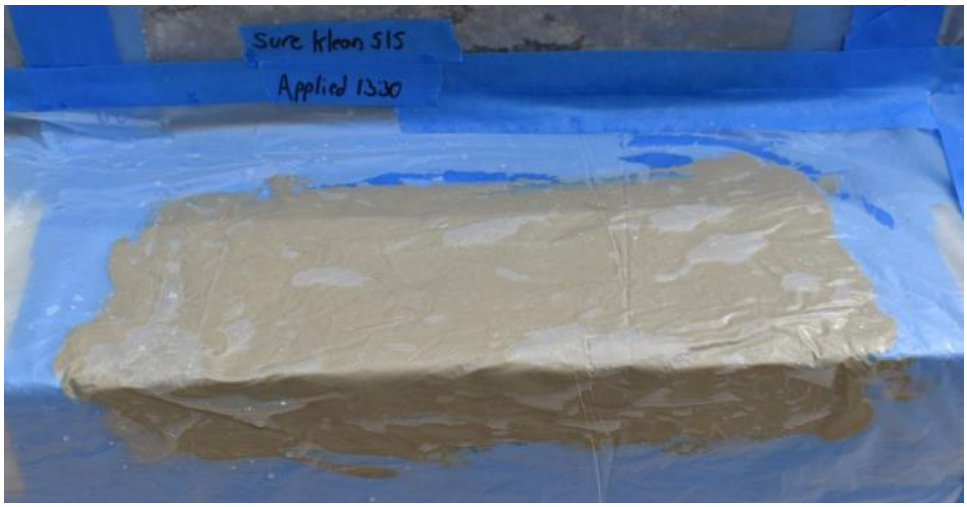


Figure 11. Photo of Sure Klean Copper Stain Remover during application. (Photo: EverGreene, July 2023)

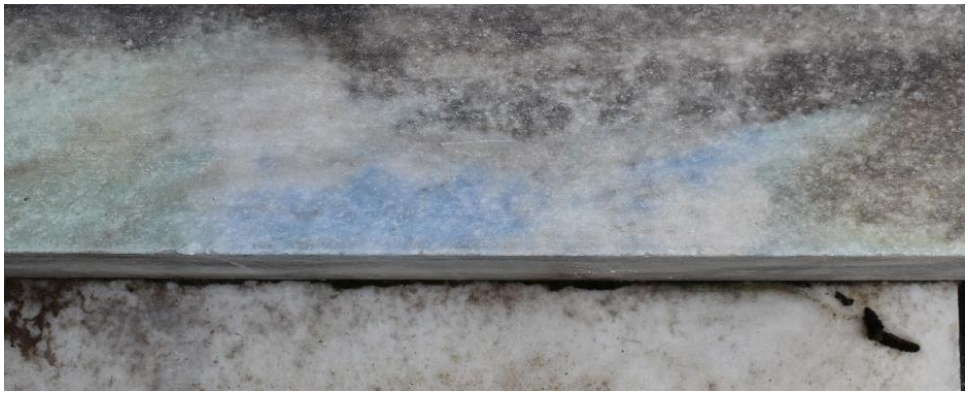


Figure 12. Blue haze/discoloration left after the round of the Sure Klean poultice application. (Photo: EverGreene, July 2023)

