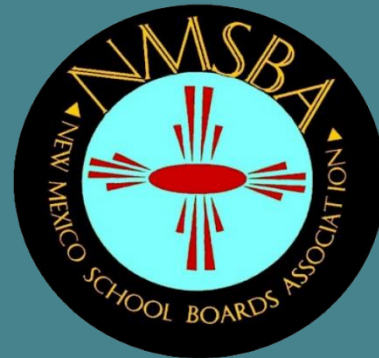


Reducing the Risk of Life Safety Issues From Construction Defects

February 4, 2023



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CONSTRUCTION DEFECT
CLASS ACTION
CONSUMER LITIGATION



Condominiums & Apartments



Municipalities



Schools

WHO WE ARE ABOUT US

OUR FIRM

Kasdan Turner Thomson Booth LLP is a boutique law firm with practice areas in Construction Defect, Class Action and Consumer Law. The firm **has recovered more than \$1.278 Billion for our clients.** Our clients include community associations, individual homeowners, schools, municipalities, commercial property owners and houses of worship. Every member of the firm plays an integral role in the successful resolution of a client's case, ensuring the best possible representation. We engage and manage the best team of forensic experts to investigate the issues.

WHO WE ARE ABOUT US

OUR GOAL

Our guiding principle is to advise and provide a favorable resolution for our clients with their claims. The hallmark of our practice is maximum net return to the client. The attorneys at Kasdan Turner Thomson Booth LLP are committed to the principle of efficient and early resolution of cases, while thoroughly investigating and analyzing each claim.

EARLY RESOLUTION

Once the appropriate parties have been identified and the investigation is complete, we make vigorous attempts to resolve a case promptly without trial. Early resolution and cost efficiency are cornerstones of our strategy.

INNOVATIVE FEE SOLUTIONS

Our firm is dedicated to providing creative approaches that are specifically tailored to each claim. We handle cases on a contingency basis and advance all costs on appropriate cases.

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6301 Indian School Rd. NE, Suite 720, Albuquerque, NM 87110

Arizona

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*Hawai'i based practice is in affiliation with Kasdan Turner Thomson Booth LLLC



Ritchie Lipson, Esq

Director of Client Relations



Ritchie Lipson is the Director of Client Relations Kasdan Turner Thomson Booth LLP. For over 22 years, Lipson has worked with Commercial investors, Municipalities, School Districts, Homeowner Associations and Residential Property Owners, to assist in the fair resolution of their claims for defective construction. During that period, he has been involved in over 100 cases, including several class action lawsuits, recovering over \$ 200 million for clients.

Presentation Outline

- Identifying common issues in new construction as shown through real-life forensic case studies
- Understanding the statute of limitations and the statute of repose
- Approaching the developer/builder to resolve problems
- When (and why) to involve a forensic construction expert and construction defect attorney

Protect The Taxpayer

- If not addressed, initially correctable defects can lead to \$ millions' worth of damage
- Contractors will often provide a 1-year express warranty
- But the Contractor's insurance companies are on the hook for up to 10 years
- Most projects are protected by insurance and performance bonds
- Invoke the bond and/or insurance to file a claim

Common Issues in New Construction

(As Shown Through Forensic Case Studies)

Common Defects in New Construction

- Quality – or lack there of - is a major liability in construction
- While insurance can alleviate most costs (if claim is invoked timely)
- Building owners are on the hook if claim is not made timely
- Common issues in new construction include:
 - Windows/curtain wall fogging, noise, leaking, finish and other glazing issues
 - Air conditioning system issues
 - Roofing and waterproofing issues
 - Stucco/façade related issues
 - Fire suppression system issues
 - Plumbing and mechanical issues
 - Concrete issues

Case Study 1 - New Library



Case Study 1 - New Library

- **Project** - New Community College Library and Learning Center
- **Year Completed** – 2017
- **Cost of Repair (COR)** – \$12M+
- **Building Description** –
 - 3-story building constructed on grade
 - Low-sloped roof with screened HVAC equipment
 - Cement plaster clad exterior walls
 - Aluminum framed curtain wall and storefront window system

Building Overview



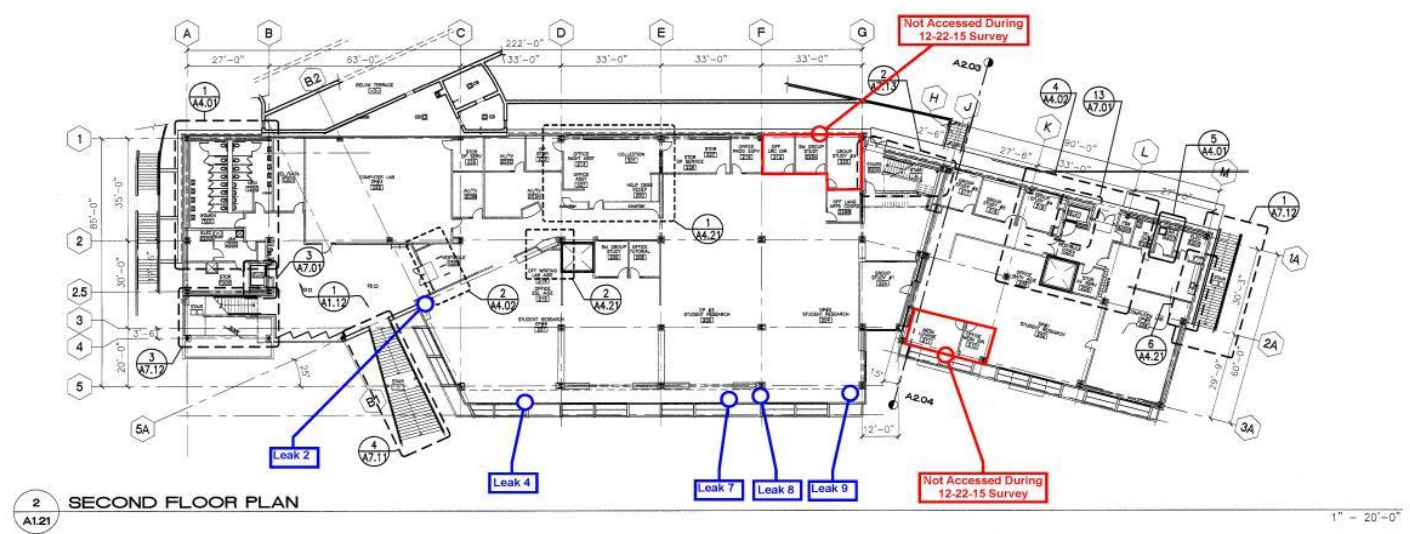
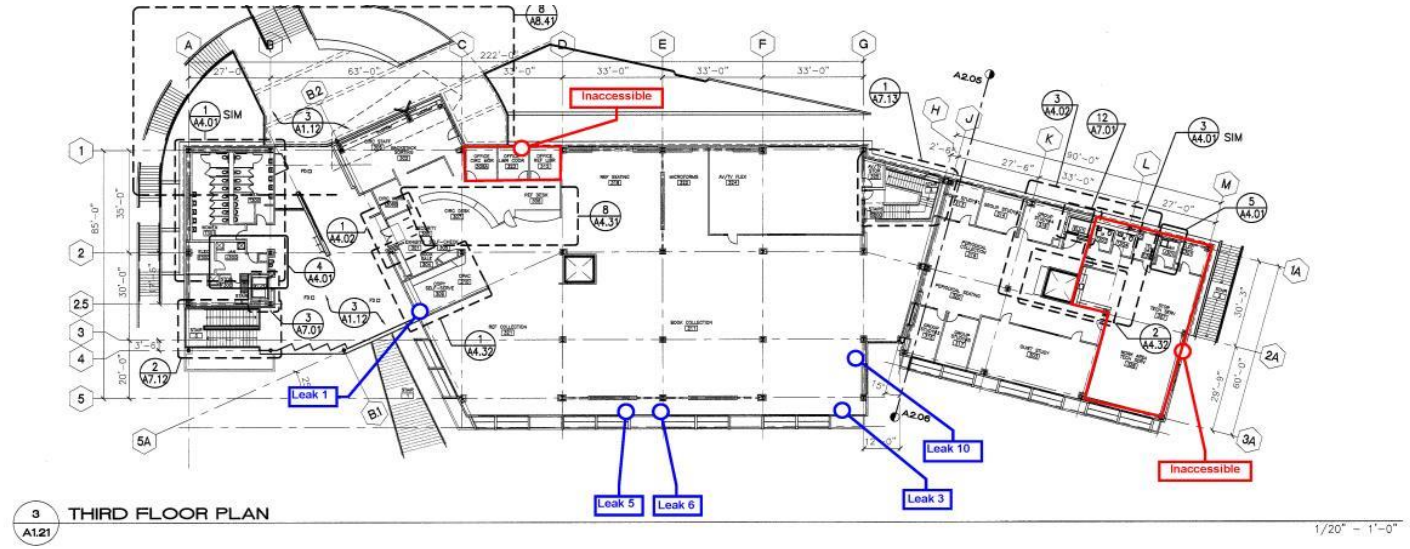
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View of Typical Punched Windows



