



## Bay Area Earthquake Plan



**Comment Form – forward comments to [Michael.matthews@fema.dhs.gov](mailto:Michael.matthews@fema.dhs.gov) &  
[Nate.Ortiz@caloes.ca.gov](mailto:Nate.Ortiz@caloes.ca.gov)**

Name: Corinne Bartshire, Chair	
Organization: San Francisco Bay Area Regional Catastrophic Planning Team	Email address: Corinne.Bartshire@sfgov.org

Page #	Current Content	Recommended Change (Content)	Justification or brief explanation
<i>Page number of the plan.</i>	<i>Brief excerpt of what the plan says.</i>	<i>What the plan should say. This text should be written for direct inclusion in the plan.</i>	<i>Why should it change?</i>
Global	Charts listing Asset/Agency	Spell out each acronym during first use, all tables, figures, and headings.	Plain speak. Lose the acronyms. Do not make the assumption that all parties reading the document know what all of them mean.
Global	Scope of the plan	<p>Define how this plan relates to the California Catastrophic Incident Base Plan: Concept of Operations (2008).</p> <p>Consider adding roles and responsibilities for local governments – page A-11.</p>	<p>The 2008 CA Catastrophic Incident Base Plan CONOPS is not referenced here. Does this plan supplement or replace that CONOPS? The former plan uses the REOC concept and would appear to be in some conflict with the processes detailed in the new plan.</p> <p>Absent a CA plan, this plan will also guide the coordination of state and local governments. Is this plan intended to solely focus on the state/federal coordination function? Op Areas</p>



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			<p>are mentioned only briefly on page 11.</p> <p>It is also unclear how this plan will integrate with SEMS. There is no mention of regional coordination on page 11 except for mutual aid.</p> <p>Table A-2 on page A-5 uses the term “Op Area/County” – there is a significant difference in the role of County government depending on the term used and the corresponding operational relationship.</p>
TBD	Missing content	Acknowledge the impact or long-term weather patterns on the damage risk. Include on page B-5?	Regional weather changes including El Nino, La Nina will alter the soil saturation/slope stability/ and liquefaction factors.
1	Missing content	Acknowledge other known major faults referenced in Figure 1. Make a note that the Calaveras was not modeled as part of this plan.	No reference to Calaveras even though highlighted in Figure 1.
5	Missing 2a content	Add Local ESF-3-related resources that support emergency debris clearance to open priority transportation corridors.	Local public works departments have the resources to immediately open priority routes.



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A-4	Geographic Operations	<p>Provide an alternative approach to the Geo Ops concept.</p> <p>Provide a summary of the concept including team activation thresholds/triggers, staffing levels, staff qualifications, communication procedures, authorities, and responsibilities.</p> <p>Identify responsibilities of local governments to support deployed Geo Ops teams.</p>	<p>This entire plan hinges on the use of the Geo Ops concept which is unproven and unexercised in California. However, the concept is described in only the briefest of terms and does not provide sufficient detail to enable local jurisdictions to understand how they will engage with state and federal systems. There is no familiarity or experience with this concept. The only reference or guidance is a federal DHS inter-agency CONOPS document.</p> <p>Sounds like a set of agency reps rather than an operational team. Unclear how this concept will support SEMS.</p>
A-5 & A-6 Figure A-3	Geographic Operations Divisions Map	<p>Inconsistency in defined Plan footprint: Table A-2 and Figure A-3 map indicate that Monterey, Santa Cruz and San Benito Operational Areas are operationally incorporated in this Plan.</p> <p>They are included in calculating the Bay Area population (Table B-1). An earthquake will clearly impact these counties (Figure B-4).</p>	<p>Monterey, Santa Cruz, and San Benito counties are considered a part of the SF Bay Area – economically, politically, functionally, and in local and regional emergency management and homeland security plans and programs.</p>



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		<p>These counties appear to be incorporated as part of the recovery efforts (see Figure C-15-5). However, these counties are not used as staging areas for resources coming in from the South (Figure D-3). In Mass Care and Sheltering, local governments will carry the bulk of the burden in the first 72 hours – this need to rely on neighboring jurisdictions should be highlighted. Emphasize our neighbors to the south.</p>	
B-1	<p>The San Francisco Bay Area has the 2nd most Fortune 500 companies in the United States and ranks 19th in the world when compared to national economies.</p>	<p>Fact check needed.</p>	<p>UN lists Saudi Arabia as 19th at \$748B.</p>