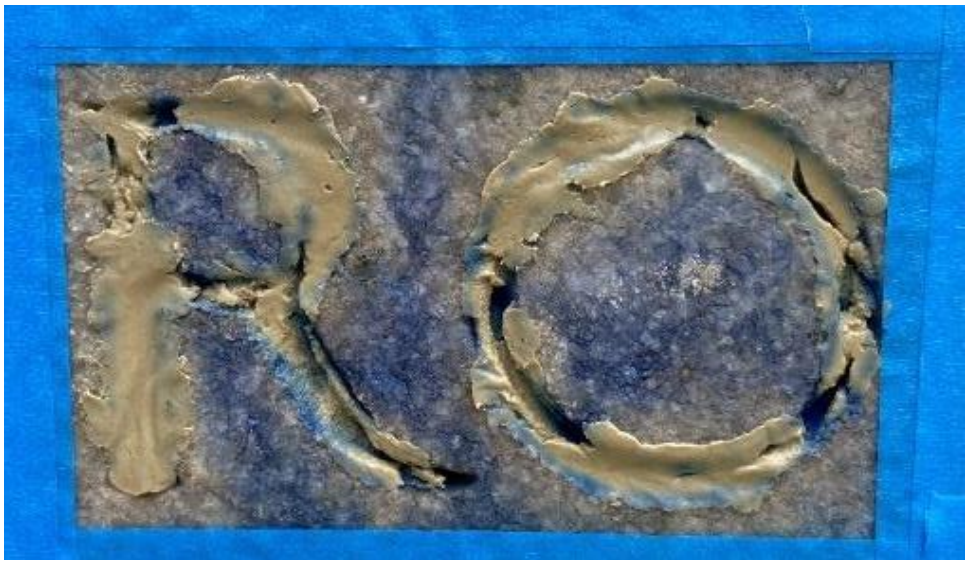


Figure 13. Discoloration reaction during the application process of the Sure Klean Copper Stain Remover. (Photo: EverGreene, July 2023)

Figure 14. Rinsed testing area on the lettering of the Sure Klean with no discoloration or staining present. (Photo: EverGreene, July 2023)

Graffiti Removal Testing

EverGreene tested a number of different products in an attempt to effectively remove the imbedded graffiti ink on the plinth. A total of six products were tested, over the two-day site visit (Figure 15). These included clean water, Acetone, Enviro Klean 2010, Graffiti Remover, Light Duty Paint Remover, and Heavy Duty Paint Remover.

Figure 15. Overall photo of the graffiti testing area prior to testing. (Photo: EverGreene, July 2023)

1. Clean Water: Clean water was applied to the graffiti as a baseline cleaning product. It was applied using a stiff nylon bristle brush and agitated. The test area was wiped with a clean cotton rag and further rinsed with clean water. No changes in the graffiti were observed.

2. Acetone: Acetone was tested due to its effectiveness at removing black permanent marker. It was applied with a Q-tip and stiff nylon bristle brush. The test area was agitated and wiped with a clean cotton rag. The area was then rinsed with clean water. No changes in the graffiti lettering were observed throughout this process.

3. Enviro Klean 2010: 2010 was tested in both diluted and full strength. The diluted formula followed the prescribed dilution of one-part 2010 to ten-parts water. Both the full strength and diluted formulas were applied and left to dwell for ten minutes each. During this time, both tests were agitated with a stiff nylon bristle brush to ensure the test areas did not dry out over the dwell time. Once the 10-minute dwell time was reached the areas were rinsed with clean water. No discernable changes was apparent with either the diluted or full-strength 2010.

4. Cathedral Stone Graffiti Remover: the product was applied to the test area with a chip brush and agitated using a stiff nylon bristle brush. It was left to dwell for 12 minutes, as per the Product Data Sheet recommendations, and rinsed with clean water and a stiff nylon bristle brush. No discernable change was apparent and testing using the product was stopped (Figure 16 & 17).

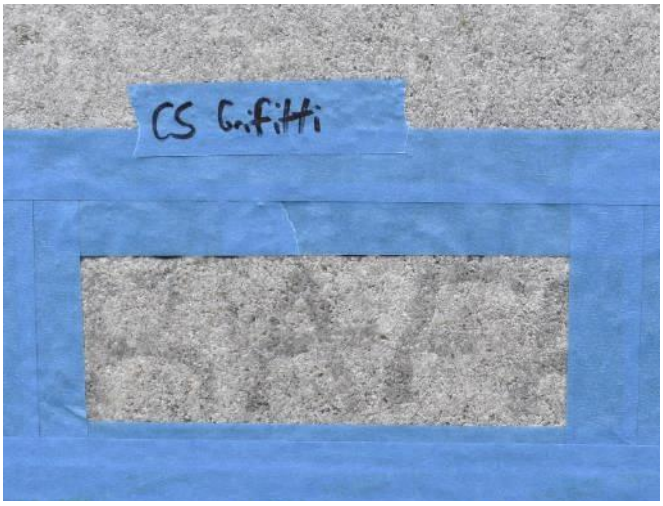


Figure 16. The graffiti prior to the applications of the CS Graffiti Remover. (Photo: EverGreene, July 2023)