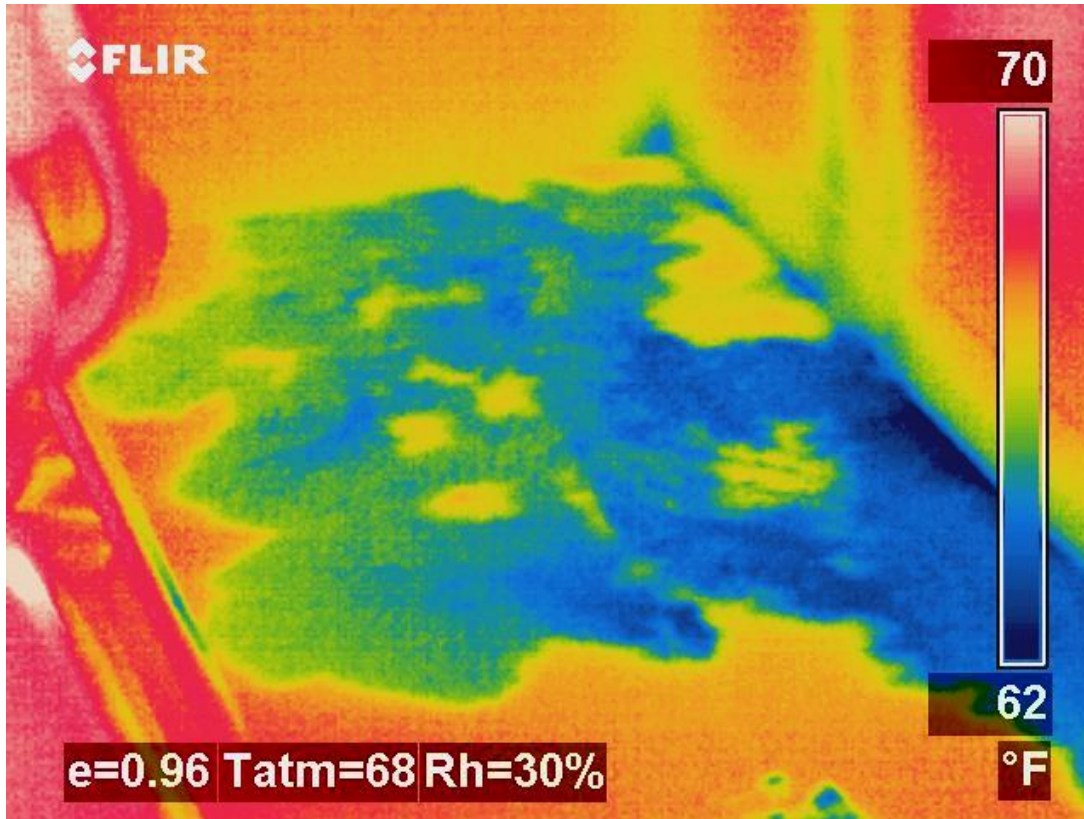
Leaks Observed During Rainstorm – 2015



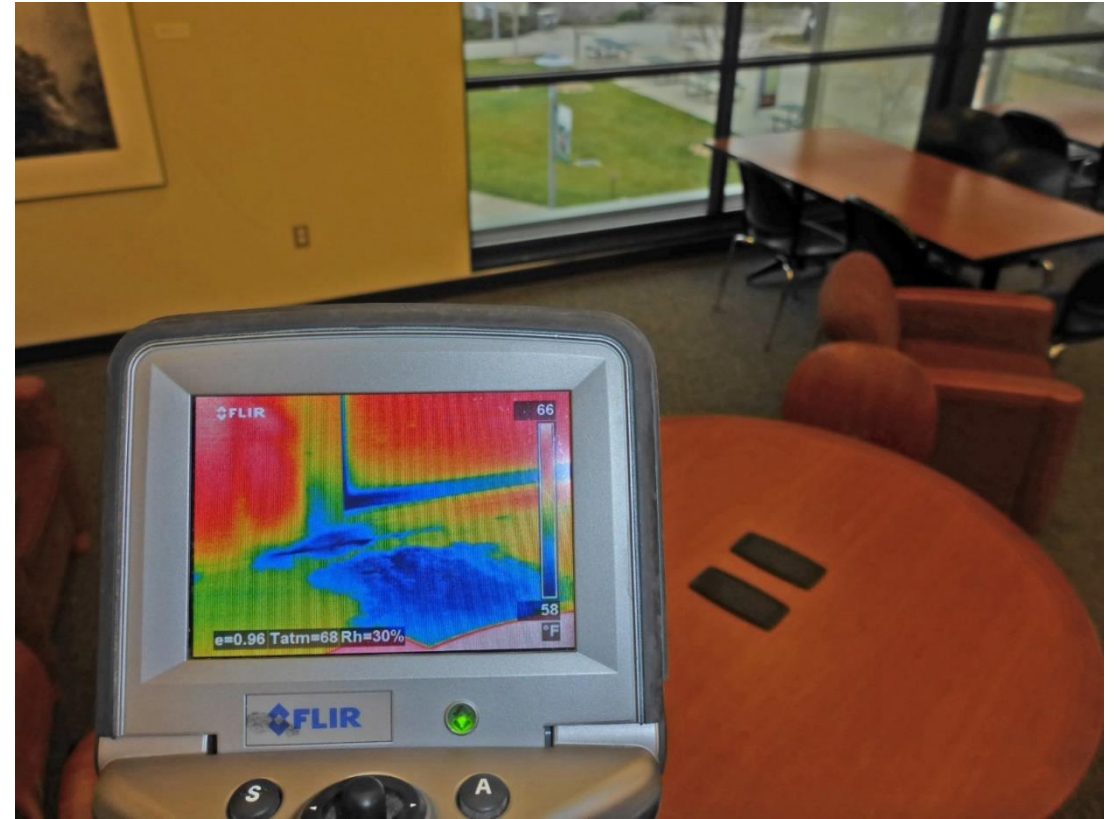
Windows Leaking During Rainstorm



Leaks From Rain Event on IR Camera



Windows ID Location: W2-W Near Column Line C



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Wet Floor, Leaks From Rain Event



