

Financial Implications of Property Damage to Commercial & Residential Real Estate

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John G. Minor, CGC CFM

Licensure

- FL Certified General Contractor CGC061674
- NC Unlimited General Contractor 42065
- SC General Contractor G10184
- FEMA NFIP Appraiser
- FLIR Certified Thermographer
- NASFPM Certified Flood Plain Manager
- Wind Approved Umpire
- NHC Faculty
- SERRI Steering Committee
- FSU Storm Risk.org faculty
- OSHA Hazwopper
- Dept of Homeland Security TWIC
- Dept of Insurance Licensed Instructor
- Lorman Faculty

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How to save the value of a residential property listed for sale or raze the structure, sell the lot and keep the claim

RESIDENTIAL LOSS

Prevention thru Planning



Pre-Firm



Homeowner Loss

•Ivan Soundside Dr

- •Total Loss / Repair
- •Value of property without structure/ with
- Potential for assignment of claim
- •SFHA 50 % rule , repetitive loss rule
- •Wind v Flood
- •12.4 surge from BFE
- •Tree damage to roof triggering loss of use payments for 6 -18 months



Homeowner Loss

Ivan Soundside Dr

- •Better stronger restored due to nature of code compliance requirements net value increase
- DFS Mediation
- Multiple visits from NFIP
- •Flood Line identified then obeyed in adjustment
- Understanding of "free board"
- •Insurance Savings over long run





Big costs, big decisions, loss of production

INDUSTRIAL



Hurricane Dolly – Harlingen Texas

Crane is holding anhydrous ammonium pipes after roof collapse



Hurricane Dolly – Harlingen Texas

Safety & Security issues for all



Industrial

- •Heavy Equipment Services
- •Cranes, Large Generators, Drying Equipment, Labor
- Specialty Services
- •Importance of Business Interruption
- Contents owned by others



Contents of Others

Multiple policies cover the business property of the interiors



Contents

Careful attention is necessary when dealing with properties where the FDA or USDA provide guidanace



Investors, banks, mortgage companies the claim & re occupancy

APARTMENTS/ MULTI – FAMILY



Hurricane Ivan

The importance of evacuation, this property was badly affected by surge after Hurricane Ivan



Apartment Claims

Large scale restoration and identification needs, lack of coverage for contents, many times multiple layers of coverage



FEMA worksheets, infrastructure, Grants & League of Municipalities, Cities

MUNICIPALITIES



Katrina – New Orleans

The need to work between municipalities their managers and FEMA is a difficult challenge



Non Elevated Utilities

Elevation of waste water treatment facilities is a great use of federal funds before or after a flood loss. This type of investment can pay back in many ways

