

RODNEY SQUARE  
BUILDING RESTORATIONS, INC.



R S B R

100 A STREET  
WILMINGTON, DELAWARE 19801

302-652-5891

# Rodney Square Building Restorations, Inc.



## COMMERCIAL BUILDING RESTORATION AND REMEDIATION

### *Sealant Installation & Restoration (Caulking)*

*Surface Cleaning*

*Waterproofing*

*Painting and Coating*

*Deck Repair and Surfacing*

*Natural Stone Repair & Restoration*

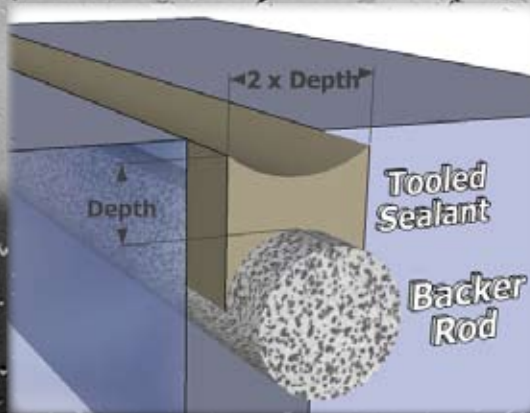
*EIFS Repair*

*Tuckpointing*

*Consulting*



Since 1972



# LARGE RESTORATION PROJECTS ARE A PROCESS.

## CONVERSATION

To **understand the project** and specify services we'll first speak with the Property Manager the Building Engineer and, if permitted, the building occupants.

Property managers know what's needed. They know the building's history and the restoration goals, and when appropriate make us aware of the budget and schedule.

The Building Engineer might know details about the building envelope, interior and the roof. If there are leaks or problem areas the engineer will know.

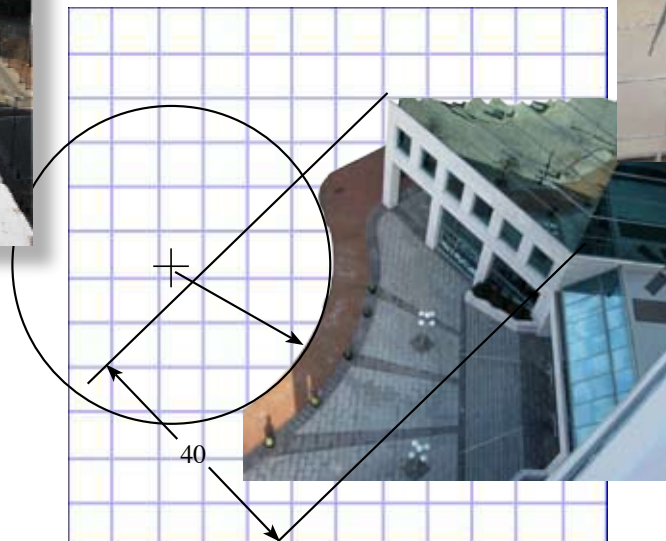
Occupants know leak locations too. By pointing out where water is visible on the inside and the conditions that existed when the leak occurred they can help us identify which systems are failing, and where the failures may be located.



## SURVEY

During the survey we inspect the envelope, take measurements and begin the assessment. We're primarily concerned with the joints and surfaces on the exterior although the analysis takes all the waterproofing systems into account. If they're available, we'll

