Customer Service = Resolution

Safeguard Properties

Basement & Foundation Damage

Please note-this presentation is only intended to be used as a basic educational tool and is by no means all encompassing. Each property should be treated on a case by case basis and vendors will be held responsible for any errors made.

Identifying Basement & Foundation Damage

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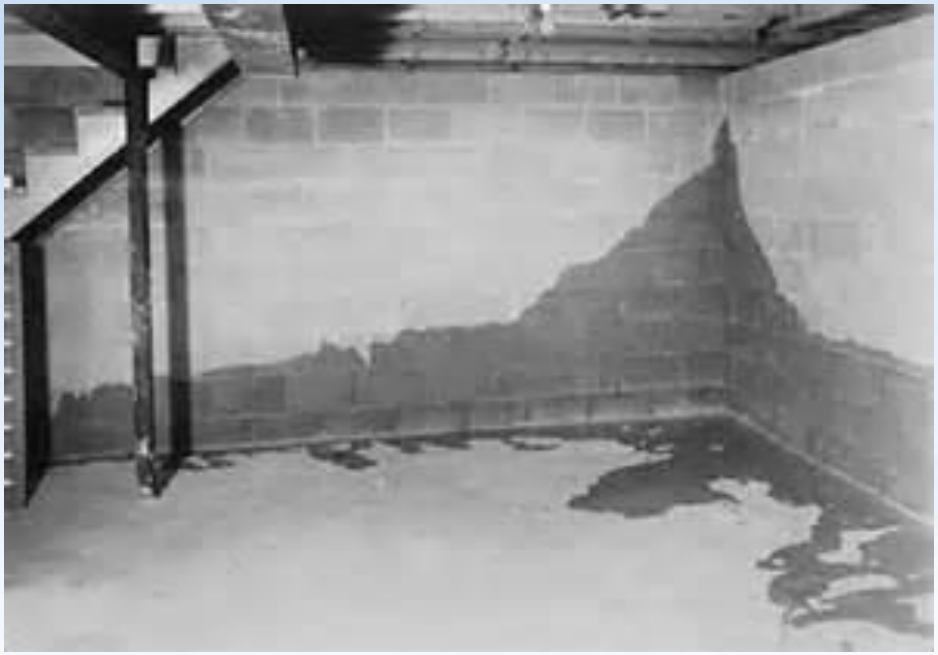
Objectives

- Identifying basement and foundation damages
- Finding the source of the damage
- Repairing foundation cracks
- Basement water proofing
- Tuck-pointing
- Sump Pumps
- Dehumidifiers
- Reconvey Examples



Water Source Identification

Example of Common Improper Source Identification:

There are many sources of discoloration; water intrusion, roof leak(s), plumbing leak(s), flood damage, etc. A large majority of discoloration issues are caused by foundation seepage, roof leaks, or flood damage. The number one answer submitted to Safeguard for source of discoloration is humidity; which is frequently inaccurate. Doing our due diligence to accurately identify the source of discoloration (or any damage) is unparalleled in preventing losses due to improper reporting.

