AIA CA - Component Disaster Toolkit
Roadmap to help AIA Chapters and their Leadership Teams to be Effective Supporting their Communities Before, During, and After a Major Disaster
FIVE PHASES OF DISASTER MANAGEMENT

In each phase of disaster there is a roadmap to enhance chapter effectiveness. Each section may be used as a standalone with checklists and options for immediate action and be used as part of annual training of new AIA Chapter leadership teams.

- **READINESS** - Annual training and preparation of Chapter Leadership to build awareness and establish relationships in the community.

- **RESPONSE** - Immediate steps to take in the first few days after disaster, reminding officials of the AIA Chapter’s ability to support the community and also to provide Safety Assessments.

- **RECOVERY** - Activities and options for the AIA Chapter to take in the first few months after a disaster including working with neighboring Chapters.

- **REBUILDING** - Providing the resources and information to help local architects be effective supporting community rebuilding efforts.

- **REVIEW** - Lessons Learned - Report to AIA CA and DAN - Advocacy Items - Code Changes - Write Case Study - Update Toolkit.
TIMELINE OF DISASTER MANAGEMENT

<table>
<thead>
<tr>
<th>Phase</th>
<th>Timeframe*</th>
<th>Activities</th>
</tr>
</thead>
</table>
| Readiness | Annually (Each new AIA Board) | Chapter Leadership Training and Awareness  
Community Relationship Building |
| Response | Days (+/- 4 days after disaster) | First Responders  
Life safety  
Temporary Shelters  
Cal OES Safety assessment program (SAP) |
| Recovery | Months (+/- 4 months after disaster) | Neighborhood organizing  
Safety and environmental clean up  
Permitting officials - streamlining  
Community – planning, organizing  
Insurance adjusting  
Design & Permitting |
| Rebuilding | Years (2 - 4 - 10 years after disaster) | Preconstruction: Testing, Design, Engineering, Permit  
Construction - Bidding, Contracting, Inspecting  
Furnishing and Moving in |
| Review | After (When component feels activities are complete) | Evaluation of results  
Lessons Learned  
Report out and Advocacy  
Toolkit Feedback  
Case Studies |

* "4 days - 4 months - 4 years" was coined by Cameron Sinclair - Architecture for Humanity - as the average timeframe for responding, but your timeframes will vary. Insurance and regulations set 12-24-36 month limits.
1906 DISASTER RECOVERY
THE YOUNG WOMAN ARCHITECT WHO HELPED BUILD THE BIG FAIRMONT HOTEL

By Jane Armstrong

"I was the "nurse" of a good work and must not let it be known. I was free too. I didn't need to look after any one. I didn't have to see that the house was clean or the children washed. I didn't have to think of the future or the past. I didn't have to worry about the present. I was just free. I was just free to be me."

The young woman architect who helped build the Big Fairmont Hotel was Julia Morgan. She was born in 1872 and died in 1957. She was the first woman to graduate from the University of California and the first woman to become a member of the American Institute of Architects.

Morgan's most famous work was the Fairmont Hotel, which she completed in 1907. The hotel was designed to accommodate the needs of both men and women, a novel idea at the time. Morgan's design included a separate entrance for women, which was unheard of before.

In addition to the Fairmont Hotel, Morgan designed a number of other notable buildings, including the接触到的房间，包括...
1903 5-STORY REINFORCED CONCRETE TOWER

MAY DAY AT MILLS
BUILDING CODE CHANGES | 4 MONTHS
NEW TECHNOLOGY ADOPTED POST-DISASTER

REINFORCED CONCRETE
Construction
THE ONLY FORM OF CONSTRUCTION WHICH TOTALLY
WITHSTOOD EARTHQUAKE AND FIRE
We do your Construction of Buildings and Installing
of Machinery and Equipment on the “Cost-saving-
direct-bill” basis the square-deal-for-everybody plan.

We are Exclusive Pacific Coast Agents for
Plair & Stover (Milwaukee, Wis.), Corliss Engines
and Saw Mill Machinery
Greenway Separators
Standard Safety Water Tube Boilers
Erie Tubular Boilers
Fisher Generator Sets
Erie Automatic Engines
Michigan Locomotive Company Specialties
Geo. J. Leyher Engineering Works Company (Den-
ver, Col.), Compressors, Hoists and Drills
Pierce (Vacuum) Heating Systems for Hotels and

LARGE STOCK ON HAND IN SAN FRANCISCO

Occidental Machinery and Engineering Co.