Windows

ID Location: W-111

Between Column Lines D-E

Leaks Below Plaza From Rain Event



Elevated Plaza Decks

ID Location: Below Plaza Decks



Between Column Lines B-C

Water Testing in Progress



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Window Leaking During Water Testing



Window Testing Results

Windows				Visual Damage			Historic Leaks				Test Cycles					Leaks / Defects			
Window ID	Window Type	Staff	Date	Pretest damage?	DT damage? (drywall removed)	Historical Staining Exists	Leak?	Leak at Historical Stain	Leak Not at Historical Stain	Leak With No Historical Stains	Spray Test #1 No Pressure	Spray Test #2 2.5 psf	Spray Test #3 4.18 psf	Spray Test #4 5.33 psf	Spray Test #5 6.44 psf	Window Perimeter Leaks	Window Frame Joint Leaks	Glazing Leaks	Other
W3-W	Window Wall	Alan M. & Ray M.	7/5/2016	Yes	Yes	Yes	Yes	Yes	No	No	No Leak	No Leak	Leak	-	-		x	x	
W5-W	Window Wall	Alan M. & Ray M.	7/12/2016	No	Yes	Yes	Yes	Yes	Yes	No	No Leak	Leak	Leak	Leak	Leak			x	
W6-W	Window Wall	Alan M. & Ray M.	7/6/2016	No	Yes	Yes	Yes	No	Yes	No	Leak	Leak	Leak	Leak	Leak		x		
W7-W	Window Wall	Alan M. & Ray M.	7/7/2016	Yes	Yes	Yes	Yes	Yes	Yes	No	No Leak	Leak	Leak	"No New Leaks"	Leak *5.8 psf		x		
W8-W	Window Wall	Alan M. & Ray M.	7/5/2016	Yes	Yes	Yes	Yes	Yes	Yes	No	No Leak	No Leak	No Leak	Leak	-		x		
W9-W	Window Wall	Ray M.	7/7/2016	Yes	Yes	Yes	Yes	Yes	No	No	No Leak	No Leak	Leak	-	-		x		Base of Wall
Windows				Visual Damage			Historic Leaks				Test Cycles					Leaks / Defects			
Window ID	Window Type	Staff	Date	Pretest damage?	DT damage? (drywall removed)	Historical Staining Exists	Leak?	Leak at Historical Stain	Leak Not at Historical Stain	Leak With No Historical Stains	Spray Test #1 No Pressure	Spray Test #2 2.5 psf	Spray Test #3 4.18 psf	Spray Test #4 8.0 psf	Spray Test #4 12.0 psf	Window Perimeter Leaks	Window Frame Joint Leaks	Glazing Leaks	Other
W-211		Mark K. & Velba V.	6/12/2017	No	Yes	Yes	No	No	No	Yes	No Leak	No Leak	No Leak	Leak	n/a		x		
W-214		Mark K. & Velba V.	6/13/2017	No	Yes	Yes	No	No	No	Yes	No Leak	No Leak	No Leak	Leak	n/a			x	
W-215		Mark K. & Velba V.	6/13/2017	No	Yes	Yes	No	No	No	Yes	No Leak	No Leak	Leak	Leak	n/a			x	
UW-1-3	Window Wall	Mark K. & Velba V.	6/14/2017	No	Yes	Yes	No	No	No	No	No Leak	No Leak	No Leak	No Leak	n/a				
UW-2-3	Window Wall	Mark K. & Velba V.	6/14/2017	No	Yes	Yes	Yes	Yes	No	No	No Leak	No Leak	No Leak	Leak	n/a				x
UW-3-3	Window Wall	Mark K. & Velba V.	6/14/2017	No	Yes	Yes	No	No	No	No	No Leak	No Leak	No Leak	No Leak	n/a				
W-154		Alan M.	6/13/2017	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No Leak	Leak	Leak	Leak		x			
W-163		Alan M.	6/12/2017	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No Leak	No Leak	No Leak	No Leak	Leak	x			
W-257		Alan M.	6/12/2017	Yes	Yes	Yes	No	No	No	No	No Leak	No Leak	No Leak	No Leak	No Leak				
W-355		Alan M.	6/14/2017	No	Yes	Yes	Yes	Yes	No	No	No Leak	No Leak	Leak	Leak	Leak	x			x

Destructive Testing of Stucco Assembly



Corroded Sheet Metal Flashings



Water Damaged Soffit, Biological Growth



Exterior Stucco Walls

ID Location: BP-16

Near Column Line G

Mold Abatement – Growth at Window Sill



Window

Location ID: W3-W

Between Column Lines D-E

Mold Abatement Under Windows



Location ID: Near Column G, Level 2

Sun shade Coating is Failing and Rusting



Exterior Stucco Wall Issues

- 1.01 Improper sealant joint installation and preparation
 - 1.01a Joint size is inconsistent; improper sealant geometry
 - 1.01b Undersized backer rod for sealant joint
- 1.02 Vycor self-adhered membrane is improperly installed
 - 1.02a Membrane applied over void / cavity at penetration
 - 1.02b Fish mouthing observed at edge of membrane
 - 1.02c Release sheet not removed prior to installation
 - 1.02d Self adhered membrane is not lapped onto beam; creates open gap
- 1.03 Missing metal framing to back the exterior gypsum board at I-Beam joints
- 1.04 Sheet metal flashing lacking 4” lap distance at beam penetration
- 1.05 Poor embedment of expanded metal lath within the scratch coat
- 1.06 Missing insulation batt in exterior wall cavity
- 1.07 Failed and separating vertical control joints
- 1.08 Excessive cracking of stucco wall assembly
- 1.09 Aluminum drip metal at soffit attached with galvanized screws

Windows Issues

- 2.01 Horizontal members not sealed prior to window assembly
- 2.02 Unsealed exterior gasket corner joints
- 2.03 Unsealed break metal at window jamb
- 2.04 Windows are not plumb
- 2.05 Weep holes clogged with sealant
- 2.06 Anti walking blocks omitted at jambs and heads
- 2.07 Discontinuous window flashing at sill to jamb condition
- 2.08 Dissimilar metals at sill between window flashing and stucco casing bead