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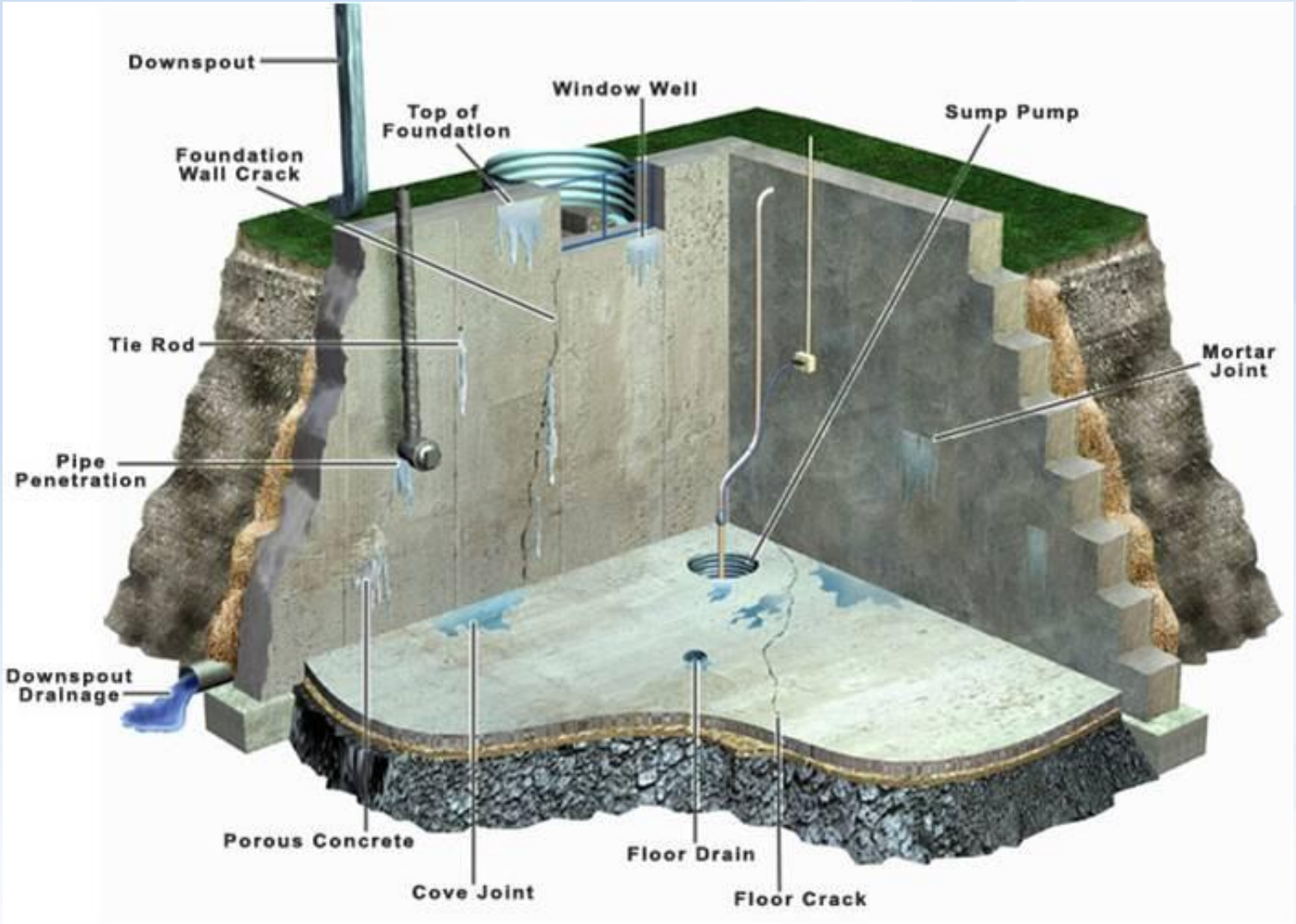
Basement and Foundation Damages



Identifying Foundation Damage

Drainage - How the home is situated on the property and how it interacts with the ground and environment surrounding it is important. To prevent water from pooling along the foundation and causing water damage or flooding in the home, check to see that the land slopes away from the home.

Foundation - It is important to check for any unevenness, shifting, or cracks in the foundation which can lead to potential problems such as water intrusion.

Improper Drainage

Foundation Cracks

Identifying Foundation Damage

Gutters and Downspouts - Clogged gutters will not direct water away from the house and could result in water intrusion.

Chimney – As with all roof inspections, check the exterior of the chimney for damaged flashing, loose bricks, and missing mortar.

Roof - Inspect the entire roof to include all flashings, skylights, vents, protrusions, drip edges, shingles, and soffits for any damage.

Clogged Gutters

Chimney Damage

Roof Damages

Identifying Foundation Damage

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Attic

Inspect the underside of the roof sheeting, ceiling joists, the top of the interior drywall and inside the soffit/fascia area.