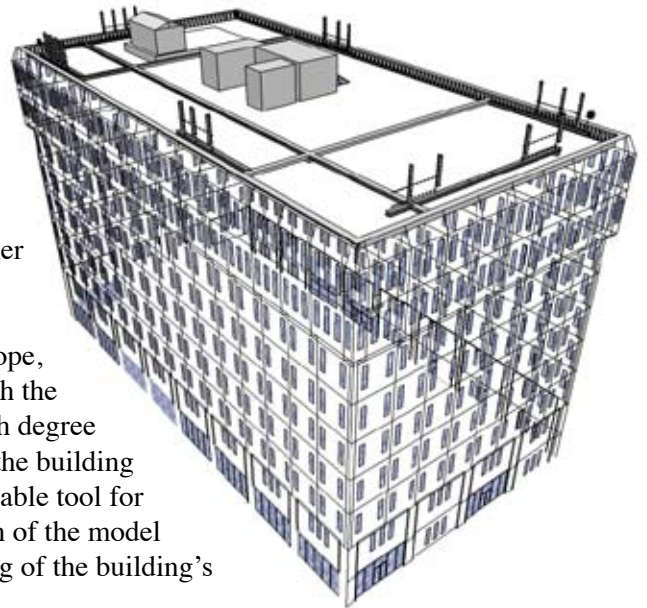
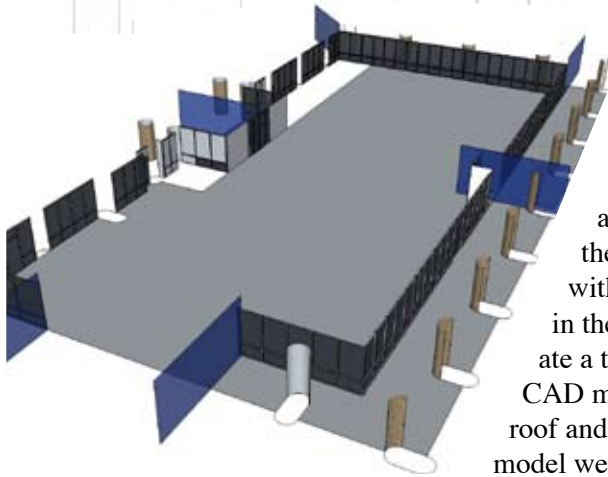
review the architectural drawings. Our safety survey begins with the initial visit and is modified continuously as we become more familiar with the site and the project.



# ANALYSIS AND ASSESSMENT

Over the life of most buildings costs of maintenance, remediation and restoration add up to more than twice the construction price. Property owners are constantly evaluating their assets and completing projects that keep their buildings profitable. Determining what's needed to waterproof the envelope at any given time is one of the most important aspects of that evaluation. It establishes what is currently required and when other work will be needed.

Our analysis and assessment culminates in a detailed Statement of Work and a 3D computer model of the building envelope.

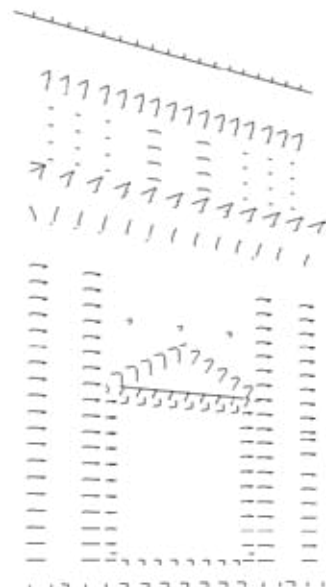


Sometimes architectural drawings are available. If so, they are used along with the data we gather in the survey to create a three-dimensional CAD model of the envelope, roof and adjacent site. With the model we quantify, to a high degree of accuracy, all the joints in the building and all the surfaces. This is a valuable tool for cost estimation and planning and creation of the model results in a nearly complete understanding of the building's waterproofing components.

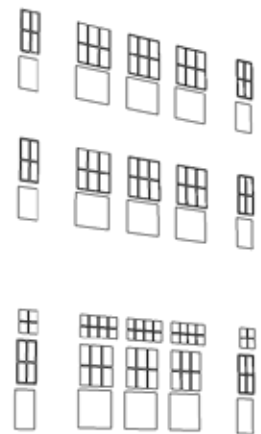
## 3D MODEL



**Brick Surface Area - 409 Ft<sup>2</sup>**  
**Mortar Joints - 1,093 Ft**



**Joints In Terra-cotta**  
**454 Ft**



**Glazing Joints (Wet Seals)**  
**766 Ft**



Layers are created in the model for each joint type and for the building surfaces.