Exterior Stucco Wall Repair

- Remove and replace 100% of the stucco assembly on the West elevation, partial South and partial North elevations
- Remove and replace window flashings and sealants
- Remove and replace sheet metal flashings at stucco penetrations and stucco accessories

Windows Repair Description

1. Removal of Window Wall to Repair Leak and Glazing Defects

- De-glaze insulating glass, label and store for re-use
- Remove existing glazing gaskets and glazing accessories
- Cutout exterior and interior perimeter caulk joints
- Remove perimeter anchors
- Cut back seal between sub-sill and frame
- Remove assembled window frame from sub-sill
- Label and store for re-use
- Remove sub-sill (assumed to be non-reusable)
- Remove sill flashing (assumed to be non-reusable)

Window Repair Description

2. Re-Installation of Window Wall

- Disassemble existing window wall system
- Re-assemble via screw races in accordance with Kawneer horizontal end seal protocols using silicone sealant.
- Install new pan flashing painted Kawneer Hartford Green Kynar
- Install new sub-sill material painted Kawneer Hartford Green Kynar. Seal all anchors.
- Set re-assembled window wall system. Seal all anchors. Seal between sub-sill back leg and frame.
- Install new water diverters at intermediate horizontals.
- Re-glaze existing glass and edge block glass in accordance with GANA figure B for seismic areas.
- Provide new exterior and interior glazing gaskets. Confirm gasket combination provides proper compression on glass. Seal all gasket corners.
- Provide new silicone exterior and interior perimeter seals

Post Litigation-Reconstruciton

- An Architectural Engineering Firm prepared a full set of plans for reconstruction.
- Through the District procurement, the project was put out for competitive bidding
- Engineering Firm assisted with 2 pre-bid conferences for competitive bidding to pre-qualified contractors
- Bids came in over \$12,000,000
- District chose to award the project and start construction, before receiving settlement money.
- District settled with the contractor 3-4 months after construction started.

Case Study 2 – New Performing Arts Center



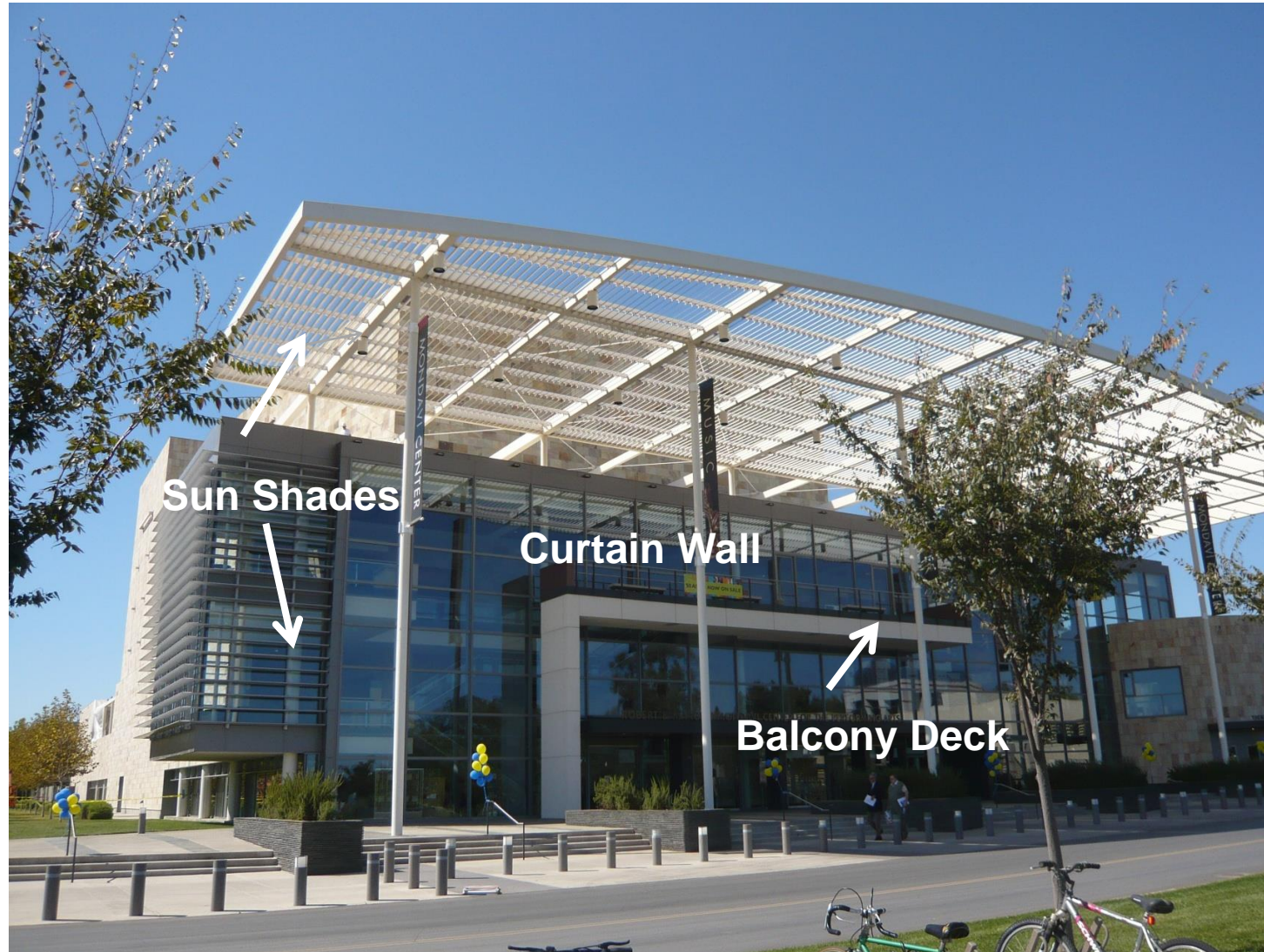
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Case Study 2 – New Performing Arts Center

- **Project** – New College Performing Arts Center
- **Year Completed** - 2013
- **Cost of Repair (COR)** – \$24M+
- **Building Description** –
 - Consists of a 1,801-seat auditorium and 250-seat theatre
 - 106,000 SF facility with a multi-leveled glass lobby
 - Extensive curtain wall system and sand stone exterior skin
 - Engineering firm was retained to investigate multiple reports of water intrusion

East Elevation



South Elevation



Stone
Veneer
Walls

Water Testing – Leaking Stone Veneer Wall



Interior Leaks Behind Stone Veneer



Interior Leaks Behind Stone Veneer



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Recessed Window Visual Observations



Biological Growth Under Recessed Sill



Destructive Testing Window Head Lacks Weeps



Curtain Wall Leaks at East (Front) Elevation



Water Testing Leak at South/East Curtain Wall



Water Testing Curtain Wall Leaks at South Wall



Water Testing Leaks at Slab Edge



Water flows through floor slab concrete cracks.