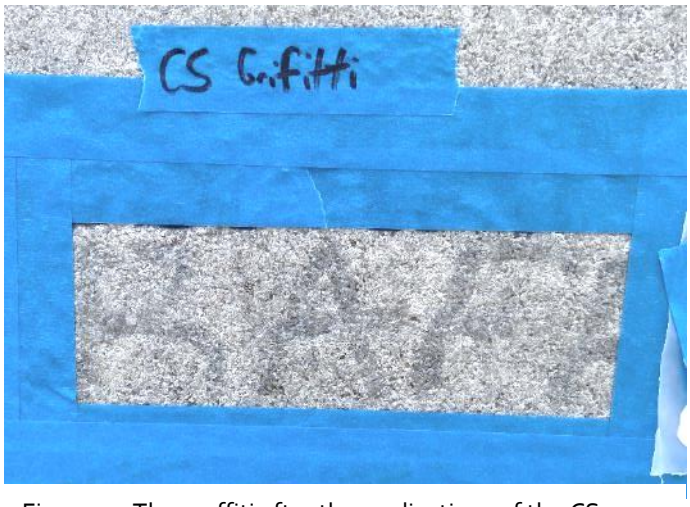


Figure 17. The graffiti after the applications of the CS Graffiti Remover. (Photo: EverGreene, July 2023)

5. Light Duty Paint Remover: Light Duty Paint Remover was applied to the test area using a chip brush to achieve an even coverage across the test area. It was initially applied in two applications with different dwell times. One was a one-hour dwell time, while the other was four hours (Figure 18). After the application the test area was covered with plastic and left to dwell. Once each test area achieved its desired dwell time, the product was scraped off the surface using a plastic spatula, and the area was rinsed with clean water and a nylon bristle scrub brush to ensure no material was left on the surface. The one-hour dwell test visibly lightened up the lettering, and the four-hour dwell test lightened up the lettering even further. Due to the success of the Light Duty testing, it was decided to apply a third application for another four-hour dwell time, bringing the tested area to eight hours of total application time. The product was applied as before and left to dwell. Once removed it lighted the graffiti lettering even further but did not remove the lettering completely (Figure 19).

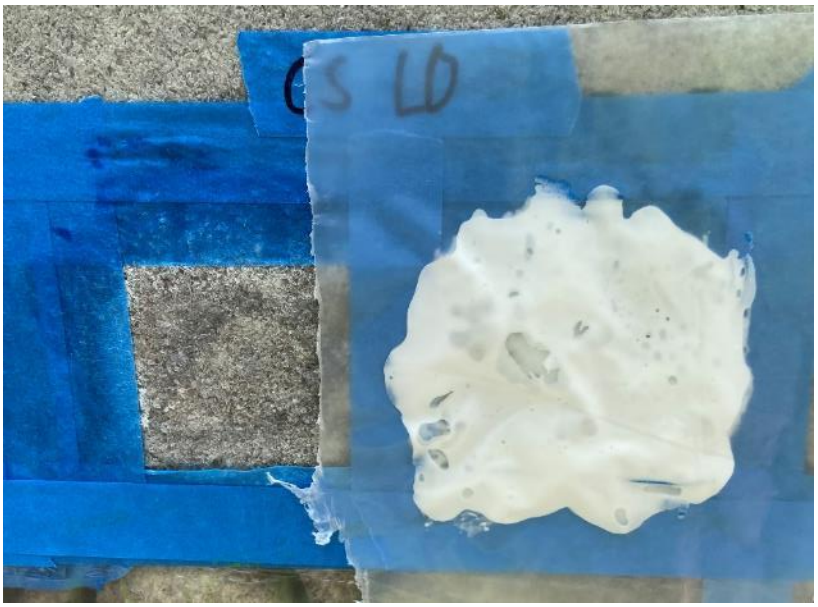


Figure 18. The Light Duty Paint Remover during the 4-hour dwell time application process. (Photo: EverGreene, July 2023)