Planning Benefits





The work behind the scene that proves the damage

RESEARCH



University of Florida – Window / Wall Study

Full scale mock up to test water intrusion



University of Florida – Window / Wall Study

Intake



University of Florida – Window / Wall Study

Power



University of Florida – Window / Wall Study

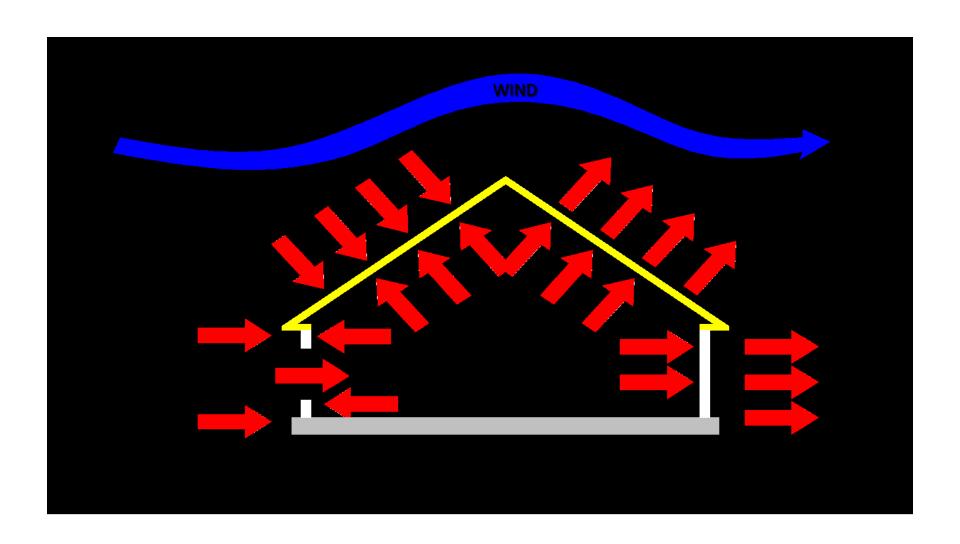
Test Sample



University of Florida – Window / Wall Study

Let her rip

Effects of Wind

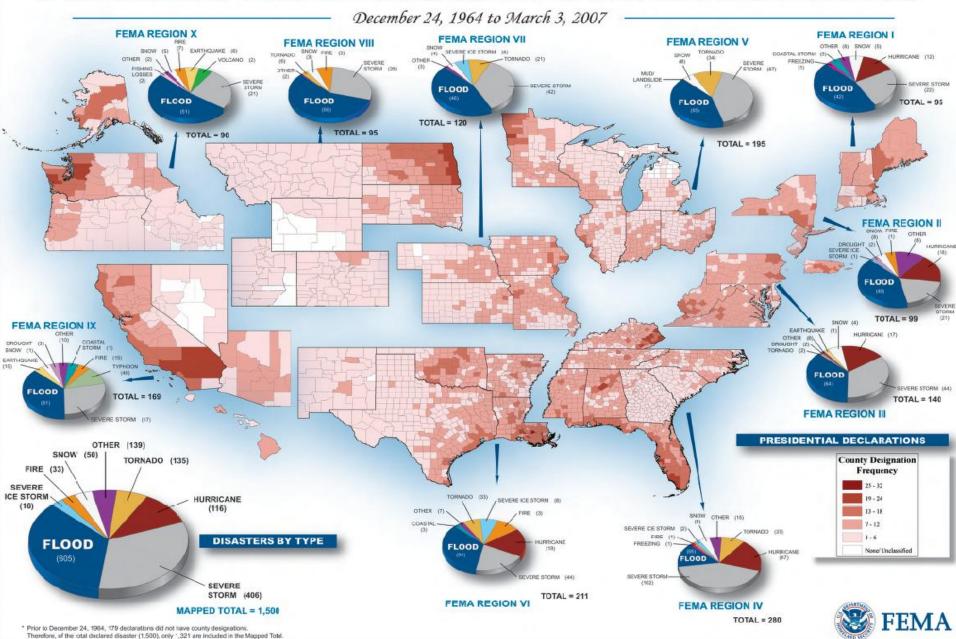


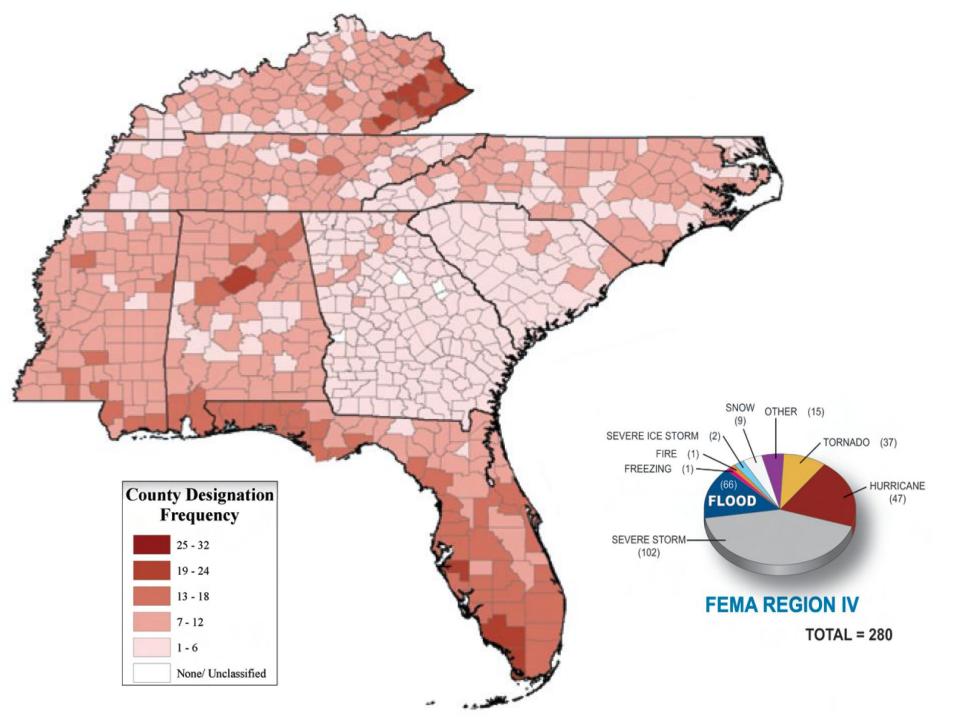


University of Florida – Window / Wall Study

How much water represents a failure and when is their damage, creating and opening to allow water to intrude and therefore be covered

PRESIDENTIAL DISASTER DECLARATIONS





What are the essential documents necessary to complete the claim valuation

DOCUMENTING THE FILE

Elevation Certification

U.S. DEPARTMENT OF HO Federal Emergency Manage		ELEV	ATION CERTIFIC	ATE	OMB No. 1660-0008
National Flood Insurance Pro	ment Agency		Read the instructions on p		Expires February 28, 2009
			ON A - PROPERTY INFORM	-	For Insurance Company Use:
A1. Building Owner's Nam		82011	ON A - PROPERTY INFORM	RATION	Policy Number
A2. Building Street Address (including Apt., Unit, Suite, and/or Bidg. No.) or P.O. Route and Box No. Company NAIC Number					
City	City State ZiP Code				
A3. Property Description (Lot and Block Numb	bers, Tax Parcel Nu	mber, Legal Description, etc.)		
A4. Building Use (e.g., Re	sidential, Non-Resid	Sential, Addition, Ac	cessory, etc.)		
A5. Latitude/Longitude: La		Long	is being used to obtain flood inse		rbum: NAD 1927 NAD 1983
AC. Attach at least 2 photo A7. Building Diagram Num	graphs of the build: ber	ng if the Certificate	is being used to obtain ficod insi	urance.	
A8. For a building with a o	nawi space or encic	sure(s), provide:		building with an attacl	
 s) Square footage of b) No. of permanent! 				quare footage of attac	hed garage sq ft openings in the attached garage
enclosure(s) walls	within 1.0 foot above	ve adjacent grade _	w	ells within 1.0 foot abo	we adjacent grade
 c) Total net area of fi 	SA ni agninego boo	ь _	sqin d) T	otal net area of flood o	openings in A9.b sq in
	9ECTIV	ON B. EL OOD IN	SURANCE RATE MAP (FIF	MINEOPHATION	
B1. NFIP Community Name			2. County Name		B3. State
B4. Map/Panel Number	B5. Suffix	B6. FIRM Index Date	B7. FIRM Panel Effective/Revised Date	B8. Flood Zone(s)	B9. Base Flood Elevation(s) (Zone AO, use base flood depth)
		O DUILDING S	EVATION INFORMATION	AUDVEY DEC.	ED!
C2. Bevations - Zones A1-	based on: Co cate will be required A30, AE, AH, A (with	onstruction Drawing d when construction th BFE), VE, V1-V30	of the building is complete.	Construction*	ED)
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Elevation Certificate

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION								
B1. NFIP COMMUNITY NAME & COMMUNITY NUMBER			B2. COUNTY NAME		B3. STATE			
B4. MAP AND PANEL NUMBER	B5. SUFFIX	B6. FIRM INDEX DATE	B7. FIRM PANEL EFFECTIVE/REVISED DATE	B8. FLOOD ZONE(S)	B9. BASE FLOOD ELEVATION(S) (Zone AO, use depth of flooding)			
B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in B9. FIS Profile FIRM _ Community Determined _ Other (Describe:)								
B11. Indicate the elevation datum used for the BFE in B9: NGVD 1929 NAVD 1988 Other (Describe:)								
B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? Yes No Designation Date:								

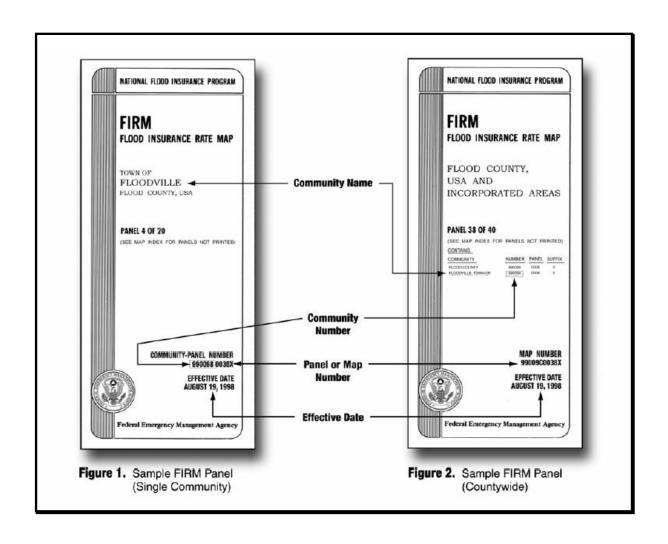
Elevation Cert

SECTION C - BUILDING ELEVATION INFO	RMATION (SURVEY REQUIRED)
C1. Building elevations are based on: Construction Drawings* E *A new Elevation Certificate will be required when construction of the bu	
C2. Building Diagram Number (Select the building diagram most simil pages 6 and 7. If no diagram accurately represents the building, provide	15 C
C3. Elevations – Zones A1-A30, AE, AH, A (with BFE), VE, V1-V30, V (with B	
Complete Items C3a-i below according to the building diagram specified the datum used for the BFE in Section B, convert the datum to that used calculation. Use the space provided Datum	
	ion reference mark used appear on the FIRM? Yes No
appear on the FIRM? _ Yes _ No	
a) Top of bottom floor (including basement or enclosure)	Seal
b) Top of next higher floor	Embossed and Date
c) Bottom of lowest horizontal structural member (V zones only)	imbosse and Date
d) Attached garage (top of slab)	
e) Lowest elevation of machinery and/or equipment	ft.(m) Figure 1 (m) Figure 1 (m
servicing the building (Describe in Comments area)	ft.(m) P B B
	· ft.(m) 🚆
g) Highest adjacent (finished) grade (HAG) ——	
h) No. of permanent openings (flood vents) within 1 ft. above adjacent	grade
i) Total area of all permanent openings (flood vents) in C3h	sq. in. (sq. cm)