# Statement Of Work

Once the analysis is complete we produce a Statement of Work for everything the building needs. At first we do this without regard for budget because eventually all the work we identify will be accomplished and the funds will be allocated. Our original SOW is usually the basis for work that is done in phases, sometimes over a period of several years or budget cycles. The owner's priorities and budget establish what's done during each phase.

## 1. Building and Project Description

The building is . . . and the project consists of . . .

## 2. Services

The services offered are Sealant Restoration, Surface Repair, Surface Cleaning, Waterproofing and Surface Coating

### 2.1 Sealant Restoration

#### 2.1.1 Joints Between Envelope Panels

Pre-Cast to Pre-Cast, Jts Between Cast in Place Elements, EIFS Panels Jts, Brick Panel Jts., etc.  
Existing sealant will be removed and new sealant installed in all joints between (concrete) building elements where a weather seal is required.

#### 2.1.2 Window and Door Frame Perimeter Joints

Existing sealant will be removed and new sealant installed between window frames and wall elements.

#### 2.1.3 Storefront and curtainwall wet glazing applications and internal sealant joinery

#### 2.1.4 Glass / Frame Interface (Wet Seals)

Wet seals will be installed in the windows and storefronts where none exist and wet seals will be replaced where they do.

#### 2.1.5 Glazing Joints

The non structural, weather seal joints between glass panels above the main entrance will be removed and new sealant installed.

#### 2.1.6 Bedding compound for flush-mounted doors and windows

#### 2.1.7 EIFS (Exterior Insulation and Finish System) expansion, perimeter and control joinery

#### 2.1.8 Hard coat and stucco system expansion, perimeter and control joinery

#### 2.1.9 Metal panel wall system expansion and control joinery

#### 2.1.10 Parapet cap splice joint and roofing termination sealants

#### 2.1.11 Base Joints

### 2.2 Surface Repair

#### 2.2.1 EIFS repair

#### 2.2.2 Concrete Repair

#### 2.2.3 Tuckpointing

### 2.3 Surface Cleaning, Waterproofing, Surface Coating

#### 2.3.1 Pressure Washing

The exterior of the building will be washed with high pressure water in order to prepare the surface for painting.

#### 2.3.2 Waterproofing

Sealing the (concrete, masonry, brick, dimension stone . . .) surfaces will be done through the application of a clear, water based, silane, penetrating sealer.

#### 2.3.2.1 Window Cleaning

In order to ensure that no sealant has been left on the windows all exterior windows will be cleaned immediately after the sealant has been applied to the adjacent surfaces.

#### 2.3.3 Application of Elastomeric Coating

Sealing the (EIFS, stone, block, . . .) surfaces will be done through the application of two coats of Dow Corning® AllGuard Silicone Elastomeric Coating, BASF Corporation Thorolastic Water-based, 100% acrylic, elastomeric, waterproof coating, . . .

## 3. Work Items and Costs

### 3.1 Rigging and Setup

### 3.2 Areas or Items of Work w/ Cost Breakdown

(Refer to the figures following the table of contents to identify the building sections named here.)

### 3.3 Total Charge

## 4. Materials

### 4.1 Sealants

Silicone joint sealant manufactured by Dow Chemical Corporation or Tremco Commercial Sealants formulated for the substrate and application will be used.

### 4.2 Sealant Backings

ASTM C-1330, Type O (open-cell polyurethane), or Type B (non-absorbent bi-cellular backing materials with surface skin), sized 25 percent or greater than joint opening with proper density to control sealant depth and profile will be used.

### 4.3 Preformed, Watertight Exterior Joint

Colorseal by Emsal® or comparable alternative.

### 4.4 Waterproofing Sealer

BASF Corporation, "Hydrozo"® "Enviroseal 20" water based alkylalkoxysilane water repellent sealer for exterior vertical and horizontal above grade surfaces.

### 4.5 Paint

Two coats of Dow AllGuard Silicon Elastomeric Coating will be applied to . . .