Figure 19. The Light Duty Paint Remover testing area after testing. The right side of the lettering is nearly faded after 8 hours of dwell time. (Photo: EverGreene, July 2023)

6. Heavy Duty Paint Remover: Heavy Duty Paint Remover was applied similarly to the Light Duty with a chip brush to achieve even coverage. It was also applied in two applications with a one-hour dwell time, and a four-hour dwell time. The test area was covered with plastic and left to dwell (Figure 20). Once each test area achieved its desired dwell time, the Heavy Duty Paint Remover was scraped off with a plastic spatula, and the area was rinsed with clean water and a nylon bristle scrub brush. The one-hour dwell test lightened up the graffiti, and the four-hour dwell time test lightened up the lettering further, but was not as effective as the Light Duty applications.

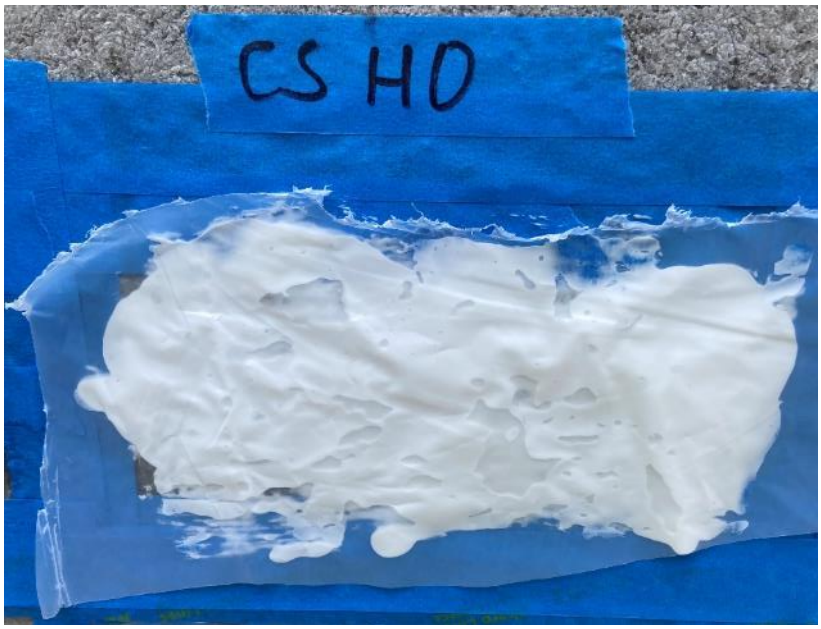


Figure 20. Heavy Duty Paint Remover during the application process. (Photo: EverGreene, July 2023)

Figure 21. Heavy Duty Paint Remover after the application process. The graffiti has been lightened but not significantly. (Photo: EverGreene, July 2023)

Wax Removal & General Cleaning Testing

EverGreene tested a number of solvents and cleaning products to remove the wax buildup found on the plinth. The products included mineral spirits, acetone, denatured alcohol, Orvus WA Paste Cleaner, and Enviro Klean 2010. The removal test area also served as an area to perform general cleaning test to determine the best method for removing general soiling from the plinth. After testing, the entire testing area was rinsed with clean water and a nylon bristle scrub brush to ensure no residue from any

of the testing material was left on the surface of the marble.