AMERICAN System of Concrete Reinforcing
WIRE FABRIC AND BARS
OF HIGH-CARBON STEEL
Guaranteeing the Highest Tensile Strength, with Ideal Distribution of Bent, and
Ease of Application giving Continuous Bond on All Sides of Building

THE MOST ECONOMICAL REINFORCING ON THE MARKET

Used in the Largest Concrete Buildings in the World and in the First
Reinforced Buildings in San Francisco.

Our Engineering Depart is at your service for Plans, Designs and Costs

American Wire Fence Co.

LA BALLE STREET, CINCINNATI, OHIO.
Readiness means having current Leadership aware of the resources available to them at the beginning of each year and ongoing efforts to build the relationships that will facilitate collaboration during a Disaster event and after. This includes:

- Annual Leadership Training
- Annual Readiness and Outreach Plan
- Annual Business Continuity Plan
CHECKLIST - READINESS

- Annual AIA CA Disaster Readiness Training - Q1
  - In Person, Online or by Video
  - AIA Component Disaster Toolkit and AIA Handbook Access
  - Ongoing and “Day One” Communication Strategies

- Annual AIA Component Leadership Readiness & Outreach Plan
  - Participation in the Disaster Area Network (DAN)
  - Engagement plan with community leaders and CBO’s
  - Communication outreach plan to staff and members

- AIA Component Business Continuity Plan
  - Information technology - Backup of Documents and Data
  - Facilities management - Protection of Physical Assets
  - Remote Work Policy
  - Project management continuity plan
  - Office administration/human resources - Emergency Contact List
  - Business Continuity Financial Plan
The response phase of a disaster is the time when the disaster event is occurring and continuing for a number of days following the disaster as the first responders make the community safe and assess the structural safety of those structures that remain. During this phase, Community Leadership will want to start engaging with the community:

- Immediate Action - Core Team
- Disaster Recovery Committee
- Community Outreach
CHECKLIST - RESPONSE

- **Day One - First Meeting Core Team:**
  - Convene Core Team to define path forward for several days
  - Open Toolkit and go to Response Checklist, create plan
  - Review Business Continuity Plan and Communication Plan

- **Phase Two - Safety of Staff and Members**
  - Return to Chapter Office, if safe, or determine alternate location to safely operate
  - Contact State and Federal Agencies for Disaster Support
  - Reach out to other Staff to verify safety - personal and business

- **Phase Three - Begin Community Outreach**
  - Leadership Engage Community and CBO Leaders
  - Reach out to adjacent Jurisdictions - collaboration

- **Prepare collateral materials -**
  - Day One Response Materials
  - One pager of what Leadership can provide to community
  - Elevator speech - How AIA Can Help Community

- **First Week - Disaster Recovery Committee Chair**
  - Schedule first meeting, notify membership and adjacent chapters
RESPONSE - SHOWING UP

AIA Redwood Empire

Firestorm Recovery Committee
Providing the support of AIA Architects to the community for:

[Image of a large gathering in a gymnasium]
ARCHITECT SERVICES and CAPACITIES

- **Pro Bono Assistance (Waivers)**  
  - Volunteer Architects via Cal OES SAP  
  - DRC/LAC Centers Help Homeowners  
  - Workshops - Group and One on One

- **Design and Engineering**  
  - Insurance pays for design (not pro bono)  
  - Reasonable Fees, Proper Estimating  
  - Don’t over design (HSWS equivalency)  
  - “Stay in Your Lane”  
  - “Only bite off what you can chew.”

- **Consumer Protection of a Vulnerable Population**  
  - Beware of non-architects holding out and charging as if  
  - Promote the value of AIA Architects providing Construction Administration  
  - Contractor relationships  
  - Fraudulent Contractors
CO-ORDINATING with COMMUNITY

OUTREACH AND AWARENESS
● Politicians – Government leads in Response phase
● Social Media – Next Door, Facebook
● Community Groups forming - join
● Follow Communication Plan

PROFESSIONAL ACTIVITIES
● Learning about the effects of the Disaster
● Offering to collaborate with building officials
● Collaboration with Builder’s Exchange and CSLB
The Recovery phase of a disaster is the next several months when the community and property owners are planning their recovery process. There is a lot of confusion and the government agencies are still predominantly leading the efforts, but the government does not design or build structures except their own. Property owners have to step up and they need a lot of help, which AIA Chapters can help with. In this time of pivoting from government to building industry, there are many activities and options for the AIA Chapter to take.