Thorolastic, a high-build, waterbased, elastomeric, 100% acrylic, waterproof coating, or a similar material found to be more suited for the existing coating, will be applied to all concrete elements of the building envelope.

## 5. Workmanship and Execution

### 5.1 Sealants

#### 5.1.1 Porous Substrates

For joints in concrete, stone, brick and other porous materials substrate preparation shall consist of removal of the existing sealant either to bare substrate or to where the remaining material is sound and well adhered.

#### 5.1.2 Non-Porous Surfaces

On glass, aluminum and other non porous surfaces substrate preparation shall, where practical, consist of complete removal of existing sealant and / or cleaning the substrate with solvent, either alcohol or xylene.

#### 5.1.3 Field Adhesion Tests

Field adhesion tests will be conducted to verify that the newly installed material will adhere adequately to the substrate.

#### 5.1.4 Tooling

Joint sealant tooling is required for all joint sealant installations. Immediately after placement of fresh sealants and before skinning begins, sealants will be tooled using metal spatulas designed for this purpose in accordance with manufacturer's recommendation. The tooling process shall produce a smooth, uniform sealant finish, eliminating air pockets and ensuring good contact for optimum sealant adhesion.

#### 5.1.5 Sealant Installation Specification

Complete details pertaining to sealant installation are in "Joint Sealant Restoration Specification For 2 Commercial Place, Norfolk, VA", addenda 9.1

### 5.2 Waterproofing Application

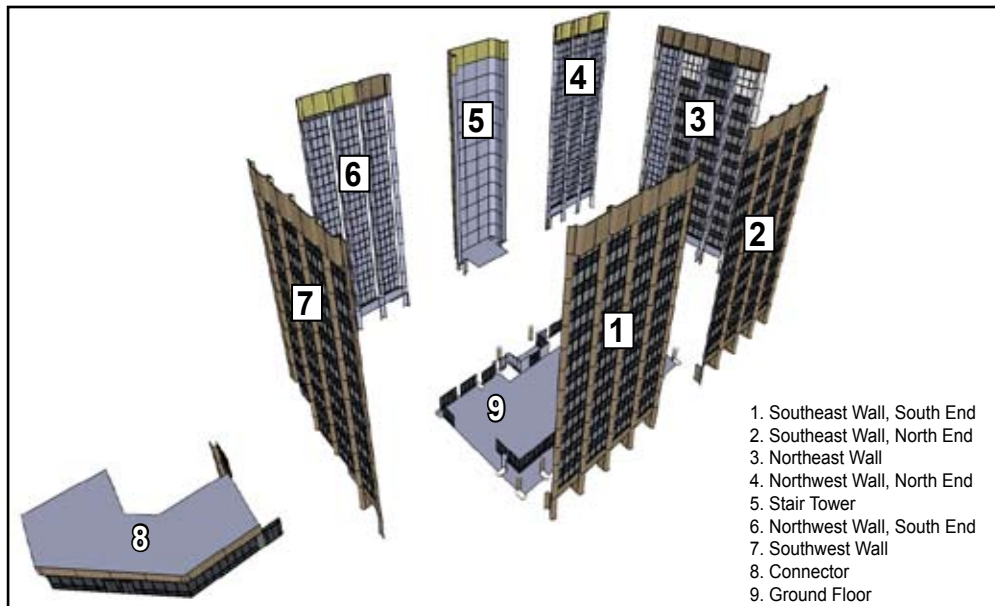
### 5.3 Paint, AllGuard . . . Application

This is a portion of our SOW template. It includes most of the possible categories of work which is more than any particular building will include.

Section 1 is a general description of the building and the project.

Section 2 lists the services to be provided. Sealant Restoration is usually the first category, followed by Surface Repair, and then Waterproofing, Painting and Coating. Other services include concrete repair, deck repair, EIFS repair, natural stone restoration, brick repair and tuckpointing, terra-cotta restoration, dimension stone repair and deck re-surfacing.