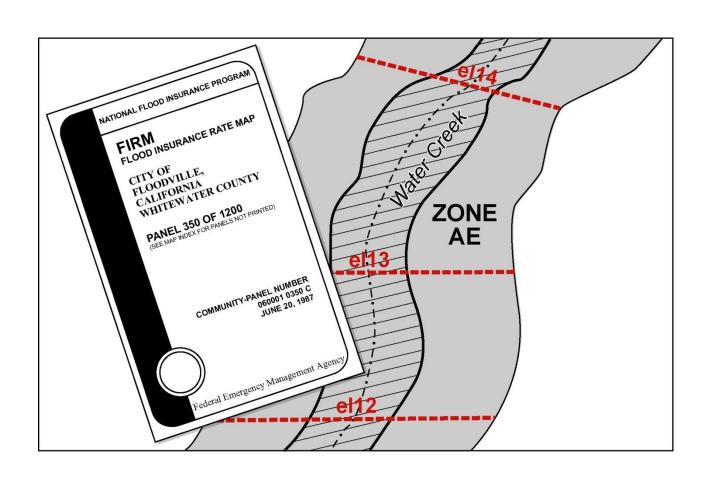
Lack of Planning



Flood Maps



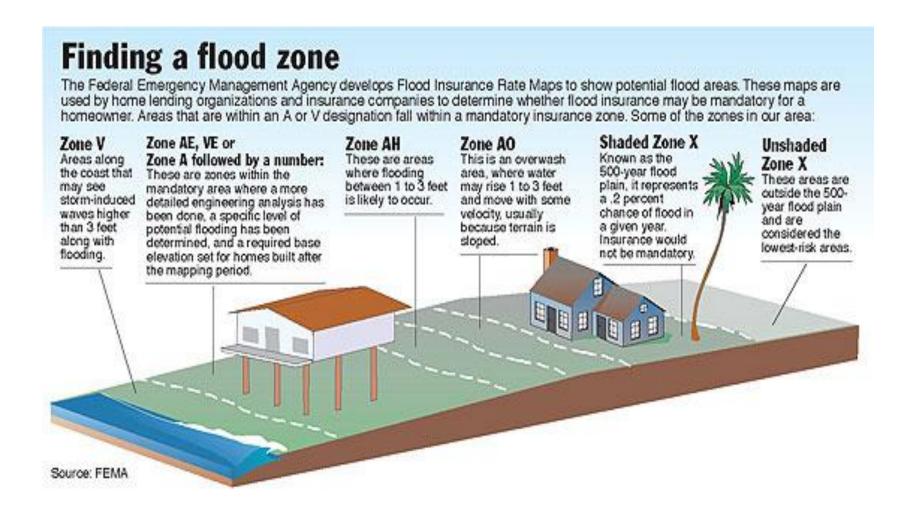
FIRM



FIRM

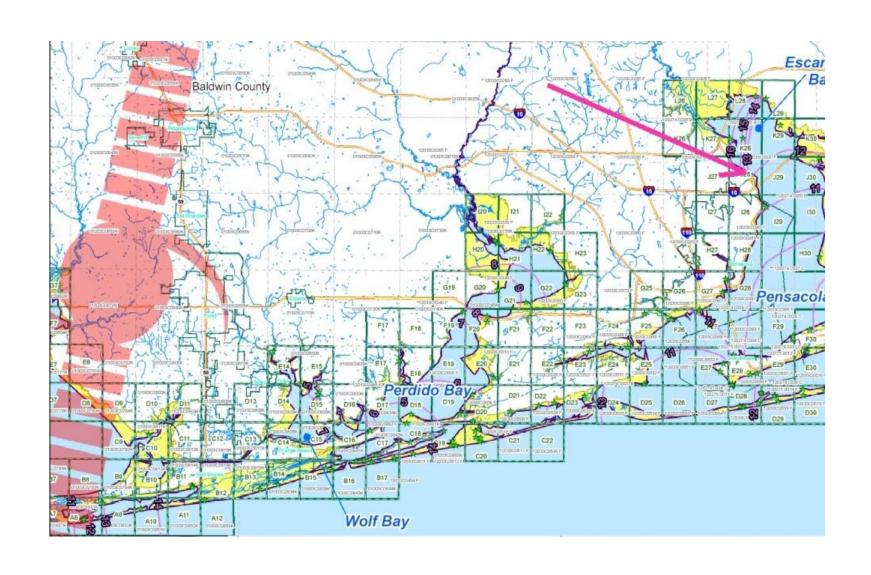


Flood Zone ID





Wind Map



Wind Map

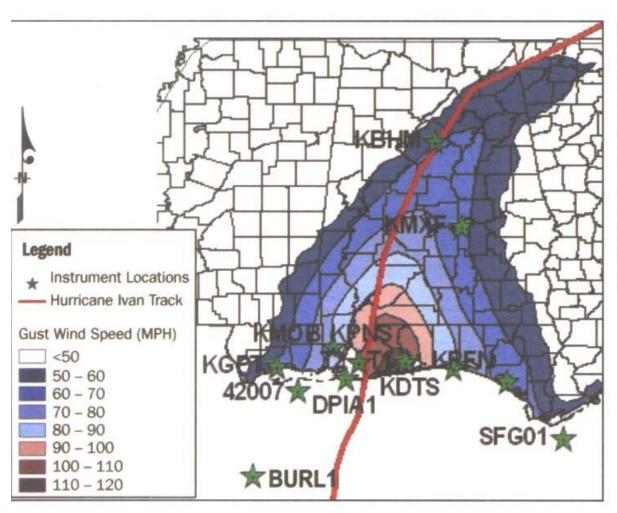
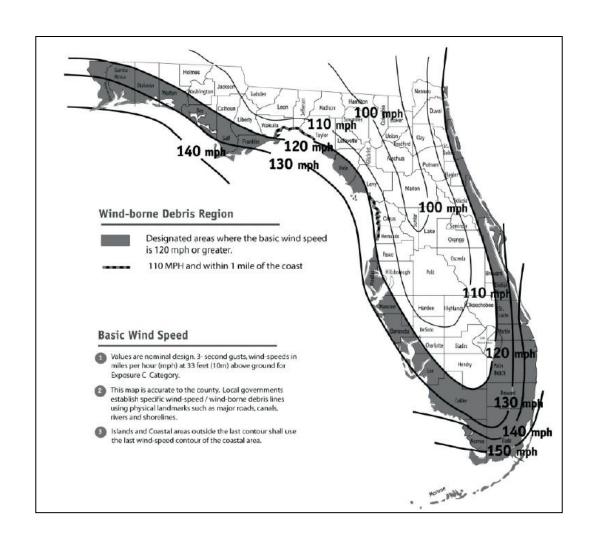


Figure 1-21.
Wind swath contour plot (3-second gust at 10-meter elevation) based on HAZUS-MH wind field methodology (ARA). The stars and letters indicate official stations reporting data for at least part of the storm.