- Disaster Recovery Committee Meetings
- Architects Engaging Recovery Planning
- Community Outreach
- Professional Development
CHECKLIST - RECOVERY

- DISASTER RECOVERY COMMITTEE MEETINGS
  - Decide how the Chapter wants to get involved
  - Organize the subcommittees and teams that have similar interests
  - Communication Plan for Committee - Basecamp

- COMMUNITY OUTREACH
  - Workshops and Hotlines
  - Lead Community Charrettes to Plan Recovery and Resilience for Future
  - Promote good design and resilient rebuilding
  - Promote value of architects in helping rebuild community
  - Online resources to help property owners find available architects

- PROFESSIONAL DEVELOPMENT
  - Provide learning opportunities regarding immediate issues
  - Participate with collateral organizations
  - Provide links for component membership to access online resources and guidelines
DISASTER RECOVERY BASECAMP
ARCHITECT SERVICES and CAPACITIES

● Pro Bono Assistance (Waivers)
  ○ SAP Safety Assessment
  ○ DRC/LAC Centers Help Homeowners
  ○ Workshops Group and One on One

● Design and Engineering
  ○ Insurance pays for design (not pro bono)
  ○ Reasonable Fees, Proper Estimating
  ○ Don’t over design (HSWS equivalency)
  ○ “Stay in Your Lane”
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● Consumer Protection of a Vulnerable Population
  ○ Beware of non-architects holding out and charging as if
  ○ Promote the value of AIA Architects providing Construction Administration
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COMMUNITY OUTREACH

American Institute of Architects
Redwood Empire

Homeowner Rebuild Workshop

Vet's Hall Memorial Building
1351 Maple Avenue, Santa Rosa
AIARE.org
RECOVERY - ARCHITECTS HELPING COMMUNITY

LAKE COUNTY - PREP

• Community Workshops
• One on Ones
• Trust of Authorities
• Educating Homeowners
Rebuilding takes *years* and involves architects intimately in the design and construction phases. Architects can be so busy, that they don’t engage with the component activities. And AIA Components can help architects be effective, maintain stamina, and drive a successful rebuilding effort by:

- Continuing Disaster Recovery Committee Activities
- Supporting Local Architects
- More Community Outreach
- Showcasing Rebuilding Efforts and Projects
CHECKLIST - REBUILDING

- **DISASTER COMMITTEE ONGOING COMMUNICATION**
- **SUPPORT LOCAL ARCHITECTS**
  - Professional Development - Resilient Design, New Materials, Sustainability
  - Collaborative opportunities with AEC community - code and streamlining
  - Continuing networking activities and promoting stamina
- **COMMUNITY OUTREACH**
  - Workshops and Hotlines for property owners to meet with architects
  - Presentations about resilient design
  - Provide online “Architect Finder” with availability, specializations, and contact info
  - Educate community about architect services during construction to protect assets
- **SHOWCASE REBUILDING EFFORTS AND PROJECTS**
  - Include special categories in Design Awards
  - Find collaborative opportunities to exhibit design award entries
  - Media outreach with articles, social media, newsletters and press releases
1. Debris removal
   Public or private
2. Architect as Team Leader
3. Geotech/Survey/Topo
   Individual or group
4. Permitting and bidding
   (Contractor)
5. Construction
6. Change Orders
7. Furnish and move in!

Insurance #1

Insurance #2

Insurance Complete

Coffey Park neighborhood of Santa Rosa: 1 house standing 4 months after the fire
CUSTOM HOMEBUILDING - CAN BE 25+ YEARS

| 20 years⁺ | + 2 years | + 2 years | + 1 year ...
|-----------|-----------|-----------|-------------
| Imagine   | Design    | Engage    | Inhabit     |
| Acquire   | Explore   | Improve   | Furnish     |

Land + $$$ => Vision
Architect
Builder
Move-in
ARCHITECT SERVICES and CAPACITIES

● Pro Bono Assistance (Waivers)
  ○ SAP Safety Assessment
  ○ DRC/LAC Centers Help Homeowners
  ○ Workshops Group and One on One

● Design and Engineering
  ○ Insurance pays for design (not pro bono)
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● Consumer Protection of a Vulnerable Population
  ○ Beware of non-architects holding out and charging as if
  ○ Promote the value of AIA Architects providing Construction Administration
  ○ Contractor relationships
  ○ Fraudulent Contractors
LEARNING ABOUT PROCESS & CONTRACTS

How many contracts? Design choices?
How to get done – DIY? One Stop?