Section 3 identifies areas on the building where the services will be completed. The charge to complete those services on those sections of the building are included. In the example below the building was divided into 9 sections. As each was completed invoices were submitted.



3.2 Tower - From the Bottom of the 2nd Floor to the Top of the Parapet

3.2.1 Southeast Wall, South End  
\$31,607

3.2.2 Southeast Wall, North End  
\$31,607

3.2.3 Northeast Wall  
\$33,779

3.2.4 Northwest Wall, North End  
\$22,797

3.2.5 Stair Tower  
\$21,981

3.2.6 Northwest Wall, South End  
\$28,787

## RFQ SUPPORT!

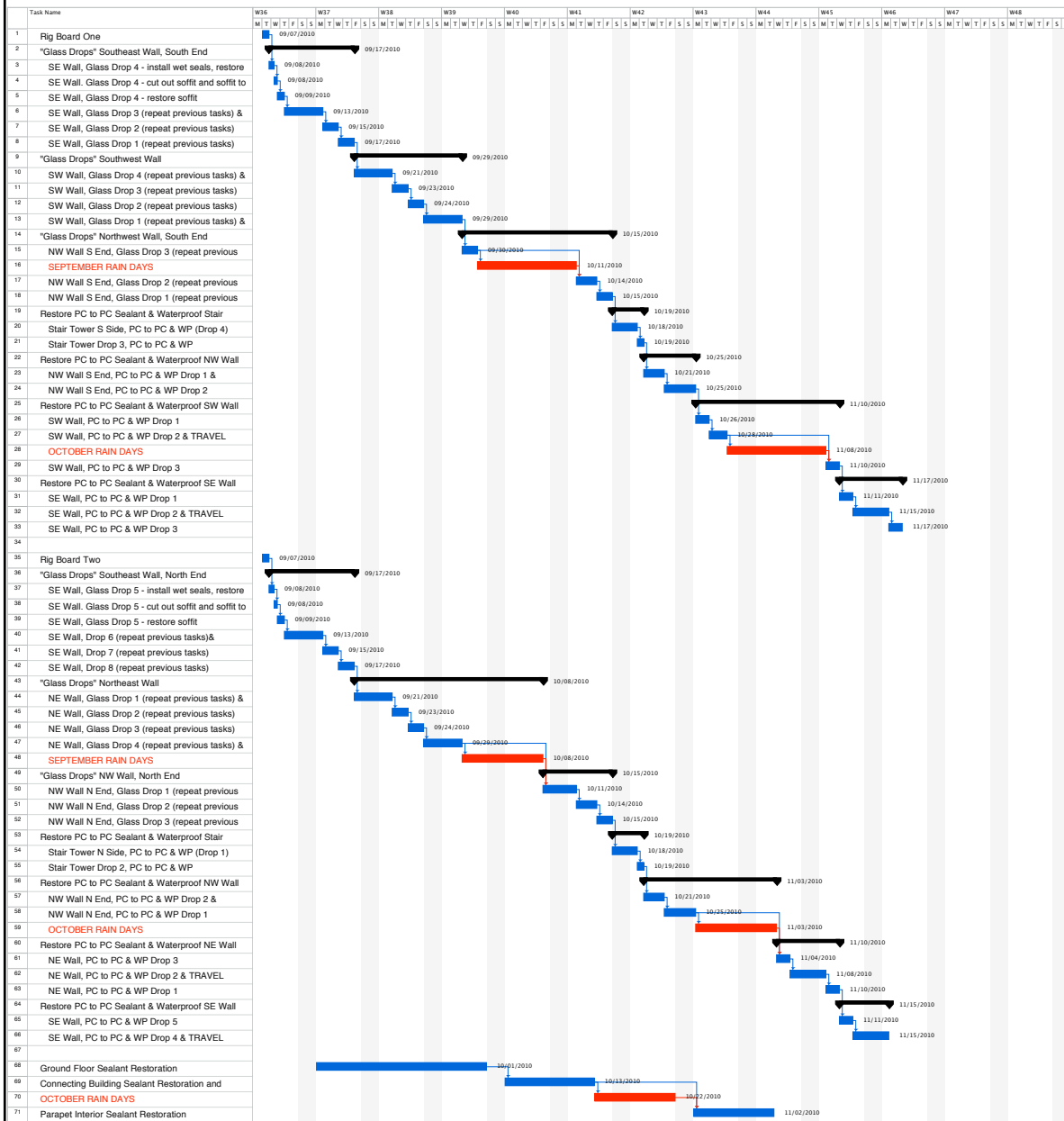
The survey, the analysis and assessment, and the creation of the 3D model are done in order to create the Statement of Work. The database from which the costs are derived is a detailed description of the building envelope. It's an excellent basis for an RFQ if the project needs to be competitively bid. The cost categories in our Statement of Work can be provided as a "bid form" in the quote request. Furthermore, the items on the bid form can be based on portions of the building or categories of work, such as joint types. With this flexibility multiple RFQs can be issued and the work completed in phases over multiple budget cycles based on the building's needs and the owner's priorities.