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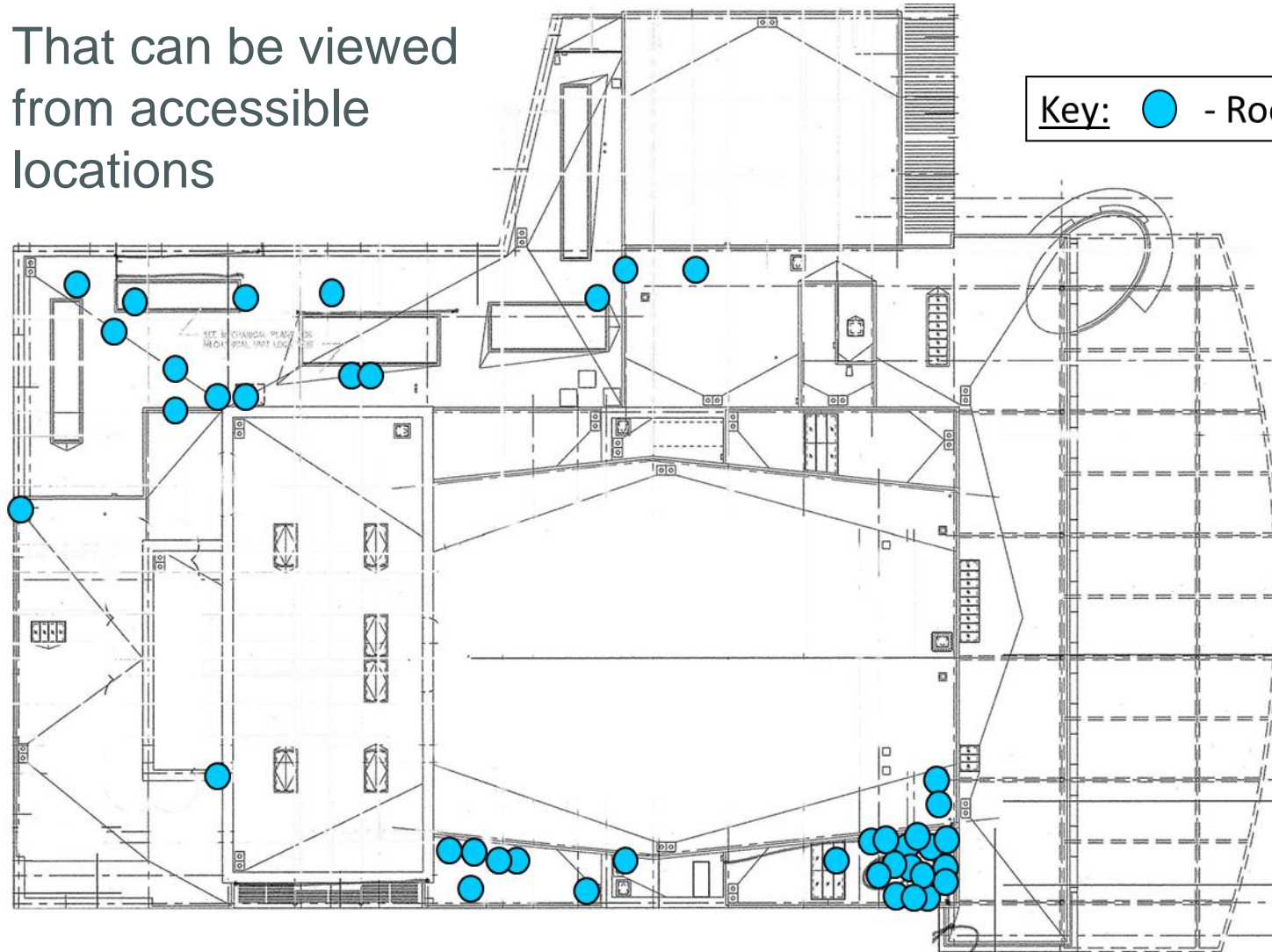
Sample of 167 Leaks that are accessible to view*

ITEM	Leaks	LEAK DESCRIPTION	GRID LINE LOCATION
1	2	Curtain wall @ front entry to main lobby. Eastern elevation	East Elevation Column Line 9
2	5	South Elevation, Exterior window 2 nd and 3 rd tier Balcony Lobby.	South Elevation, Column Line L - L7
3	16	Water Intrusion Grand Tier Ceiling @ Access Hatch.	Plan View Grid Lines M-10
4	2	Clear Story Window and Alucabond panels	East Elevation, Column Line 9 - 10
5	2	HVAC Ducts on Main Auditorium Roof	Plan View Grid Line N - 9
6	4	2nd floor Partier Level Curtain wall window to Stone Veneer	West Elevation, Column Line 10 - 11
7	34	Water Intrusion through Stone Veneer	South Elevation, Column Line C - F
8	2	2nd Floor Metal Door Frame Water Intrusion	South Elevation, Column Line C
9	6	Water Intrusion @ Trellis Beam Penetrations	South Elevation, Column Line C - F
10	1	Sealant Failure - Stone Veneer to Alucabond Panel	South Elevation, Column Line C - F
11	4	Water Intrusion @ Store Front Windows	South Elevation, Column Line E - M
12	19	Historical Evidence of Water build-up behind Alucabond Panels	South Elevation, Column Line E - M
13	3	Water Intrusion at Ticket Booth	East Elevation, Column Line 4 - 5
14	7	Historical evidence of Water Intrusion on Ceiling Tiles. 1st Floor North Corridor -Technical Street.	North Elevation, Column Line B - L5

Roof Plan Leak Locations

That can be viewed
from accessible
locations

Key: ● - Roof Leak



Resolution of Issues

- The University pursued the claim against the bonding company
- University hired engineering firm to perform forensic testing and prepare reports
- The bonding company agreed to fund the repairs
- The original general contractor agreed to fix the issues
- Mediated scope of repairs were completed, and the building is now fixed

Case Study 3 – High School

- **Project** – New High School
- **Year Completed** - 2014
- **Original Funding Source** – Bond fund
- **Cost of Repair (COR)** – TBD
- **Building Description** –
 - Consists of 170 classrooms, 3600 students
 - 205,000 SF facility with large gym and performing arts center
 - Chiller system throughout the facility with reports of leaks

Preliminary Defects

- Chilled Water Grooved Coupling Corrosion
- Chilled Water Piping Corrosion
- Exposed Condenser Water Piping not Protected from the elements
- Inadequate Condensate Drainage in Air Handling Units.