- Appraisers and Adjusters
- Geotech & Surveyors
- Architects and Engineers
- T24 and Green Consultants
- Permits and Expeditors
- Cost Estimators
- Contractors
- Specialty Subcontractors
- Buying Specialty Items
- Replacing Personal Property
UNDERSTANDING INSURANCE

## Insurance Company A

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Policy (Dwelling)</th>
<th>House Sq Foot</th>
<th>Garage Sq Foot</th>
<th>Price per square foot: low case</th>
<th>Price per square foot: high case</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$500,000</td>
<td>2,200</td>
<td>500</td>
<td>$325</td>
<td>$450</td>
</tr>
</tbody>
</table>

### Insurance Policy

<table>
<thead>
<tr>
<th>Insurance Policy</th>
<th>Maximum Policy Limit</th>
<th>Primary Coverage %</th>
</tr>
</thead>
<tbody>
<tr>
<td>A - Dwelling (Green upgrades included)</td>
<td>$500,000</td>
<td>10%</td>
</tr>
<tr>
<td>B - Other Structures</td>
<td>$50,000</td>
<td>10%</td>
</tr>
<tr>
<td>A1 - Replacement Cap</td>
<td>$250,000</td>
<td>50%</td>
</tr>
<tr>
<td>Code Upgrade</td>
<td>$100,000</td>
<td>20%</td>
</tr>
<tr>
<td>Trees, shrubs, landscaping</td>
<td>$25,000</td>
<td>5%</td>
</tr>
<tr>
<td><strong>SUBTOTAL COVERAGE A</strong></td>
<td><strong>$925,000</strong></td>
<td></td>
</tr>
</tbody>
</table>

| C - Personal Property | $350,000 | 70%         |
| **SUBTOTAL DWELLING + PERSONAL PROPERTY** | **$1,275,000** |          |

| A - Debris Removal - Dwelling | $25,000 | 5%         |
| B - Debris Removal - Other Structures | $2,500 | 5%         |
| C - Personal Property Debris Removal | $17,500 | 5%         |
| D - Loss of Use               | $200,000 | 40%        |
| **SUBTOTAL COVERAGE B** | **$245,000** |            |
| **TOTAL**                     | **$1,520,000** | 304%       |

### Homeowner Information

<table>
<thead>
<tr>
<th>Name -</th>
<th>Joe Policyholder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address -</td>
<td>1234 Nice Home Avenue</td>
</tr>
<tr>
<td></td>
<td>American Town, USA</td>
</tr>
</tbody>
</table>

### Project Estimates

<table>
<thead>
<tr>
<th>Project</th>
<th>Low</th>
<th>High</th>
<th>% of Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dwelling</td>
<td>$790,250</td>
<td>$1,102,500</td>
<td></td>
</tr>
<tr>
<td>Site Structures</td>
<td>$159,250</td>
<td>$220,500</td>
<td>20%</td>
</tr>
<tr>
<td>Soft Costs (7-25% possible)</td>
<td>$119,438</td>
<td>$165,375</td>
<td>15%</td>
</tr>
<tr>
<td>Landscaping</td>
<td>$79,625</td>
<td>$110,250</td>
<td>10%</td>
</tr>
<tr>
<td><strong>SUBTOTAL</strong></td>
<td>$1,154,563</td>
<td>$1,596,625</td>
<td></td>
</tr>
<tr>
<td>Interior Design &amp; Furnishings*</td>
<td>$115,456</td>
<td>$159,863</td>
<td>10%</td>
</tr>
<tr>
<td><strong>SUBTOTAL DWELLING + INTERIORS</strong></td>
<td><strong>$1,270,019</strong></td>
<td><strong>$1,758,488</strong></td>
<td></td>
</tr>
<tr>
<td>Debris Removal</td>
<td>$45,000</td>
<td>$45,000</td>
<td></td>
</tr>
<tr>
<td><strong>(Actual Loss Sustained)</strong></td>
<td>$200,000</td>
<td>$200,000</td>
<td></td>
</tr>
<tr>
<td><strong>SUBTOTAL</strong></td>
<td>$245,000</td>
<td>$245,000</td>
<td></td>
</tr>
<tr>
<td><strong>PROJECT COSTS</strong></td>
<td><strong>$1,515,019</strong></td>
<td><strong>$2,003,488</strong></td>
<td></td>
</tr>
</tbody>
</table>
REBUILDING STATS – 15 Months to 33 Months

4% Built ➔ 50% Built
50% Rebuilding ➔ 80% Built & Rebuilding

Progress by Parcels Rebuilding
Chart depicts the number of Residential Properties (parcels) in each respective stage of the active permit process.
**POST-DISASTER REBUILDING => 8 - 24 months**