# Production Schedule

The tasks in the Statement of Work correspond to items in the production schedule. Usually the order of the items in the SOW coincides with the work sequence. If conditions change the schedule is updated and resubmitted.

## 3101 Park Center Drive, Alexandria, VA Envelope Restorations Production Schedule

Rodney Square Building Restorations, Inc., Wilmington, DE  
Rob Crimmins - 302-652-5891  
August 31, 2010



tentative start date - 9/7/2010  
projected finish - 11/17/2010

# Specification

Our nine page specification for joint sealant restoration is the result of all our experience. Every project requires its own specification. Review of the specification outline reveals why:

## **Joint Sealant Restoration Specification For (THE PROJECT)** Copyright © 2011 Rodney Square Building Restorations, Inc.

### PART 1 – GENERAL

#### 1.01 SUMMARY

A. Provide Silicone Joint Sealant Restoration for expansion, perimeter and control joints for exterior or interior vertical joinery and glazing indicated, including substrate surface preparation, sealant installation and clean-up of related joint sealant installations.

1. Joint Types Include:  **ALL JOINTS IN THE PROJECT ARE IN THE SPECIFICATION**

#### 1.02 PERFORMANCE REQUIREMENTS

1.03 AVAILABLE SUBMITTALS FOR MATERIALS REQUIRING ARCHITECT, ENGINEER, CONSULTANT OR OWNER APPROVAL

#### 1.04 QUALITY ASSURANCE

#### 1.05 DELIVERY, STORAGE AND HANDLING

#### 1.06 PROJECT CONDITIONS

#### 1.07 WARRANTY

A. Installer's Warranty:

B. Special Manufacturer's Warranty

### PART 2 – PRODUCTS

2.01 MANUFACTURERS  **DOW CORNING, TREMCO COMMERCIAL SEALANTS, EMSEAL JOINT SYSTEMS, SIKA**

#### 2.02 MATERIALS

2.03 JOINT SEALANT COMPONENTS **SEALANT, BACKER ROD, MANUFACTURED SEALS**

### PART 3 – EXECUTION **STEP BY STEP**

#### 3.01 MANUFACTURER'S INSTRUCTIONS

3.02 EXAMINATION 

3.03 PREPARATION 

3.04 INSTALLATION 

#### 3.05 FIELD QUALITY CONTROL

#### 3.06 CLEANING AND PROTECTION

3.07 JOINT SEALANT SCHEDULE  **ASSIGNMENT OF APPROPRIATE MATERIAL TO EACH JOINT TYPE**

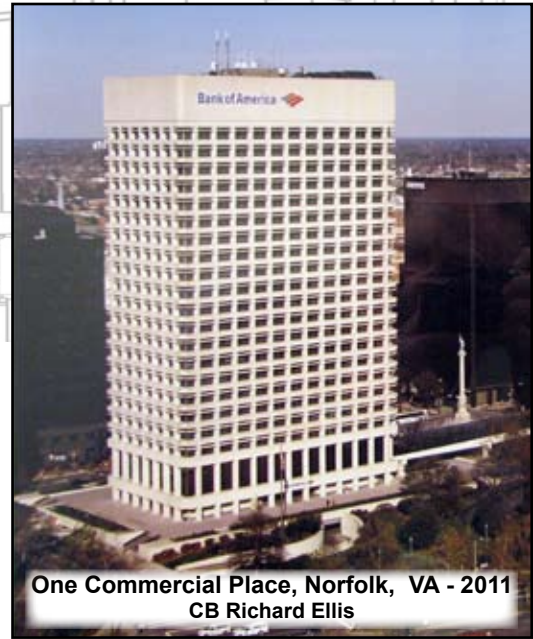


## Execution

Our management team is focused throughout the project. The same men who survey the site, establish the work items and develop the production schedule are the ones who supervise operations. This continuity throughout the life of the project keeps us efficient and safe.

Our crews are some of the best in the business. Working as they do, off the ground and always out of reach, means they have to be skilled, independent and mindful of their responsibility.

Management, supervisors and production personnel are constantly aware of the quality of their work, their own safety, the safety of others and the owner's property.