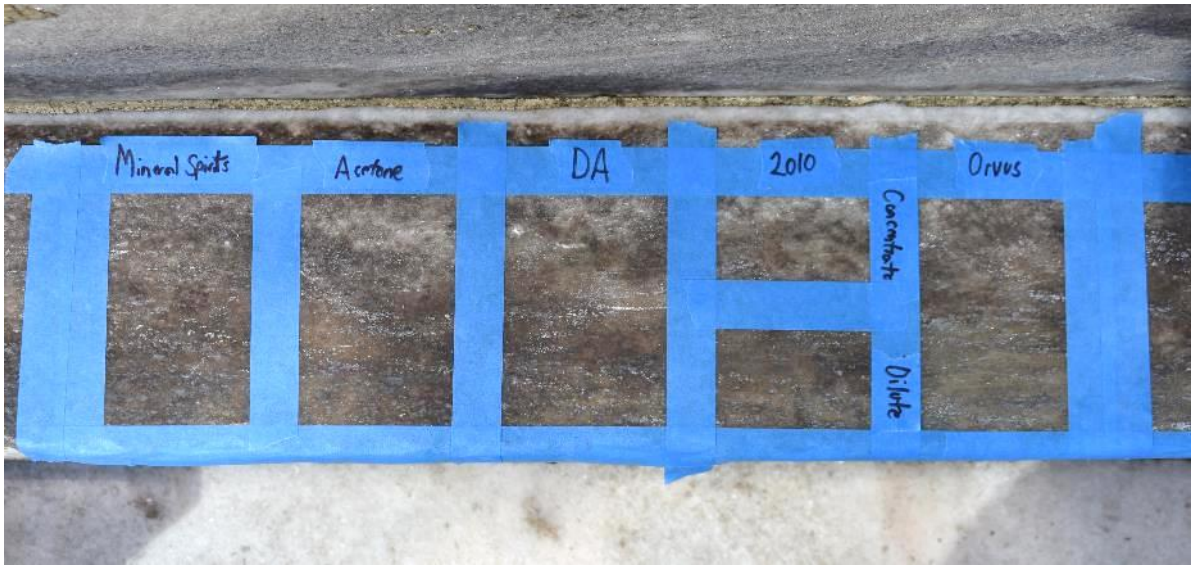


Figure 22. Overall photo of the wax removing testing area prior to testing. (Photo: EverGreene, July 2023)

1. Mineral Spirits: Mineral Spirits was applied to the wax covered stone using a stiff nylon bristle brush. The solvent was agitated and the stone wiped down with a clean cotton rag. The process was repeated across the test area with positive results. The mineral spirits successfully removed the wax buildup while also lightening the general area by removing some of the general soiling (Figure 23 & 24).

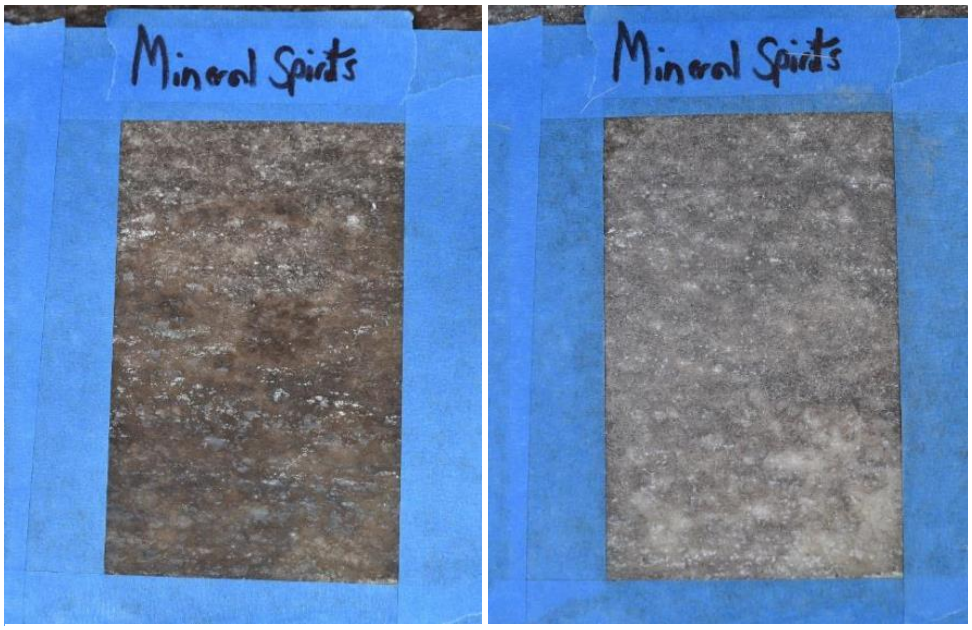


Figure 23 & 24. Before and after of the mineral spirits testing removal of the wax buildup on the flat surfaces of the plinth. (Photo: EverGreene, July 2023)