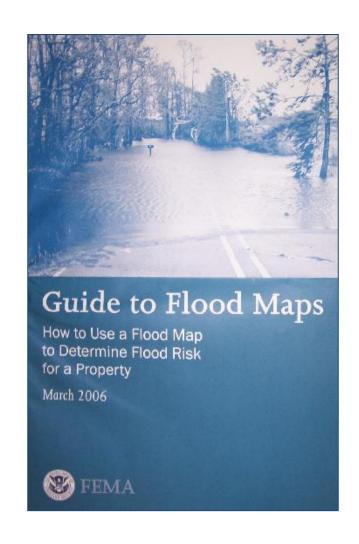
Saffir – Simpson

	SA	FFIR-SIMP	BON SCALE		
Туре	CG	WInds (mph)	Winds (knots)	Pressue (millibars)	Surge (feet)
Tropical Depression	TD	< 39	< 34		
Tropical Storm	TS	39 - 73	34 - 63		
Hurricane	1	74 - 95	64 - 82	> 980	4 - 5
Hurricane	2	96 - 110	83 - 95	965 - 980	6 - 8
Hurricane	3	111 - 130	96 - 113	945 - 965	9 - 12
Hurricane	4	131 - 155	114 - 135	920 - 945	13 - 18
Hurricane	5	> 155	> 135	< 920	> 18

Wind Map



FEMA 258

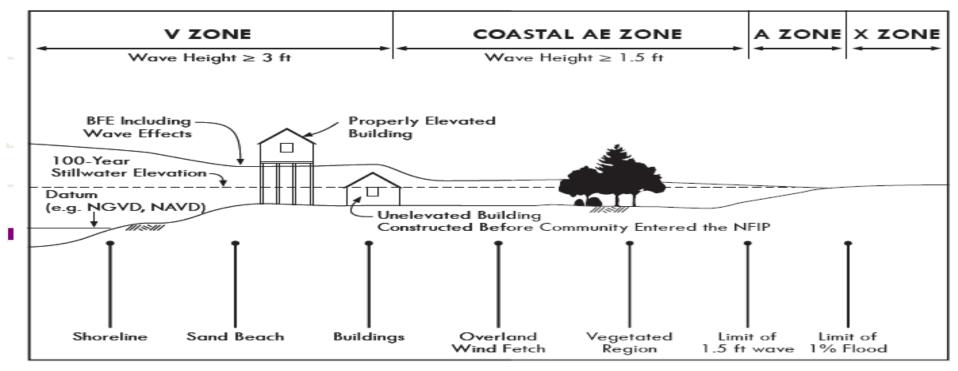


Surge Inundation

Mobile District Tide gages peak elevation during Hurricane Ivan. (feet above NGVD 1929)



Transect Schematic



 After analyzing wave heights along each transect, wave elevations were interpolated between transects. Various source data were used in the interpolation, including topographic maps, beach profiles, aerial photos, and engineering judgment. Controlling features affecting the elevations were identified and considered in relation to their positions at a particular transect and their variation between transects.

FEMA .GOV

http://www.fema.gov/hazard/map/flood.shtm



Map Service Center

Product Catalog | Map Search | Quick Order | Digital Post Office | Help

Product S	earch by
Address	Map Panel ID
1) Select a P Flood Map	
2) Enter an A	ddress:
Street:	
City:	
State:	Zip:
Se	earch by Street Address

Announcements

FMIX: New Live Chat Service

The FEMA Map Information eXchange (FMIX) has a new live chat service. You can now chat online with Map Specialists and ask questions about a variety of topics including Letters of Map Change, Elevation Certificates and the release of new flood maps.

Chat with a Map Specialist

New to the FEMA Map Service Center?

- Homeowners/Renters
- Real Estate/Flood Determination Agents
- Insurance Agents
- Engineers/Surveyors
- Federal/Exempt Customers

Try our new Live Chat service!

Our staff is available for online chat Monday through Friday, 9:00 am to 5:30 pm Eastern Standard Time (Eastern Daylight Time). Click below to start chatting now:



Live chat by nGenera

What are you looking for?

- Flood Maps
- FIRMettes
- DFIRM Databases
- MapViewer Web
- Documents, Publications & Forms

More Information

- Product Availability
- How do I find the flood map for my area?
- What is a FIRMette?
- How do I find a LOMC?
- Definitions of FEMA Flood Zone Designations
- Product Information
- Price List
- How to Order

Log On
User ID (email address) :
Password:
Log on Clear
» Forgot Password? » Register
Why register?

NFHL

National Flood Hazard Layer (learn more)

View the NFHL Online using MapViewer - Web

Order NFHL GIS Datasets by state on DVD

Use Web Map Service in your own GIS application

Use Web Map Service in Google Earth™

Coastal Barrier Resources Act (CBRA)



- •Congress created the Coastal Barrier Resources System (CBRS) in 1982
- •CBRA prohibits most Federal funding (including flood insurance) within certain designated coastal barriers
- •CBRS areas are depicted on maps that can only be modified by an act of Congress

How to develop in a flood plain succesfully

COMMERCIAL CONSTRUCTION

Flood proofing, Zone AE: 60.3(c)(3) and (4)



Flood Proofing Cert

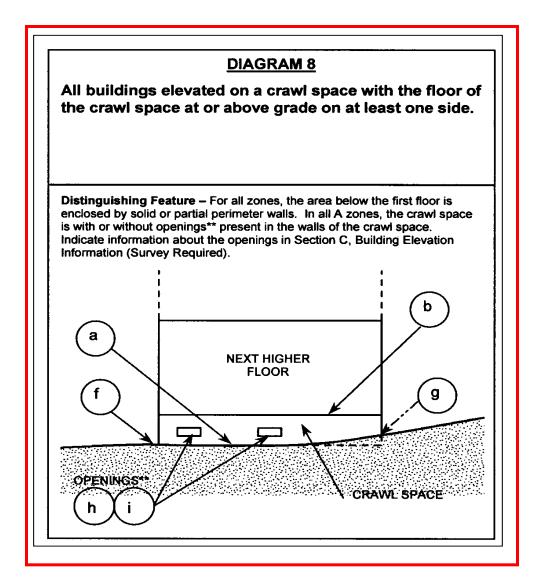
O.M.B. NO. 3057-0077 Expires July 31, 2002

FEDERAL EMERGENCY MANAGEMENT AGENCY NATIONAL FLOOD INSURANCE PROGRAM

FLOODPROOFING CERTIFICATE

Roodproofing design certificat community's floodplain mana FEMA to allow floodproofind is that the design complies with	gement elevation reg scalential basements	parements or affe to The permitting	oct the insurance rating unit of a floodproofed readenti	esa the comme al besement re	only has been issued an ex- quires a separate cartificati	ception by ion specifying
and and delegin company was	ane room roodpan in	anagement oran	next.		FOR INSURANCE COMPANY O	USE
BUILDING OWNERS HAVE	POLICY NUMBER COMPANY NACINAMER					
STREET ADDRESS (including Ays., Unit, Suite, worker Bidg, Humber) OR P.O. ROUTE AND BOX MUNICIPE						
OTHER DESCRIPTION (Lot and Bloc	d: Numbers, etc.)					
OITY					STATE ZIP CO	OE.
	SECTION	FLOOD INSU	RANCE RATE MAP (FIRE	V) INFORMAT	TION	
Provide the following from the	proper FIRM:					
COMMUNITY NUMBER	PANEL MANGER	SUFFOR	DATE OF RISM INDEX	RRM 20N	E BASE FLOOD BI (In AO Zones, U	
SECT	ION II FLOODPRO	OFING INFORM	MITION (By a Registered I	Professional E	ngineer or Architect)	
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Non-Elevation (Enclosure) Design



The drivers behind

ORDINANCE & LAW

Legal Authorities Covering Floodplain Management Regulations

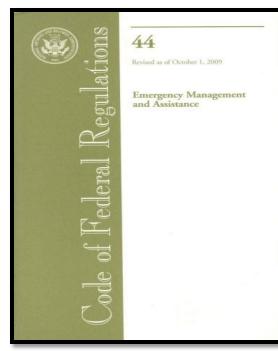
Granted by Title 17, Chapter 1, Mississippi Code 1972
 Annotated.