<table>
<thead>
<tr>
<th>Identify AEC Team</th>
<th>Pre-Construction</th>
<th>Construction</th>
<th>Move-in</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 weeks</td>
<td>1-8 months</td>
<td>6-14 months</td>
<td>~2 weeks +</td>
</tr>
</tbody>
</table>

- **Rebuilding Strategy**
  - Site Assessment

- **Pre-Construction**
  - Debris Removal
  - Insurance/Funding
  - Design/Engineering
  - Permitting

- **Construction**
  - Site Prep
  - Vertical Construction

- **Move-in**
  - Furnish
  - Inhabit

---

ALE is only 12 months if house was not in a declared emergency zone, so important to get started ASAP.
After the disaster has passed, the component should take time to review the activities of the chapter and assess the effectiveness of their efforts to help the community. Because component leadership changes annually, it is important to carry this thread and follow through even with subsequent component leadership. This review can include:

- Lessons Learned
- Success Metrics
- Write Case Study
- Report to AIA CA and DAN
- Advocacy Items
- Recommend Code Changes
- Update Toolkit

The value of this review is that the success of our components can be a tool for all chapter leadership to demonstrate to local, state, and federal officials the value of AIA Chapter engagement with the community from “Day One” of the disaster. Governments don’t rebuild their communities. Architects, engineers, and contractors do. Having architects engaged helps everyone with a successful response-rebuilding-recovery process.
CHECKLIST - REVIEW

- Disaster Response Committee Review Meeting
  - Discussion of Lessons Learned
  - Identifying Metrics of Success

- Writing Case Study
  - All members of Chapter Leadership Team can Access (verified)

- Report to AIA CA and to Disaster Area Network
  - Advocacy elements
  - Code Change recommendations
  - Toolkit Feedback

- Outreach to community
  - Media engagement
  - Community leadership presentations
MEET AND EXCEED GOALS

33 Months of Recovery/Rebuilding
1,069 County + 1,311 City = 2,480 Homes Complete
4,177 Permits Issued = 70-75% in process

HOA-87%
Workforce-80%
Custom flat-60%
Everyone else – 20-40%
Disasters have always occurred, in California and throughout the world. Their impact on buildings has been carefully studied and resulted in changes to how we build. Here we provide case studies for how AIA Chapters respond and the ripple effect of their activities in the success of rebuilding their community and their contribution to creating more resilient solutions for planning and building.

To date we have several Case Studies:

- 2020 Santa Cruz - CZU Complex
- 2018 Santa Barbara - Thomas Fire
- 2017 Sonoma County - Tubbs Fire
- 2015 Lake County - Valley Fire
- 1906 San Francisco Earthquake - Julia Morgan, FAIA
CASE STUDIES

1) RESPONSE:
Damage Inspection Team completed primary and secondary Safety Assessment Process (SAP) inspections of the structures destroyed by the Valley Fire as directed by CalFire and CalOES. These SAP Inspections were completed primarily by local government building officials. The AIAE Executive Director reached out to local officials, but was told to wait for several months due to fears of "ambulance chasers." On our first visit, we did significant tourining of the damaged areas.

2) RECOVERY:
Beginning January 2016, the Chapter was invited to come and participate in home rebuilding workshops, meals, and we created one-on-one workshops on several weekends. Over 20 of our members, including Allied engineers, attended one or multiple events to help homeowners understand the process of design and construction. In each event, we staged the homeowner to put them together with a professional who could help them the best. Some developed longer term relationships that became project work. Others offered pro bono services to develop proof of loss documents, floor plans and construction cost estimates.

1) RESPONSE:
From Day One, AIAE was proactive with the political process to participate with the response efforts. Chapter leadership met "Day One" and decided to show up and offer our resources in every possible manner. We created a Firestorm Recovery Committee (FRC), with participants from neighboring AIA Chapters. We joined various groups like the Napa County Community Foundation and met with multiple politicians, media representatives, and community leaders. We consulted with AIA California and AIA National, and made our member architects available to the public for as much capacity as they could handle. As a result of early advocacy:
• AIAE participated in the Local Assistance Center (LAC) for the first three weeks of response with two members in three hour shifts. We set up the schedule in Sign-Up Genius and members from several Bay Area Chapters manned our table. We allowed concerns of CalOES by not allowing architects to put their personal business cards on the table or we created one that could be handed out to individuals to represent our Chapter efforts and provide contact info. We asked visitors to our table to sign-in before they spoke with an architect, and our sign-in sheet included a liability waiver.

Robert L. Oakes, FAIA
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