Fitting type

GRINNELL Figure 772 Grooved Rigid Coupling

1-1/4 – 24 Inch (DN32 – DN600) Sizes

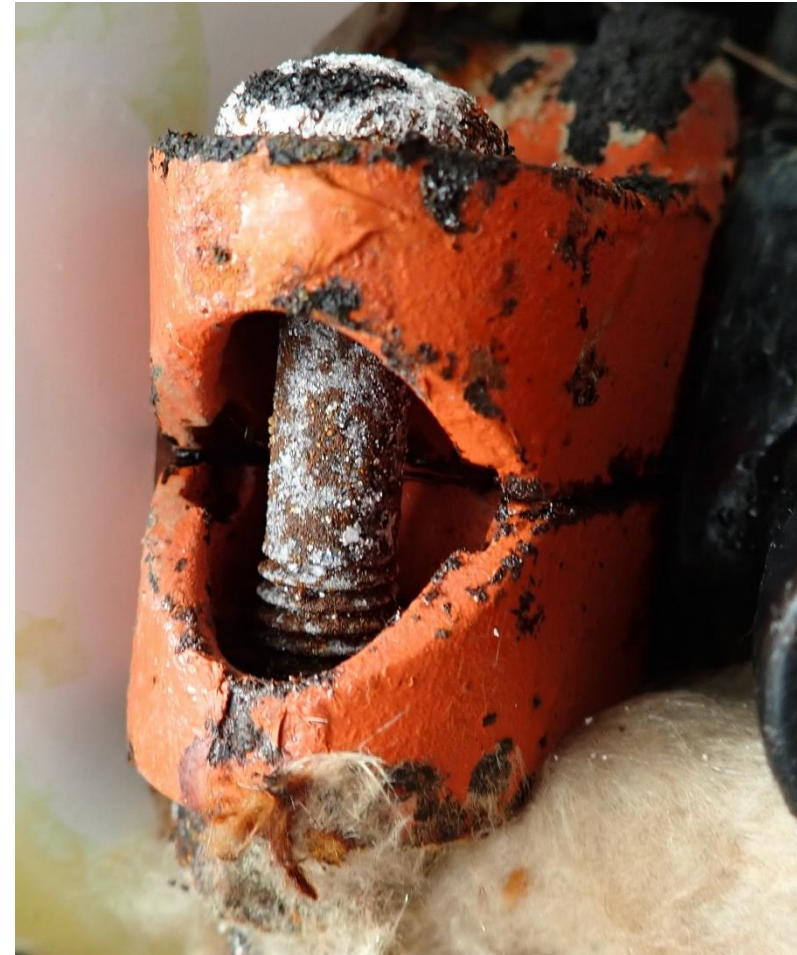
1/2 Inch (M12) Bolt for 2 – 4 Inch (DN50 – DN100) Sizes

Worldwide

Contacts www.grinnell.com

Page

H1 – Certain chilled water grooved couplings have corroded and failed. The failures have resulted from improper installation of the insulation and vapor barrier.



Repair Recommendation: Replace all chilled water grooved couplings.

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H1 – Certain chilled water grooved couplings have corroded and failed. The failures have resulted from improper installation of the insulation and vapor barrier.

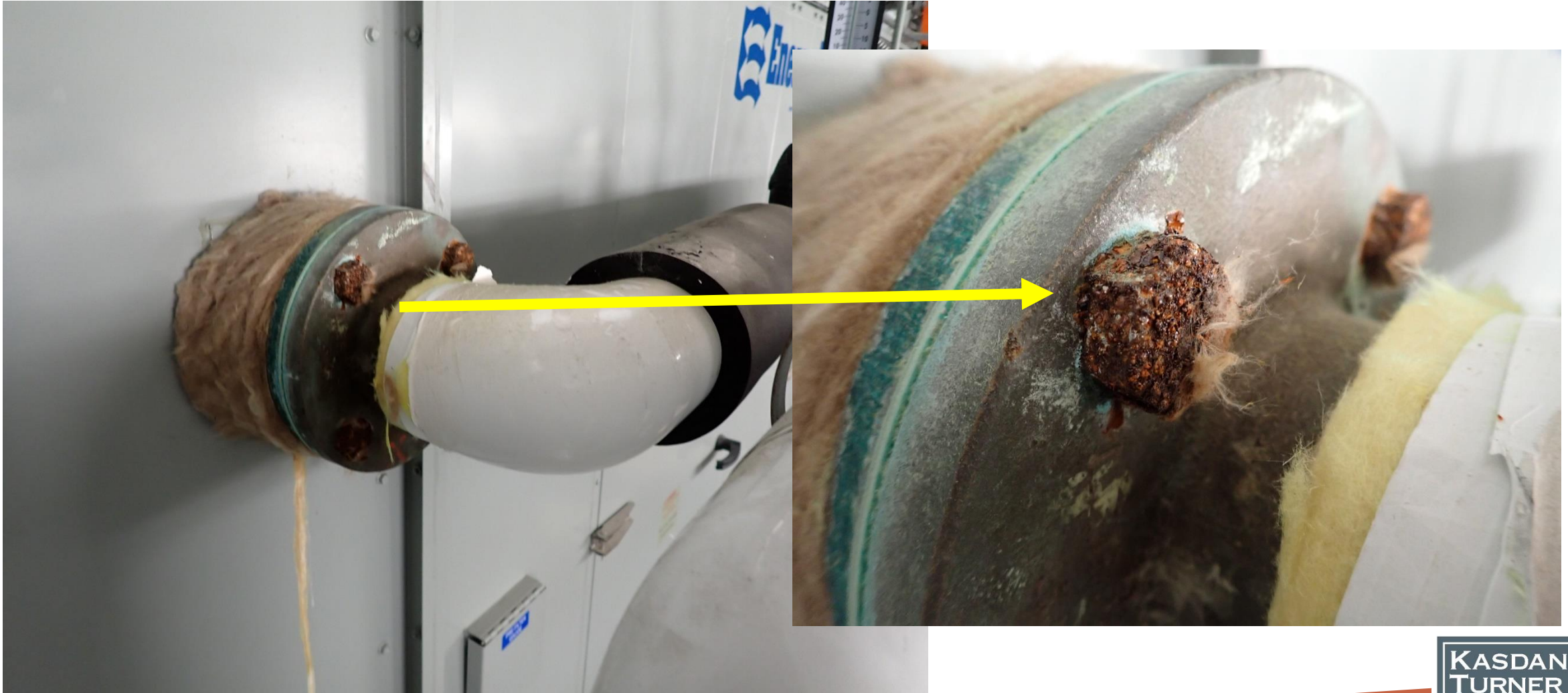


Repair Recommendation: Replace all chilled water grooved couplings.

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H1 – Certain chilled water grooved couplings have corroded and failed. The failures have resulted from improper installation of the insulation and vapor barrier.



Repair Recommendation: Replace all chilled water grooved couplings.

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H1 – Certain chilled water grooved couplings have corroded and failed. The failures have resulted from improper installation of the insulation and vapor barrier.



Repair Recommendation: Replace all chilled water grooved couplings.

H2 – Certain chilled water piping is corroding and failing prematurely due to improper installation of the piping insulation and vapor barrier.



Repair Recommendation: Replace all chilled water piping.

H2 – Certain chilled water piping is corroding and failing prematurely due to improper installation of the piping insulation and vapor barrier.



Repair Recommendation: Replace all chilled water piping.

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H3 – The condenser water piping is not properly protected from the elements. This has caused the piping to corrode and deteriorate.



Repair Recommendation: Treat all corroded areas and install a protective weather proof PVC jacketing. Replace piping where treatment is not effective.

H4 – There is inadequate drainage from condensation within the air handling units (AHUs). This has caused condensate to drip out of the unit resulting in corrosion to the AHUs.



Repair Recommendation: Treat all corroded areas and install a protective weather proof PVC jacketing. Replace piping where treatment is not effective.