Usually a stand alone ordinance, but also can be found in the

community's building code.

Designed to address public health,
 safety, and welfare of its citizens.

Based on the CFR Title 44, Chapter 1,
 Parts 59 – 75.



Freeboard

– Freeboard:

 An additional height requirement above the BFE that provides a margin of safety against the uncertainties in floodplain modeling, waves smaller than 3 feet, future upstream development, and flood level increases due to flood fringe development.

(18,632 communities in the USA have mapped SFHAs, of those communities, 11,449 have freeboard)

Protecting Utilities





Hurricane Katrina – Biloxi, Mississippi 2005

Evidence of wind and flood



Hurricane Katrina – Biloxi, Mississippi 2005

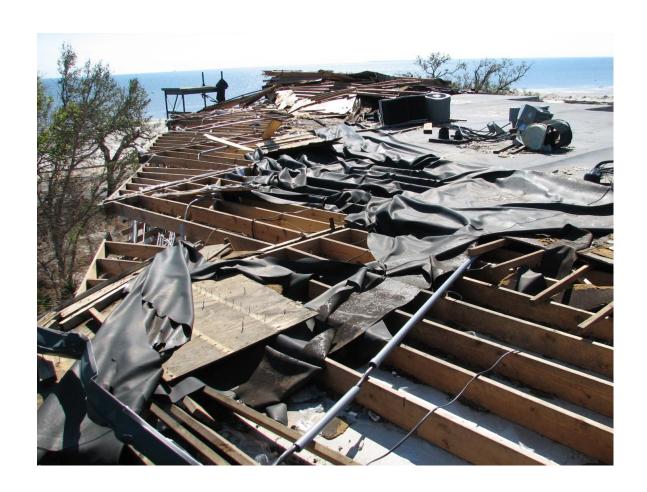
20 foot surge +/_ @ Chateau De La Mer



Hurricane Katrina – Biloxi, Mississippi 2005



Hurricane Katrina – Biloxi, Mississippi 2005



Hurricane Katrina – Biloxi, Mississippi 2005

Wind damage



Hurricane Katrina – Biloxi, Mississippi 2005

Hurricane Katrina



Hurricane Katrina – Biloxi, Mississippi 2005

Floating Debris

Pricing Software

Benefits

- Line Item Detailed Estimate
- RCV/ACV broken out
- Description of scope
- Room measurements
- Updated pricing per quarter or sooner as needed
- Xactvalue New construction pricing

Xactware

- Contact Us | Xactware
- Xactware Contact
 Information. ... Corporate
 Headquarters. One
 Xactware Plaza Orem, UT
 84097 (801) 764-5900. Fax:
 (801) 932-8013 ...
 www.xactware.com/company/contact-us

Pricing Software

As of Monday May 23, 2011
 Xactware has processed 25,408,866 estimates

Total value of \$164,527,176,175

www.xactware.com/company/contact-us

Appraisal

- Each side shall select a competent, independent appraiser, the two sides shall agree to a third party umpire The findings of 2 of 3 will be binding
- This is the standard language but each policy has its own and can affect the claim handling substantially including some policies without appraisal or that both parties must submitt to appraisal
- NFIP appraisals are very strict and will only contemplate pricing not line items

- Florida's Department of Financial Services
- CFO Jeff Atwater welcomes you to the **Department** of **Financial Services** Web site, home to all of the information and **services** we have to offer, online.
- <u>www.my**florida**cfo.com</u>
- Storm Hotline
- Whenever a tropical storm, hurricane or severe tornado takes aim at our state, a special consumer helpline is activated where you can obtain assistance on any insurance matter.
- 1-800-22-STORM (1-800-227-8676)TDD dial 1-800-640-0886Out of State Callers (850) 413-3089orSubmit a <u>a request for assistance</u>, online

- DFS Property Claims Information
- http://www.myfloridacfo.com/consumers/Guides/Property/index.htm
- Flood Terms
- http://www.myfloridacfo.com/Consumers/ins uranceLibrary/Insurance/P_and_C/Flood/Artic les/Definitions_for_NFIP_Terms.pdf

- Property Mediation
- Frequently Asked Questions & Answers
- Disclaimer
- The answers to coverage questions are primarily based on ISO forms generally used in Florida by most companies. However, we must keep in mind that all companies' forms are NOT necessarily the same. Some companies may provide broader coverage and some may be more restrictive. IN ALL CASES, THE CONSUMER MUST REFER TO HIS OR HER OWN POLICY FOR SPECIFIC COVERAGE INFORMATION.
- In catastrophic situations, some companies may be more lenient in their handling of claims and may make concessions, such as advancing additional living expense (i.e. ALE) payments to expedite the claim process. Other companies may handle such claims in accordance with their normal procedures.
- If you have additional questions that need to be added to this list or if you find any errors, please send them to the Division of Insurance Consumer Services, Bureau of Education, Advocacy and Research.
- Several years ago, the legislature passed a law requiring companies to offer mediation on property insurance claims to customers
- when the amount of the claim dispute exceeds \$500 over the policy deductible. The Department of Financial Services administers
- the property mediation program and certifies the mediators. This procedure is governed by Rule 69J-166.031.
- (Click a question to display the answer)
- My company says they do not have to offer mediation to me. Why not?
- Mediation does not have to be offered if there is no coverage for the loss or if fraud is suspected. The company also does not have to offer mediation on claims involving less than the policy deductible or less than \$500.00 in disputed amounts.

- Do I have to pay for mediation?
- There is no charge to you for using the property mediation program. The insurance company pays a fee to cover the cost of administration and to pay the mediator for his or her services.
- My claim was settled in mediation, but now that I have had time to think about it, I don't think the settlement was fair. What can I do?
- Mediation settlements can be rescinded within three business days of the agreement as long as
 you have not cashed the check. The company must provide a representative with full authority to
 settle the claim with you at the mediation conference. The conference will be held at a location
 near where you live.
- I'm going to mediation with my company. Do I need an attorney?
- No, an attorney is not necessary. You may have your attorney present if you choose to do so, but you must let the company know beforehand.
- I already have an attorney helping me with my claim. Do I have to bring him to mediation?
- You should discuss the settlement offer and mediation with your attorney.
- What if a mediation conference is scheduled and I can't go or the insurance company representative doesn't show up?
- If you fail to appear for the mediation conference, it can be rescheduled after you pay for the mediator's fee. If the insurer fails to appear, without good cause, they must pay actual cash expenses incurred by you in attending the conference and they must pay the mediator's fee for the rescheduled conference.