Look for:

Water staining, wood that is rotting on the underside of the sheeting or on the rafters, and light coming through the underside of the roof. If wood rot is suspected, use a screw driver or pen to push into the affected area. If area is soft, then the wood is likely rotted and needs to be addressed by removal and replacement of that area.

When starting in the attic look for damaged rafters, or ceiling joists. To inspect ceiling joists it may be necessary to pull or move insulation out of the way. If the rafters or joists are damaged, it is necessary to replace or add rafters or joists as needed. At each floor of the living space and basement, missing or failed headers need to be identified as a structural issue whether there are roof line or exterior issues or not. Once identified, the correct repair needs to be bid.

Rooms

Inspect walls, windows, ceilings, floors and doors.

Look for:

Bulges, leaning walls, deep cracks in drywall/plaster (especially around door frames), windows/doors that do not close properly or line up incorrectly, sagging/uneven ceilings, cracks in the ceiling and uneven/rolling floors.

Attic Water Damage

Deep cracking in door frame

Identifying Foundation Damage

Once you've completed inspecting the attic and main floors, it is now time to inspect the basement for any damage and the cause of the damage. This may require to do an exterior inspection again once the damage has been identified, to correctly identify the cause of the damage

Signs to look for are:

- Musty, damp smell
- Cracks in the foundation
- Signs of any discoloration on walls or floors
- Tilting beams, cracking beams (wood) and sagging due to missing support columns.
- If issues are found with a beam, it is usually necessary to jack up the floor system to the needed height and complete any beam repairs.

Identifying Foundation Damage

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Roof Lines

Look for:

Sagging or drooping roof lines

Foundation

Look for:

Failing or missing support structures, large cracks in the exterior of the foundation, and bowed/bulging/leaning (> ¼") foundation walls

In the case of cracks in the foundation or exterior brick work, the interior analysis should begin in the basement or crawl space and work up to the attic.

Three main types of foundational cracks:

Vertical cracks (also called drying cracks) are not normally a problem unless there is evidence of water intrusion. These cracks are vertical or diagonal in direction and 3/16" or less in width over the full length of the crack. Nothing needs to be done if the is no evidence of water intrusion. If there is evidence of water intrusion or if the crack is ¼" or more in width then crack needs to be repaired.

Horizontal cracks (also call buckling cracks) are serious and need to be addressed immediately. These cracks will run along extensive lengths of a foundation wall and be more or less horizontal.

Rotational cracks (also called settling cracks) are caused by one section of a foundation settling while another section is stable. This causes the settling section to "rotate" away from the stable section, as if the bottom of the wall is on a hinge. The cracking will be V shaped from bottom to top with the top of the crack wider than the bottom. This condition will continue to worsen unless correctly dealt with.

Step cracks when inspecting a block or stone foundation the cracking involved will usually follow the mortar joints and is called step cracking due to the cracking pattern. Otherwise the cracks will be similar in appearance and pattern to foundation cracks in all other respects.

Always call from site if these conditions are noted to report findings and receive direction on how to proceed.