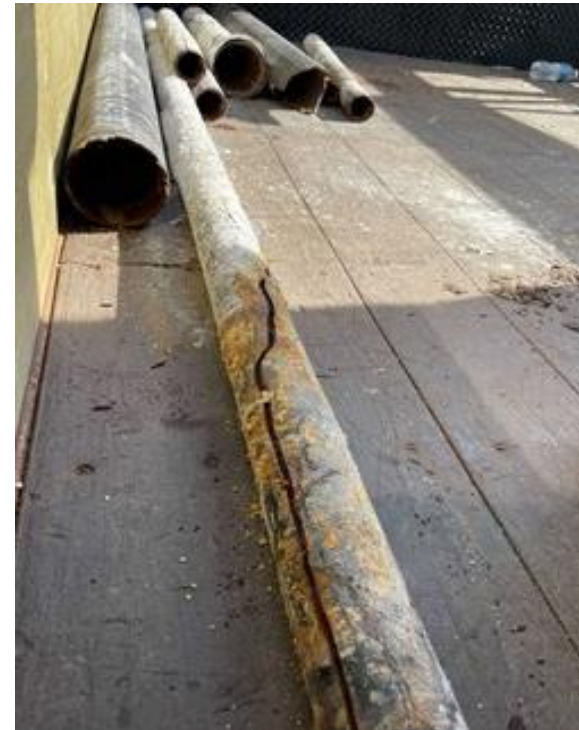
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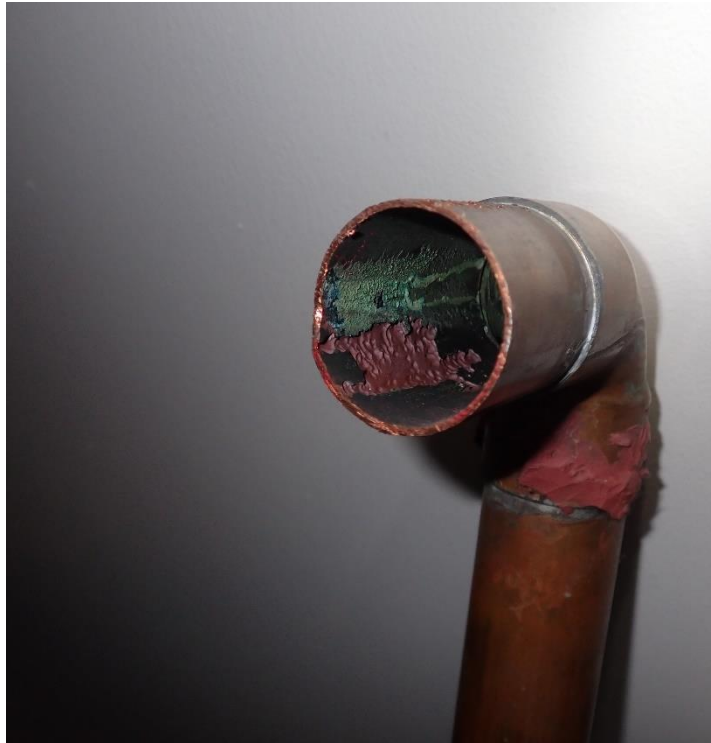
Additional Common Defects

- Sanitary and Storm Sewer Cast Iron Pipe Failures
- Domestic water Copper Piping Failures
- Coupling EPDM Gasket Failures
- Cooling Tower and Evaporative Cooler Failures
- Microbiological Induced Corrosion (M.I.C) in the piping

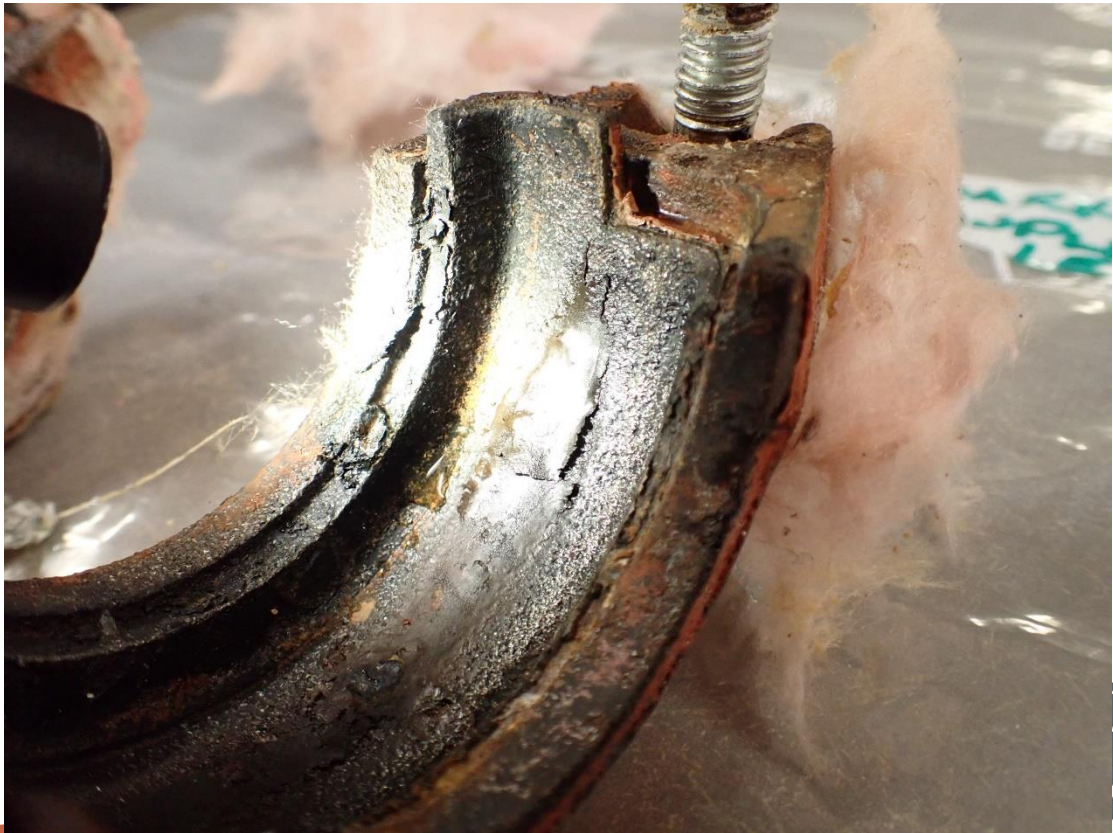
Sanitary and Storm Sewer Cast Iron Piping Failures