- Do I need a form to request mediation?
- No. You may request mediation by calling or writing your insurance company or through our insurance helpline.
- My Insurance company has denied mediation for my claim. Can I appeal their decision?
- You should discuss the settlement offer and mediation with your attorney.
- Yes you can appeal their decision but only under certain conditions. Every claim is unique and will need to be looked at individually. To discuss the possibility of appealing your mediation denial, call the Mediation Section at the Department of Financial Services.
- Will the mediator make the decision as to who is right?
- You should discuss the settlement offer and mediation with your attorney.
- No. The mediator is not a judge. He/she will allow each party to present

Department of Financial Services

- How does the mediator get chosen?
- You should discuss the settlement offer and mediation with your attorney.
- The mediator is randomly selected by the computer system at the DFS.
- What if I want a different mediator can I reject a mediator?
- You should discuss the settlement offer and mediation with your attorney.
- At any time, either party may disqualify a mediator for good cause.
- Can I have a 2nd mediation conference?
- You should discuss the settlement offer and mediation with your attorney.
- Only one mediation conference may be held for each claim. A 2nd conference is only allowed if one of the parties did not show up to the 1st conference. Mediation is a one-shot deal. It doesn't matter if the parties agree to another one or not as neither the Statute nor the Rule allow for additional fees to be paid by the carrier. The very beginning of the Rule states in the first paragraph that mediation is available for claims which have not been previously mediated under the Department's mediation program.
- I have started the appraisal process. Can I still go to mediation?
- You should discuss the settlement offer and mediation with your attorney.
- Mediation is only available prior to commencing the appraisal process or litigation.
- I have attended mediation but could not reach an agreement with my insurance company. What are my other options?
- If you and your insurance company could not reach an agreement at mediation you should check your policy provisions to determine if you have a right to invoke appraisal. If you have a right to invoke the appraisal process, it will be binding on you and the insurance company. If your policy contains an appraisal clause, a request should be made to the insurance company. If your policy does not provide an appraisal clause, your only option may be through the court system.



Vista Del Mar – Ivan (Pre firm V zone)

Apparently structurally sound building on Perdido Key



Vista Del Mar – Ivan



Vista Del Mar – Ivan

Interior of first floor damaged



Vista Del Mar – Ivan

Obvious catastrophic structural damage to two tiers



Vista Del Mar – Ivan



Vista Del Mar – Ivan

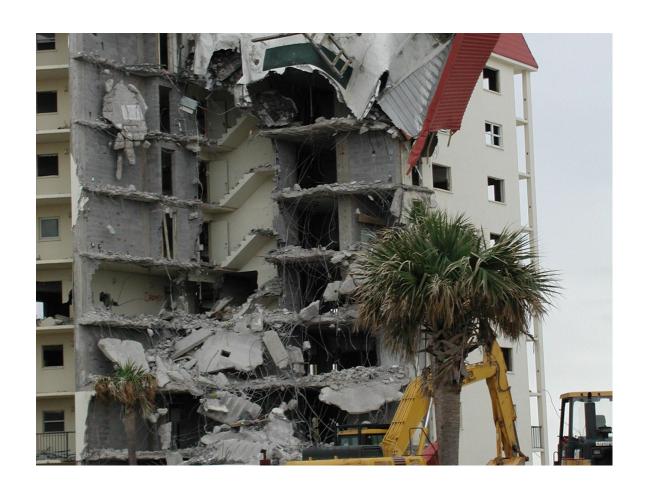
Floor slabs had slipped from columns





Vista Del Mar – Ivan

Substantial damage resulting in demolition



Vista Del Mar – Ivan



Owner has sand bags up, paper is warning of flash flood potential







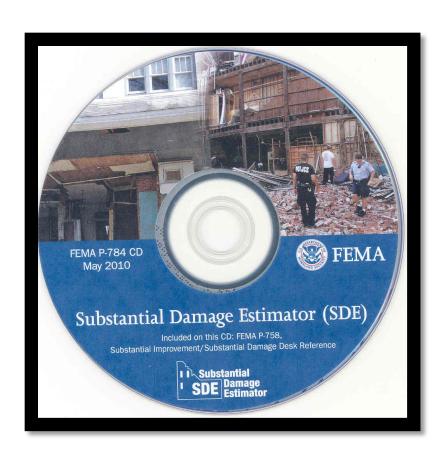


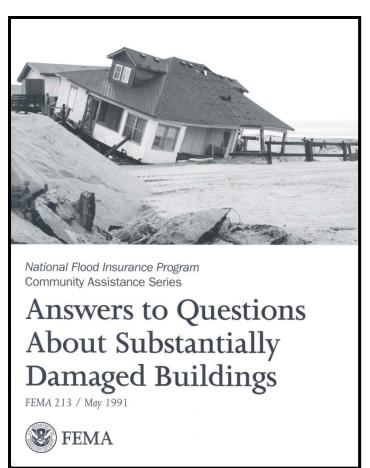
Note the sign in the rear of the picture warns of high water

Substantial Damage

- Repair / rebuilding:
 - Automatically becomes a substantial improvement.
 - Must meet current design requirements of the local ordinance.
 - Must meet other applicable requirements.
- Structures in the SFHA damaged by fire, tornado, or any other cause are subject to substantial damage ordinance provisions.

Substantial Damage (50% rule)





Substantial Damage (50% Rule)

 Substantial improvement: Cost to rebuild / improve a structure in the floodplain, whether damaged or not equals more than 50% of market value prior to start of work.

 Substantial damage: Cost of post-damage repair equals more than 50% of pre-damage market value.

Substantial Damage

A substantially improved or substantially damaged structure must be:

- In the floodplain.
- Noncompliant with current floodplain standards.

Formally declared substantially improved or damaged by

community authority.

50 % Rule

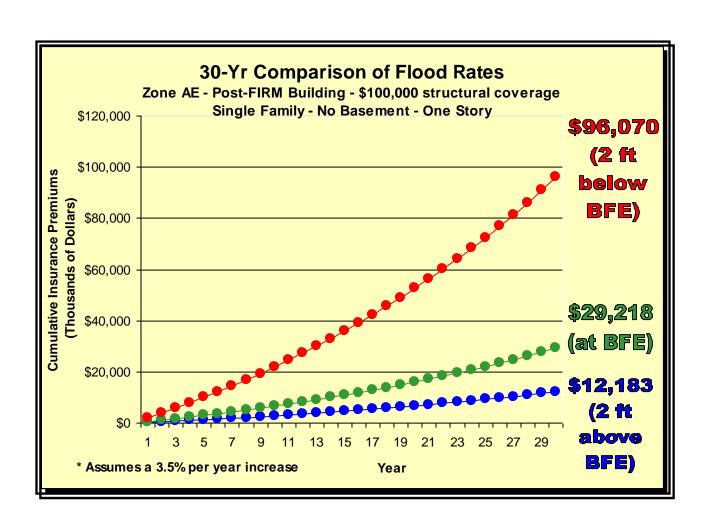
- Replacement cost does not equal market (actual cash) value.
- Replacement cost may be used to estimate market value only if depreciated.