**One Commercial Place, Norfolk, VA - 2011**  
CB Richard Ellis

120,000 lineal feet - Wet Seals, Precast Joints, Base Joints,  
Joints in Planters and Frame Perimeter Joints  
Floors Drainage System Cleaning, Inspection & Evaluation



**3101 Park Center,  
Alexandria, VA - 2010**  
Cambridge Property Group, LLC

57,000 lineal feet - Wet Seals, Precast Joints, Frame Perimeter Joints,  
& Base Joints  
Top Floor Soffit Restoration / Painting  
49,000 Sq Ft Waterproofing



**One Plymouth Meeting,  
Plymouth Meeting, PA - 2010-2011**  
Mack-Cali Corporation

12,000 feet - Precast Joints  
Over 600 Concrete Repairs



**100, 200 & 300 Stevens Dr.,  
Lester, PA - 2007 through 2011**  
Mack-Cali Corporation

Sealant Restoration (Wet Seals, EIFS Joints),  
Planter Repair, Surface Coating (with Dow All-  
Guard™ silicone elastomeric)



**1000 Uniqema Blvd., New Castle, DE 2010-2011**  
Biomed Realty

Sealant Restoration -Wet Seals, EIFS Joints, Base Joints, EIFS Repair, EIFS Surface Coating with Dow AllGuard™ silicone, Awning Replacement, Limestone Waterproofing



**ACE Insurance Building, Wilmington, DE 2010**  
Jones Lang Lasalle

Sealant Restoration - Precast Joints, Base Joints, Frame Perimeter Joints, Waterproofing (84,000 sq ft)



**4501 Ford Ave., Alexandria, VA - 2007**  
Cambridge Property Group, LLC

Sealant Restoration - Wet Seals, Frame Perimeter Joints



**Rosetree Corporate Center, Media, PA 2007**  
Mack-Cali Corporation

Sealant Restoration - Brick Panel Joints, Base Joints, Frame Perimeter Joints, Surface Coating



**100 Overlook Center, Princeton, NJ - 2007**  
Mack-Cali Corporation

Sealant Restoration - Wet Seals, Frame Perimeter Joints, Dimension Stone Joints, Sheet Metal Repair



**4300 King St., Alexandria, VA - 2007**  
Cambridge Property Group, LLC

Sealant Restoration - Wet Seals, Frame Perimeter Joints, Soffit Restoration & Painting

# About The Trade

## **Joint Sealing**

“Caulking” is the term normally used when people talk about sealing joints. Many kinds of joints have been sealed over the years. Heavy wooden ships were made watertight by driving hemp soaked in pine tar (oakum), into the wedge-shaped seams between planks, and joints in log cabins were packed with clay and moss. Today, dynamic joints in building envelopes are sealed with high performance materials such as silicone and polyurethane that are carefully injected into prepared seams. Requirements can be so demanding that some joints in modern architecture and infrastructure are filled with preformed, multi-component products. The material selected for any given application is an engineering decision based on a multitude of criteria.