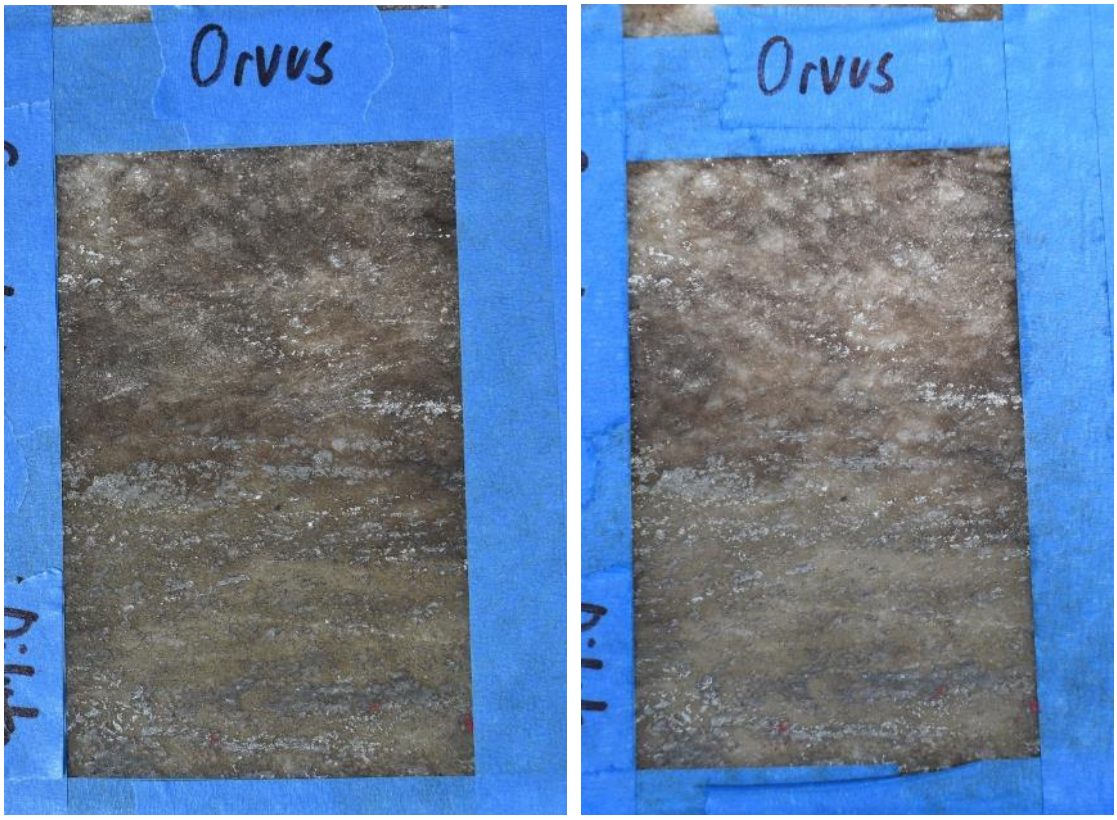
2. Acetone: Acetone was applied to the test surface using a stiff nylon bristle brush. It was agitated and the stone was wiped down with a clean cotton rag. Similarly, to the mineral spirits, the acetone lifted the wax buildup, however unlike the mineral spirits it evaporated too quickly and redeposited the wax onto the stone (Figure 25). This caused a smearing effect that did not effectively clean the test area. To ensure the smeared conditions were not permanent, a small area was wiped down with denatured alcohol which removed the residue hazy.

Figure 25. Smeared wax from the acetone testing.
(Photo: EverGreene, July 2023)

3. Denatured Alcohol: Denatured alcohol was applied to the stone with a stiff nylon bristle brush and agitated. The solvent had no effect on the wax buildup.