ICC

If the community declares a building substantially damaged or a repetitive loss due to flooding:

- An owner with an ICC policy can file an insurance claim.
- The ICC benefit pays the cost to bring the building into compliance with State and/or local floodplain management laws or ordinances.
- ICC coverage provides payment up to \$30,000 for mitigation measures such as elevation.

Costs



Costs

Example of Savings on NFIP Premiums* with Freeboard

	V Zone ₁		A Zone2	
	Annual savings	30-year savings	Annual savings	30-year savings
1' freeboard	\$1,360 (25%)	\$40,800	\$502 (41%)	\$15,060
2' freeboard	\$2,730 (50%)	\$81,900	\$678 (55%)	\$20,340
3' freeboard	\$3,415 (62%)	\$102,450	\$743 (60%)	\$22,290

^{*}NFIP premiums based on May 2007 rates for a one-floor residential structure with no basement built after a FIRM was issued for the community (post-FIRM rates differ from pre-FIRM rates). \$500 deductible/\$250,000 coverage for the building/\$100,000 for contents.

Illegal Construction

Substantial improvement of any structure in the floodplain, whether damaged or not, is considered new construction under the local floodplain ordinance.





- Complete, Inc. Parent Corporation
- PO Box 1496, Gulf Breeze FL 32562
- Phone (850) 932-8720 Fax (850) 934-6659
- 913 Gulf Breeze Parkway: Suite 5A, Gulf Breeze FL 32561
- Toll Free (877)256-2742
- Email: <u>john@completecontracting.com</u>
- Website: http://www.completecontracting.com

- Repairing Your Flooded Home, FEMA 234
- After a Flood: The First Steps (Brochure, L-198)
- Substantial Damage Estimator (SDE) User's
 Manual and Workbook, FEMA P-784, May 2010
- Substantial Improvement / Substantial Damage
 Desk Reference, FEMA P-758, May 2010

- For current FIRMs and the "Guide to Flood Maps," contact FEMA at:
 - 1-800-358-9616, or

http://www.fema.gov and click on "FEMA Flood Map Store." FIRMS are provided online.

- RIA
- Restoration Industry Association
- 8229 Cloverleaf Drive Suite 460, Millersville MD 21108
- (410) 729-9900 Toll Free (800) 272-7012
- Email: <u>info@ascr.org</u>
- Website: http://www.ascr.org
- www.fema.gov/nfip/elvinst.htm (digital elevation certificate)
- www.Floods.org (common legal questions papers)
- http://tadd.weather.gov/ (Turn around don't Drown)

•

- Air Purifiers-In Duct, Inc. PO Box 2044, Delray Beach FL 33277 (800) 442-1247 Email: activtekab@gmail.com Website: http://www.airpurifiersinc.net
- **Alpine Air**
- 220 Reservoir Street: Ste 22, Needham Heights MA 02194
- (781) 449-7979 Toll Free (800) 628-2209
- American Shrink-wrap Co.
- PO Box 150152, Cape Coral FL 33915
- (239) 542-9599 Toll Free (800) 229-2904
- Email: customerservice@americanshrinkwrap.com
- Website: http://www.americanshrinkwrap.com
- **Anderson Windows, Inc.**
- **Division Anderson Corporation**
- 100 4th Avenue North, Bayport MN 55003
- (800) 426-7691
- Email: link on website
- Website: http://www.andersonwindows.com

- Armstrong World Industries, Inc.
- 2500 Columbia Avenue, Lancaster PA 17603
- PO Box 3001 (17604)
- (717) 397-0611 Toll Free (800) 292-6308
- Email: link on website
- Website: http://www.armstrong.com

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- Berridge Manufacturing Company
- 1720 Maury Street, Houston TX 77026
- (713) 223-4971 Toll Free (800) 231-8127
- Email: sales@berridge.com or bmarks@berridge.com
- Website: http://www.berridge.com

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- The Blue Book of Building and Construction
- PO Box 500, Jefferson Valley NY 10535
- (800) 431-2584
- Email: info@thebluebook.com
- Website: http://www.thebluebook.com

- The Claims Page of the Carolinas
- 223 East Main Street, Tavares FL 32778
- (800) 233-8990
- Email: info@claimspages.com
- Website: http://www.claimspages.com
- CertainTeed Corporation
- 750 E. Swedesford Road, Valley Forge PA 19482
- PO Box 860
- (610) 341-7000 Toll Free (800) 233-8990
- Email: roofing.ct@sgc/infonet.com
- Website: http://www.certainteed.com
- Chemical Specialties, Inc.
- 200 East Woodlawn Road: Suite 350, Charlotte NC 28217
- (800) 421-8661
- Email: <u>acquinfo@chemspec.com</u>
- Website: http://www.chemspec.com

- ChemRex BASF Construction Chemicals Building Systems
- 889 Valley Park Drive, Shakopee MN 55379
- (800) 433-9517
- Email: info@radiancomfort.com
- Website: http://www.buildingsystems.basf.com

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- Clean Aire Inc.
- 1006 Rabbit Run, Hopkins SC 29061
- (803) 776-1117
- Email: <u>cleanaiq@bellsouth.net</u>

- Cleanco Cleaning Products
- 3750 19th Street NE, Calgary AB T2E-6V2
- (800)653-8338
- Email: lquerin@cleanco.com
- Website: http://www.cleanco.com
- CRS Cleaning and Restoration Supply
- 1710 SE Brooklyn Street, Portland OR 97202
- (800) 230-2969
- Email: <u>daved@cleaningandrestoration.com</u>
- Website: http://www.cleaningandrestoration.com
- Coastal Claims Association
- 1506 Azalea Drive: Suite 603, Myrtle Beach SC 29575
- (843) 238-5181

- Dri-Eaz Products, Inc.
- 15180 Josh Wilson Road, Burlington WA 98233
- (360) 757-7776
- Email: <u>info@dri-eaz.com</u>
- Website: http://www.dri-eaz.com

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- Duron Paints and Wall Coverings
- 10406 Tucker Street, Beltsville MD 20705
- (800) 723-8766
- Email: sales@duron.com
- Website: http://www.duron.com

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- Grohe America, Inc.
- 241 Covington Drive, Bloomingdale IL 60108
- Email: <u>info@groheamerica.com</u>
- Website: http://www.groheamerica.com

- Howe-Baker Engineers, Ltd.
- CB&I Sonozaire Division
- 3102 E. Fifth Street, Tyler TX 75701
- (903) 597-0311
- Email: sonozaire@howebaker.com
- Website: http://www.sonozaire.com
- Humidity Control Systems, Inc.
- PO Box 1767, Vancouver WA 98668
- (800) 642-7910
- Hurd Windows & Doors, Inc.
- 575 South Whelen Avenue, Medford WI 54451
- (800) 223-4873
- Email: perfection@hurd.com
- Website: http://www.hurd.com

- ICI Dulux Paints
- 925 Euclid Avenue, Cleveland OH 44115
- (800) 984-5444
- Website: http://www.icipaintstores.com

•

- Inline Distributing Company
- 9380 San Fernando Road, Sun Valley CA 91352
- (800) 795-0933
- Email: <u>bratliff@inlineco.com</u>
- Website: http://www.inlineco.com