Vertical Crack

Horizontal Crack

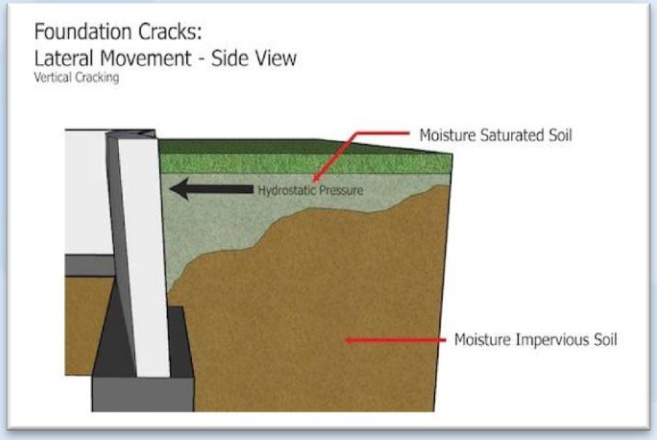
Rotational Crack

Step Crack

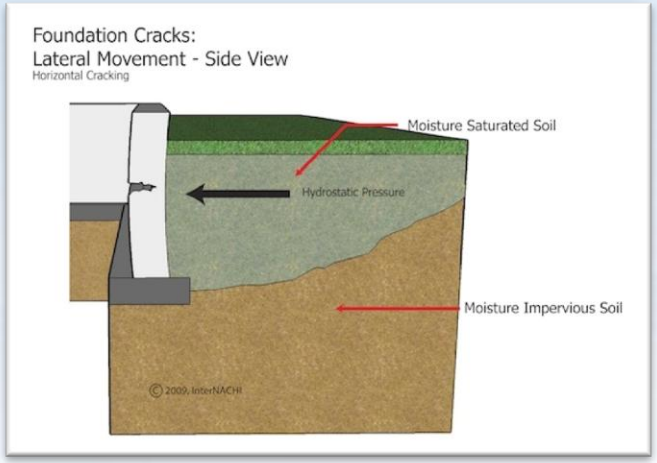
Causes of Foundation Damage

Support structures or headers
Can be caused by foundation cracks, water intrusion, roof leaks.
Roof line issues
Can be caused by missing/damaged ceiling joists, missing/failing headers, missing/damaged/ tilted support beams, missing/damaged/leaning/sinking support columns, or foundation cracks.
Missing beams
Can be caused by the removal of beams during remodeling that were not replaced.
Foundation
Can be caused by shifts in ground soil, water seeping into the property from the outside, uneven ground soil or issues with initial construction of the property.

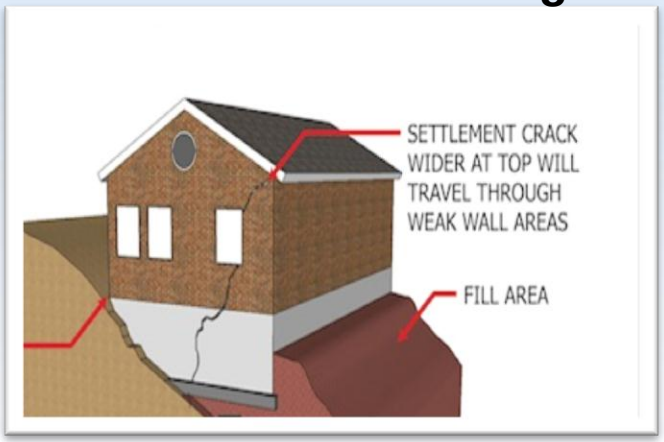
Leaning Wall



Buckling Wall



Rotational Cracking



Addressing the damage

Water damage is never an independent damage

- We must bid water damage to our clients as an independent line item
- It is important that the source of the water damage is **identified**, **reported** and **bid separately** under it's respective category
- The source can be structural, roof, storm, freeze, and/or vandalism to name a few. Each of these damages must also be addressed as an independent line item.

When dealing with water damage, we must:

- Stop the source of the water intrusion
- Address the damages within the allowable or call from site if no allowable
- Prevent additional damage from happening
- Report the water damage
- Report the source of the damage

Repairing Foundation Damage

Vertical cracks

Can be repaired by epoxy or poly-urethane base products if the hydro-static water pressure from the exterior is 40 PSI or less. If the PSI is more than 40, the work needs to be done from the exterior by excavating down to the foundation footing at the site of the crack and injecting an epoxy or poly-urethane based product into the crack from the exterior side. Although this work can be done by the P&P contractor, the measuring of the hydro-static water pressure should be done by a company specializing in this type of service.

Horizontal cracks

The cause here is a foundation wall that is about to collapse inward from excessive pressure from the outside. To deal with this type of cracking the interior wall needs to be buttressed (braced) and then the exterior of the wall excavated to relieve the pressure on the wall. Permanent repairs vary according to the situation , but generally the wall needs to be pushed back into place and additional concrete buttressing columns and/or steel strapping need to be poured in place/installed on the inside of the existing wall. This work should be completed by a company specializing in this type of repair.