4. Enviro Klean 2010: The 2010 was applied in two strengths, a diluted formula in one-part 2010 to ten parts water and full strength. Both strengths were applied with a stiff nylon bristle brush and agitated as they dwelled for ten minutes to ensure the product did not dry on the surface of the stone. Once the dwell time had been met, the product was washed off with clean water and a scrub brush. Both the diluted formula and full-strength product had no effect on the wax buildup, but did remove some of the general soiling from the test area. The general cleaning action was the same between the two strengths.

5. Orvus WA Paste Cleaner: Orvus WA Paste was diluted in clean water and applied with a nylon bristle scrub brush to the test area. The stone was agitated and the detergent was rinsed off with clean water and scrub brush. No wax buildup was removed, but the general soiling in the test area was effectively cleaned with the Orvus solution (Figures 26 & 27).



Figures 26 & 27. Orvus WA Paste Cleaning before and after of its general cleaning ability. (Photo: EverGreene, July 2023)

INVESTIGATION FINDINGS & RECOMMENDATIONS

FINDINGS

From the testing carried out in July, EverGreene has determined that the following products were effective to use during the treatment process. Prosoco Sure Klean Copper Stain Remover should be used on the plinth to remove all copper staining and discoloration. While the graffiti was not completely removed through the testing, EverGreene has determined that the Light Duty Paint Remover produced by Cathedral Stone was the most effective product tested and is a viable option to remove the graffiti when applied with longer dwell times. EverGreene also recommends the use of mineral spirits to remove wax buildup, and Orvus WA Paste Cleaner for the general cleaning of the plinth.

From the GPR report by Atkinson-Noland & Associates and visual inspection by EverGreene, the monument is made up of a bronze statue that rests upon a plinth made of a marble façade and concrete base core. The statue is made of at least two pieces, the figure and base brazed together in areas around the figure's feet. No other major joints were visible from ground level. The statue itself is connected to the plinth with three metal pins, a large pin positioned centrally at the base, and two smaller pins located in the northwest and southeast corners. The upper sections of the plinth appear to be resting on top of the central concrete base with one central large metal pin. The lower pieces appear to be completely unattached from the concrete base and are only in position due to gravity.

TREATMENT RECOMMENDATIONS

EverGreene recommends these following specifications for the cleaning and deinstallation of the Robert Morris Monument. Prior to treatment or removal all required submittals for product data and work plans should be provided. A detailed work plan for the hoisting and transport should be completed. This will also help to finalize schedule and permitting. This work plan should cover all aspects of safety, permitting, site protection, hoisting, crating, and transport. All treatments and removal processes should be thoroughly documented in written and photographic forms.

Bronze Conservation

1. Before any work is performed, conduct a survey of current conditions utilizing measured drawings, preconstruction photographs, and preconstruction videos.
2. Perform initial cleaning using diluted surfactant (approximately 3% Orvus WA Paste in water) and agitate with natural bristle brushes (brushes should not have metal ferrules). Rinse using a pressure washer with maximum pressure of 150psi, minimum flow rate of 4gpm and a stainless-steel nozzle with 45-degree fan spray or equivalent. Hold wand at least 12 inches from surface. Repeat as necessary. Protect adjacent surfaces as needed with 6 mils polyethylene sheets.
3. Use scotch bright and bronze bristle brushes to remove corrosion. If necessary, use a Microetcher and aluminum oxide media to remove stubborn corrosion and/ or soiling.

4. Remove existing wax coating by heating the surface with propane torches; remove liquified wax with cotton rags. Remove residual wax with Mineral Spirits or Naphtha as necessary. When using torches, protect areas adjacent to the bronze so as not to cause any damage to the adjacent surfaces with heat.
5. Apply hot and cold patina chemicals (Liver of Sulphur, Ammonium Sulfide, and Antique Black) as needed to create a uniform patina. We do not intend plan to re-patinate the entire bronze element, but rather to perform "spot patination" to match extant patina. Perform test area for client review prior to implementing full treatment.
6. Apply an application of "hot" wax (Indramic 7883 80% and Indrawax 190-M 20% or equivalent) and allow to cure before buffing.