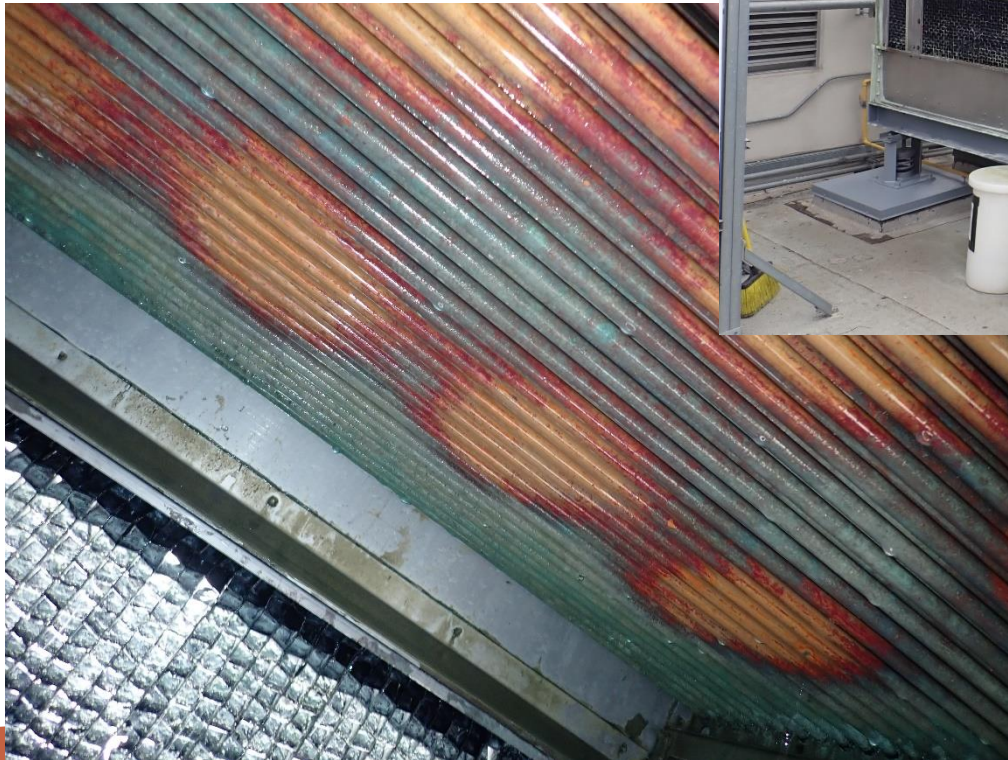
Domestic Water Systems n- Erosion Corrosion



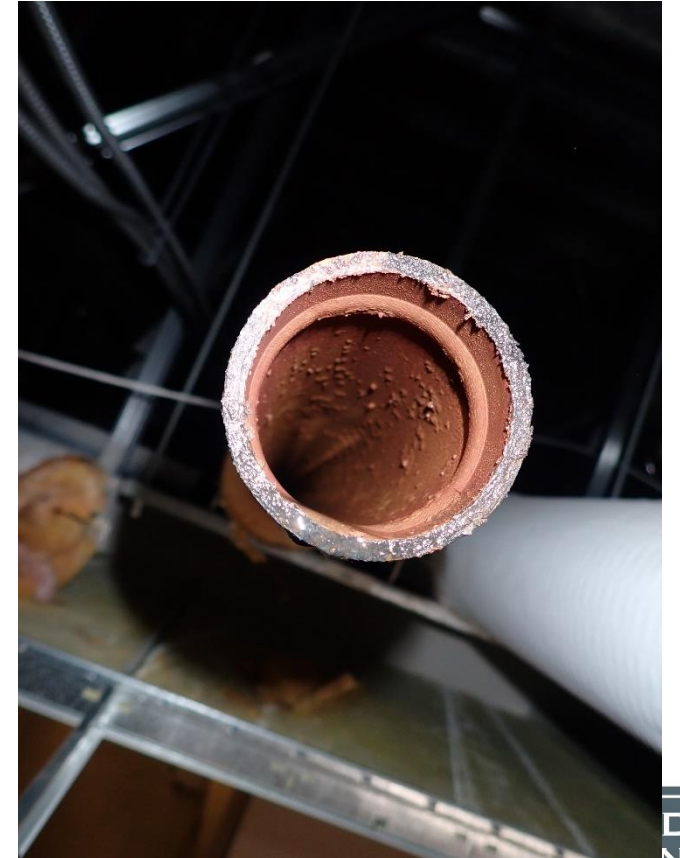
Chilled, Heating and Condenser Water System EPDM Gasket Failures



Cooling Towers and Evaporative Coolers Failures



Microbiologically Induced Corrosion



What is a Property Condition Assessment?

ASTM E2018-08- STANDARD GUIDE FOR PROPERTY CONDITION ASSESSMENTS:

Defines conditions: Good, Fair and Poor

- Allows extrapolation of findings
- Consultant to review: C of O, reported code violations (review of drawings not required)

Review to include:

Site, Structural Frame & Enclosure, Roofing, Plumbing, HVAC, Electrical, Vertical Transport, Fire and Life Safety + ADA/Access

What's the difference between a PCA and facility audit?

- PCAs (ASTM standards) generally **include identification of construction defects** as well as an immediate repair table and replacement reserve table.
- Facilities audits include a detailed inventory of a facilities assets, as well as snapshot of how the various systems and components are operating, as well as a review of procedures and record keeping of recommended maintenance task vs. actual maintenance completed.

Why Inspect?

- PCA's protect the long-term value of assets
- Helps to avoid unwanted financial surprises for budgets
- If defects are found, can pursue the responsible parties vs. taxpayer or owner paying

Types of Claims and Time Limits

- Negligence - 4 years (from discovery)
- Breach of Contract / Express Warranty - 6 years (from contract date)
- Statute of Repose -10 years from substantial completion

Who is Liable ?

- Developers
- General Contractors, Subcontractors
- Design Professionals
 - Architects
 - Engineers
- Product Manufacturers
- Product Suppliers

Approaching Contractors /Builders to Resolve Problems

Approaching Contractors / Builders

- Sometimes small leaks can be tip of the iceberg
- Its always good to have a forensic expert give you a second opinion
- Approach contractors / builders firmly but respectfully.
- Have an experienced forensic construction involved in discussions with the contractor
- Hire the right expert, both technical and litigation expertise
- As a team, decide if its best to bring an experienced attorney
- Decide with the attorney to mediate, arbitrate or litigate.

When (and Why) to Involve a Construction Defect Attorney

Anatomy of a Claim

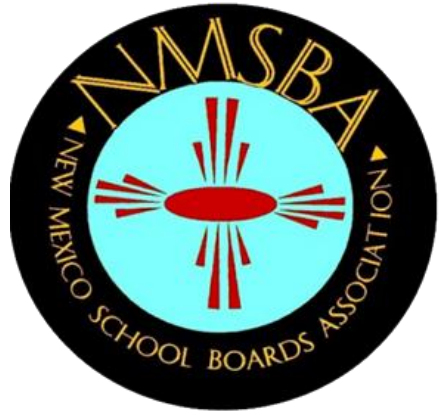
1. Determine a cases validity
2. Initial notice of claim
3. Investigative process
4. Early resolution-mediation
5. Litigation

When / Why to Involve a Defect Attorney

- If you think there may be defective construction, your clock starts ticking.....
- If project is 8-9 years old, you are approaching the limit of statute of repose
- Construction defect attorneys aren't just for trials
- A good defect attorney can prevent relatively minor disputes from becoming major
- Defect attorneys help obtain as high a dollar-return as possible (on the time invested)
- Attorneys do work on contingencies
- No up-front dollars spent to retain legal counsel
- Risk of loss burden is placed on law firm

Lessons Learned

- Inspect your new building regularly (see Public Schools Facilities Authority Site)
- Properly document issues on a micro and macro level
- Know the deadlines to bring a claim
- Involve a construction defect attorney-early



THANK YOU

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