•

- Jon-Don, Inc.
- 400 Medinah Road, Roselle IL 60172
- (800) 400-9473
- Website: http://www.JonDon.com

- Juno Lighting Group
- 1300 S. Wolf Road, Des Plaines IL 60018
- (847) 827-9880
- Website: http://junolightinggroup.com

•

- Kohler Company
- Plumbing Division
- (920) 457-4441
- 444 Highland Drive, Kohler WI 53044
- Website: http://www.kohler.com

- Lincoln Windows
- 1400 West Taylor Street, Merrill WI 54452
- (715) 536-2461
- Website: http://www.lincolnwindows.com

- Ludowici Roof Tile
- PO Box 860, Valley Forge PA 19482
- (800) 917-8998
- Email: info@ludowici.com
- Website: http://www.ludowici.com
- Moen Inc.
- 25300 Al Moen Drive, North Olmsted OH 44070
- (800) 289-6636
- Email: <u>dmeredit@moen.com</u>
- Website: http://www.moen.com
- Mohawk Manufacturing, Inc.
- 2175 Beechgrove Place, Utica NY 13501
- (800) 765-3110
- Email: <u>info@austinmohawk.com</u>
- Website: http://www.mohawkcanopy.com

- Benjamin Moore & Company
- 51 Chestnut Ridge Road, Montvale NJ 07645
- (888) 236-6667
- Email: <u>info@benjaminmoore.com</u>
- Website: http://www.benjaminmoore.com

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- Moisture Control Services
- Munters Ben Brackin
- 16 Hunt Road, Amesbury MA 01913
- (800) 959-7901
- Email: mcsinfo@munters.com
- Website: http://www.muntersmcs.com

- Phoenix EnviroCorp
- 4020 Shipyard Blvd, Willington NC 28403
- (910) 397-0370
- Email: PEC@phoenixenvirocorp.com
- Website: http://www.phoenixenvirocorp.com

- Porcelanite, Inc.
- PO Box 1777, Lexington NC 27292
- (910) 242-5621
- Email: info@porcelanite.com.mx
- Website: http://www.porcelanite.com
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- Pro Spec
- Bonsal American
- 8201 Arrow Ridge Blvd., Charlotte NC 28273
- (800) 334-0784
- Email: link on website
- Website: http://www.prospec.com
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- Restoration Consultants
- 3463 Ramona Avenue, Sacramento CA 95826
- (916) 736-1100
- Email: rhi@quiknet.com
- Website: http://www.restcon.com

- Buric RV Construction Consultants
- 2512 Independence Blvd. #200, Wilmington NC 28403
- (910) 791-3299
- Website: http://www.buric.com

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- Sherwin Williams Company
- 101 Prospect Avenue, Cleveland OH 44115
- (216) 566-2000
- Website: http://www.sherwin-williams.com

- Simultaneous Solutions, Inc.
- 3452 Lake Lynda Drive Suite 420, Orlando FL 32817
- (800) 447-4676
- Email: <u>relations@simsol.com</u>
- Website: http://www.simsol.com

- Symons Corporation
- 200 East Touhy Avenue, Des Plaines IL 60018
- (847) 298-3200
- Email: info@symons.com
- Website: http://www.symons.com

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- Sun-Belt USA
- 4211 C Atlantic Avenue, Raleigh NC 27604
- (800) 334-8418
- Email: <u>steamex@vnet.net.com</u>
- Website: http://www.sun-beltusa.com

- Wilmington Claim Association
- PO Box 645, Buford GA 30515
- (910) 350-8208 Kevin Best
- Email: <u>kareng@cagworld.com</u>
- Website: http://www.ncclaims.com

- 3M Company
- 3M Center Building 225-4SW-25, St. Paul MN 55144
- (800) 364-3577
- Email: <u>dtstevens@MMM.com</u>
- Website: http://3mindustrialtransportation.thomasnet.com

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- Unsmoke Restorx Systems
- Microban
- 1135 Braddok Avenue, Braddock PA 15104
- (800) 332-6037
- Email: czlotnik@compuserv.com
- Website: http://www.unsmoke.com

- Vac Systems Industries
- 5995 West 149th Street Suite 102, Apple Valley MN 55124
- (952) 432-3955
- Email: sales@vacsystems.com
- Website: http://www.vacsystem.com

- Vale National Training Center, Inc.
- 5070 Ritter Road Suite 130, Mechanicsburg PA 17055
- (717) 790-9950
- Website: http://www.valenational.com

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- Video-Aire International
- 2569 Gravel Drive, Fort Worth TX 76118
- (888) 595-4393
- Email: <u>info@videoaire.com</u>
- Website: http://www.videoaire.com

- Woodtech, Inc.
- 4394 US Highway 70 W, Princeton NC 27569
- (919) 736-0238
- Website: http://www.woodtechnc.com

- Xactware, Inc.
 1426 East 750 North, Orem UT 84097
 (800) 424-9228
 Email: xsales@xactware.com
- Website: http://www.xactware.com
- U.S. Environmental Protection Agency (EPA)
- Indoor Environments Division (IED)
- An Office Building Occupant's Guide to IAQ
- http://www.epa.gov/iaq/pubs/occupgd.html
- Biological Contaminants
- http://www.epa.gov/iaq/pubs/bio_1.html
- Building Air Quality Action Plan (for Commercial Buildings)
- http://www.epa.gov/iaq/largebldgs/actionpl.html
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- Floods/Flooding
- http://www.epa.gov/iaq/pubs/flood.html
- Indoor Air Quality (IAQ) Home Page
- http://www.epa.gov/iaq
- IAQ in Large Buildings/ Commercial Buildings
- http://www.epa.gov/iaq/largebldgs
- IAQ in Schools
- http://www.epa.gov/iaq/schools
- Mold Remediation in Schools and Commercial Buildings
- http://www.epa.gov/iaq/molds

Mold Resources

http://www.epa.gov/iaq/pubs/moldresources.html

For more subject-specific links, go to:

http://www.epa.gov/iaq/schools/links.html, or

http://www.epa.gov/iaq/asthma/links/index.html

IRP-FLORIDA

The most comprehensive source of relevant information available to insurance and restoration professionals http://www.irp-fl.com

U.S. EPA IAQ Information Clearinghouse (IAQINFO)

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- Phone: (800) 438-4318 or (703) 356-4020
- Fax: (703) 356-5386
- Email: <u>iaqinfo@aol.com</u>
- Indoor air-related documents, answers to Indoor Air Quality (IAQ) questions, maintains listing of state IAQ contacts, and regional EPA contacts

- American College of Occupational and Environmental Medicine (ACOEM)
- Phone: (847) 818-1800
- Website: http://www.siouxlan.com/acoem
- Referrals to physicians who have experience with environmental exposures
- Building Codes per location
- http://www.brackenengineering.com/downloads/CodesInEffect.pdf
- http://www2.iccsafe.org/states/florida_codes/

- American Conference of Governmental Industrial Hygienists, Inc. (ACGIH)
- Phone: (513) 742-2020
- Website: http://www.acgih.org
- Occupational and environmental health and safety information
- American Industrial Hygiene Association (AIHA)
- Phone: (703) 849-8888

Wipp Systems

- Phone (800) 245-0199
- Info@wippsystem.com
- Tool for protecting assets from flood