Plinth Conservation

1. Before any work is performed, conduct a survey of current conditions utilizing measured drawings, preconstruction photographs, and preconstruction videos.
2. Perform initial cleaning using diluted surfactant (approximately 3% Orvus WA Paste in water) and agitate with natural bristle brushes (brushes should not have metal ferrules). Rinse using a pressure washer with maximum pressure of 2500psi, minimum flow rate of 4gpm and a stainless-steel nozzle with 45-degree fan spray or equivalent. Hold wand at least 12 inches from surface. Repeat as necessary.
3. Apply Mineral Spirits to areas of wax buildup on the southern face of the plinth and agitate with natural bristle brushes. Once agitated and waxy residue lifted from the stone, wipe up with cotton rags. Repeat this process as necessary to remove all wax buildup from stone. Once removed, apply denatured alcohol with a saturated cotton rag to remove oily residue from the surface of the working area.
4. Apply Sure Klean Copper Stain Remover produced by Prosoco, mixed to the manufacturer's specifications, over the entire surface of the plinth. Ensuring an even coat at least 1/8" thick, and covered by 6 mils polyethylene sheets and left to dwell for 24 hours. Remove the plastic sheeting prior to rinsing to ensure the poultice is fully dried prior to removal. While applying the stone might discolor with a blue-purple color due to an initial chemical reaction. This discoloration is normal and will disappear as the poultice dries.
5. Remove the majority of the dried poultice using a plastic spatula and bamboo skewers. Follow up with low pressure hose water and nylon bristle scrub brushes to ensure any poultice residue is removed from the surface of the stone. Repeat the process as necessary to ensure no left-over copper staining or blue haze is present.
6. Apply Cathedral Stone's Light Duty Paint Remover to any graffiti on the surface of the plinth. Apply the product using a natural bristle chip brush, ensuring a thick and even coating across the entire graffitied area. Cover the Light Duty Paint Remover with 6 mil polyethylene sheets and let dwell for at least 8 hours to overnight. To remove product, remove the plastic sheeting, remove left over product with plastic spatula and low-pressure water and nylon bristle scrub brush.

Ensuring the application area is completely clean of residue. Reapply product and repeat the cleaning process if necessary.

7. Rinse the plinth with clean hose pressure water to ensure all material and soiling from the cleaning process is removed.
8. Following cleaning evaluate areas of loss. Larger losses, notably those adjacent to joints can receive dutchman repairs in a suitable marble replacement stone. Small spalls can receive surface patch repairs.

Statue De-installation

The methodology for the removal should avoid damage or cutting of the statue into smaller sections as much as possible. The most optimal process will be the removal of the bronze elements following the reverse sequence with which it was installed. The weight of the sculpture should be roughly calculated prior to rigging to ensure the accurate rigging equipment is utilized. Weight loading for the plaza area and path also need to be confirmed.

Below outlines the general sequence for the removal:

1. Secure the bronze statue with proper rigging in preparation for removing it from the plinth. All straps should be cushioned with packing blankets or foam to protect the bronze finish from wear.
2. Perform initial cuts between the bronze base and top of the plinth. Remove any mortar joints found between the space and use a Sawzall or other long bladed cutting tool to cut the three pins connecting the statue to the plinth. Some initial weight may need to be carried, to allow enough space for the Sawzall to be used.
3. Lift the statue off of the plinth. Prepare statue for transportation.
4. Remove the lower sections of the plinth by cutting any surviving mortar joints and physically lifting the blocks of marble using lifting straps.
5. Cut the joint between the central carved block and upper section of the plinth. Ensure the central pin identified in the GPR survey is cut during this process. Use wooden wedges to slowly lift the block off of the plinth to ensure adequate space to cut the joints and central pin.
6. Lift off the central block from the top of the rest of the plinth/central concrete base.
7. Lift the top section of the plinth from the concrete base.
8. Move all marble elements to the storage location for storage and future treatment.
9. Demolish the central concrete base, ensuring its foundation is dug up and removed.
10. Crating for transportation is recommended. The crating should be designed to ensure all sculptural and stone elements are safely transportable.