Rotational cracks

Patching the crack will fail as the crack will continue to grow in width. The settling section of the foundation needs to be buttressed by concrete or steel column(s) or piers from the exterior. Then the crack can repaired from the exterior in the same manner as a vertical crack (see above). The columns or piers should be completed by a company specializing in this type of repair.

Interior Repair

Exterior Repair

Adding Steal Piers

Basement Waterproofing

When waterproofing properties it is very important to follow the manufactures guidelines. If you are paid to waterproof, our clients expect for it to be done properly.

There are many products on the market and most require the following steps:

1. Prep the area
2. Fill cracks and holes
3. Apply 2 or more coats to ensure proper coverage with a 3/4 in. nap roller, or good quality nylon bristle brush
    1. If spraying, follow the manufactures directions and ensure proper application
4. The end result is a membrane that prevents water from entering the property

Make sure you do it correctly to avoid a costly re-convey.

Tuck-pointing

Over time, mortar tends to deteriorate. Not only are cracked and deteriorating mortar joints unsightly, but they also diminish the integrity of the surface and can allow water to get behind the brick or block and cause major damage. Vendors need to place bids to tuck-point the brick or block foundation to avoid these problems. Tuck-pointing is the process of removing and replacing cracked or missing mortar.

Tuck-pointing requires the following steps:

1. Chip away cracked and loose mortar using a slim, cold chisel and a hammer; remove the existing material to a depth of approximately half an inch. Fill cracks and holes
2. Prepare your mortar and allow the mix to set for about five minutes. Brush the joints with fresh water.
3. Apply the mortar using a pie-shaped trowel called a pointing trowel.

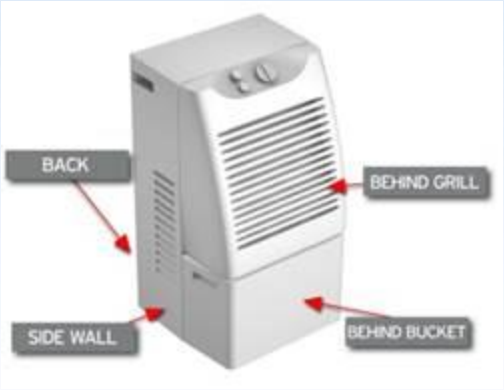
Sump Pumps

If we find a flooded basement due to a non-working sump pump, we must first remove the water from the basement. Then, if necessary, we replace or repair the sump pump based on investor guidelines and client parameters and, if necessary, make sure that the electricity is on.

If we find a sump pump not operating and there is no current water damage, we test the pump to determine why it's not operating (lack of electricity, mechanical failure, etc.) and then report its condition.

Dehumidifiers

During installation, vendors must label the installation property address and the work order number, clearly written in permanent marker, on the dehumidifier. A photo showing the dehumidifier with the markings is required in the corresponding update. The update must include a clear picture of the serial number plate as well as notation of the serial number of the dehumidifier in the comments section.



Reconvey Example

This property was conveyed to HUD with a front foundation that was crumbling and collapsing due to structural damages in the basement. The basement was filled with water, debris and safety issues. The building commissioner inspected the property, found it to be structurally unsound and deemed it uninhabitable.

Vendor failed to report there was a basement present.

01/26/12 –Winterization completed and basement not reported.
04/21/12 - Securing completed and basement not reported.
06/29/12 –Property condition reported and basement not reported.
11/30/12 - Post sale convey maintenance completed and basement not reported.
12/13/12 - Property condition reported and basement not reported.

Reconvey Example

Property was acquired with structural damage in the basement

05/06/12 FTV, Structural damage reported
05/18/12 Foundation repair bid for epoxy injection for 8 linear feet, OA submitted and approved
06/19/12 Dry locked basement, filled cracks, photos show some cracks still present after epoxy and dry lock
No new damage reported after these orders, property reported ICC 01/08/13, property conveyed 01/24/13

The repair to the cracks was temporary and did not resolve the underlying issue; therefore, the basement wall continued to crack.