The term “caulking” these days is still loosely applied to the process of sealing joints in general, but technically speaking caulking refers to interior applications where performance requirements are different. “Sealant”, not caulking, is the proper term for materials installed in the joints between external building components.

## **When Should Joints Be Replaced?**

They seem static but large structures are actually quite dynamic. They expand and contract with the seasons and even throughout the day, responding to solar effects and the cooler night air. They react against wind pressure and aerodynamic lift. They erode and absorb chlorides and sulfates. They suffer from carbonation, oxidation and freeze-thaw. It's little wonder best practices call for regularly scheduled joint replacement and for commercial buildings to be inspected every five years. Failed and open joints are one of the primary things these inspections are meant to find.



## **Failure Modes**

One sealant failure mode is “failure of adhesion” which is when the sealant separates from the substrate. “Failure of cohesion”



results when the sealant material itself splits or otherwise opens allowing moisture to flow into the building.

Joints are installed originally at essentially the same time, during construction, so they will fail at roughly the same time too. Once sealant failure starts its

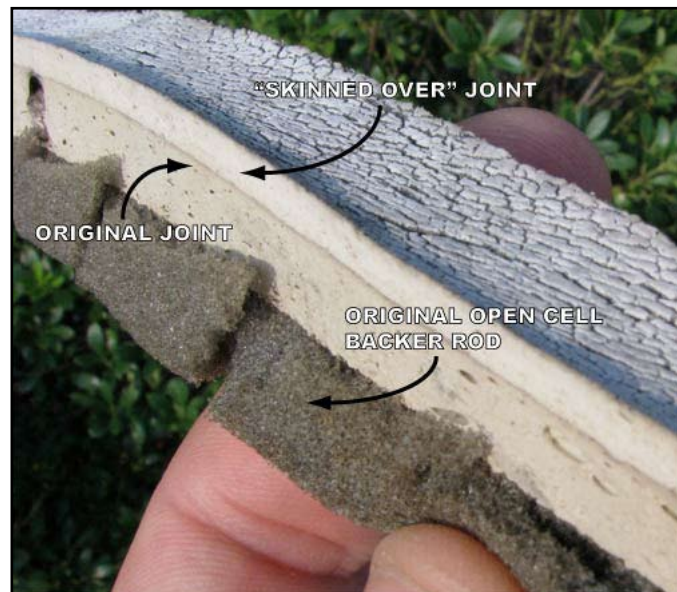
occurrence will accelerate and so will the subsequent damage, to the building and the business. Building and professional associations offer guidelines for when to restore sealant joints. One, The Brick Industry Association, in their “Tech Note 46”, calls for sealant joint restoration to be done every 5 to 20 years. The image here illustrates another reason why regular joint restoration is needed. Deposition of atmospheric particulates and chemicals can discolor the joints affecting the appearance of your building.



## **Working to Specification**

Like all trades, proper sealant installation and restoration requires skill and experience and it must be done according to standards. Dow, Tremco, Sika and the other manufacturers and trade associations have developed standards and specifications for their products and applications. We have developed our own specification for sealant installation, which we include in every Statement of Work we prepare. Our specification, trade best practices and the manufacturer's specifications and guidelines are our guides as we initiate and complete our projects.

The image here shows something we often find. Here, the material that was supposed to be removed was “skinned



over”. It's a very common scam and it is easy to pull off when the joint is out of reach. To prevent this, owners should only select reputable contractors with proven records who are recommended by others. Property managers should inspect the work themselves as it is being done. They should direct their building engineer to surprise crews, don a harness and safety line and ride up on the scaffold with them. Make them cut out a joint or two to prove that the old sealant has been removed, the substrate has been prepared, backer rod or bond breaker tape has been installed and the new sealant has been installed to the right depth and it has been properly tooled.

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