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B-2	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">County</th> <th style="text-align: left;">Branch/Division</th> <th style="text-align: right;">Population</th> <th style="text-align: right;">Area (sq miles)</th> </tr> </thead> <tbody> <tr><td>Marin</td><td>Branch I / Division A</td><td style="text-align: right;">252,409</td><td style="text-align: right;">464</td></tr> <tr><td>Sonoma</td><td>Branch I / Division B</td><td style="text-align: right;">483,878</td><td style="text-align: right;">1,404</td></tr> <tr><td>Mendocino</td><td>Branch I / Division C</td><td style="text-align: right;">87,841</td><td style="text-align: right;">3,102</td></tr> <tr><td>Napa</td><td>Branch II / Division D</td><td style="text-align: right;">136,484</td><td style="text-align: right;">696</td></tr> <tr><td>Yolo</td><td>Branch II / Division E</td><td style="text-align: right;">200,849</td><td style="text-align: right;">905</td></tr> <tr><td>Solano</td><td>Branch II / Division F</td><td style="text-align: right;">413,344</td><td style="text-align: right;">745</td></tr> <tr><td>Sacramento</td><td>Branch II / Division G</td><td style="text-align: right;">1,418,788</td><td style="text-align: right;">866</td></tr> <tr><td>Contra Costa</td><td>Branch III / Division H</td><td style="text-align: right;">1,049,025</td><td style="text-align: right;">654</td></tr> <tr><td>San Joaquin</td><td>Branch III / Division I</td><td style="text-align: right;">685,306</td><td style="text-align: right;">1,261</td></tr> <tr><td>Alameda</td><td>Branch III / Division J</td><td style="text-align: right;">1,510,271</td><td style="text-align: right;">659</td></tr> <tr><td>Santa Clara</td><td>Branch IV / Division K</td><td style="text-align: right;">1,781,642</td><td style="text-align: right;">1151</td></tr> <tr><td>San Benito</td><td>Branch IV / Division L</td><td style="text-align: right;">55,269</td><td style="text-align: right;">1,234</td></tr> <tr><td>Monterey</td><td>Branch IV / Division M</td><td style="text-align: right;">415,057</td><td style="text-align: right;">2,945</td></tr> <tr><td>Santa Cruz</td><td>Branch IV / Division N</td><td style="text-align: right;">262,382</td><td style="text-align: right;">366</td></tr> <tr><td>San Mateo</td><td>Branch IV / Division O</td><td style="text-align: right;">718,451</td><td style="text-align: right;">403</td></tr> <tr><td>San Francisco</td><td>Branch IV / Division P</td><td style="text-align: right;">805,235</td><td style="text-align: right;">42</td></tr> <tr> <td><b>TOTAL</b></td> <td></td> <td style="text-align: right;"><b>10,276,231</b></td> <td style="text-align: right;"><b>16,927</b></td> </tr> </tbody> </table>	County	Branch/Division	Population	Area (sq miles)	Marin	Branch I / Division A	252,409	464	Sonoma	Branch I / Division B	483,878	1,404	Mendocino	Branch I / Division C	87,841	3,102	Napa	Branch II / Division D	136,484	696	Yolo	Branch II / Division E	200,849	905	Solano	Branch II / Division F	413,344	745	Sacramento	Branch II / Division G	1,418,788	866	Contra Costa	Branch III / Division H	1,049,025	654	San Joaquin	Branch III / Division I	685,306	1,261	Alameda	Branch III / Division J	1,510,271	659	Santa Clara	Branch IV / Division K	1,781,642	1151	San Benito	Branch IV / Division L	55,269	1,234	Monterey	Branch IV / Division M	415,057	2,945	Santa Cruz	Branch IV / Division N	262,382	366	San Mateo	Branch IV / Division O	718,451	403	San Francisco	Branch IV / Division P	805,235	42	<b>TOTAL</b>		<b>10,276,231</b>	<b>16,927</b>	<p>This chart should be modified to include the breakout of children, individuals with disabilities and functional access needs to assure that communities understand their “burden” of special populations and assure adequate planning. Children &lt; 5 years should be broken out as a separate category. Consider GIS mapping of ages within communities and special needs populations to enhance the understanding of what will need to be mobilized and supported.</p>	<p>Under the Pandemic and All-Hazards Preparedness Reauthorization Act (PAPRA), special populations including children, pregnant women, elderly and those with functional access needs are particularly vulnerable and most communities have not sufficiently planned for them. This document should fully articulate those populations as part of the HVA and risk assessment. There is huge detail on the mapping of the faults yet insufficient detail on the population characteristics that will be affected which impacts response and recovery operations.</p>
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B-4	Missing content	<p>Acknowledge other known major faults referenced in Figure 1. Make a note that the Calaveras was not modeled as part of this plan.</p>	<p>No reference to Calaveras even though highlighted in Figure B-2.</p>																																																																								
B-7	<p>Figure B-3: Bay Area Liquefaction Vulnerability. The cities of Oakland, San Francisco, and San Jose are not mapped</p>	<p>Revise Map</p>	<p>The map is not accurate according to the Map Legend for City Size</p>																																																																								



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Page #	Current Content	Recommended Change (Content)	Justification or brief explanation
C-2	<b>Missing Information</b>	Port of Richmond? Marina Municipal (formerly Fort Ord) Airport?	Were Port of Richmond and the Marina Municipal Airport considered?
C-1-5	<b>NONGOVERNMENTAL/PRIVATE SECTOR ORGANIZATIONS</b> <b>American Red Cross</b> <ul style="list-style-type: none"> <li>○ Deploy national incident public affairs teams to impacted area.</li> <li>○ Coordinate with state/federal partners (EF/ESF 6) on initial mass care messaging.</li> <li>○ Send designee to participate in JIC</li> </ul>	Only NGO mentioned is Red Cross on the Federal side. I would recommend Save the Children, Center for Missing and Exploited Children, which are also federal partners in these events. Local jurisdiction PIOs and the regional JIS will serve as the primary points of coordination for public messaging including social media.	The assumption that a single NGO could represent all private sector organizations is misleading. Many operational areas are under the impression that all shelter and care functions are going to be filled by the ARC which is not feasible or appropriate. Local jurisdictions need to actively plan to support shelter and care especially the first 72 hours. Local governments understand their communities and can better leverage social media and existing networks to make messaging effective.
C-5-1	Provide operational support to infrastructure recovery operations.	The Planning Factors are missing. The data model should indicate possible damage to water, fuel and power systems.	Data should be provided in a manner consistent with other Appendix C content (see C-4 Fire or C-3 Fatalities for details).
C-6	... deep-water channel has an average depth of 35 feet and an average depth at high tide of 40 feet.	Add in low tide data as that is more critical to shipping.	
C-6-5	Missing Information: State EF6 FAST teams	Should note this is a limited State resource and will not be widely available to most affected jurisdictions. Perhaps use parentheses	This comment was previously submitted (June 2015) and is not reflected in the current draft.



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		after the bullet point item and just say (currently a limited resource and should be prioritized).	
C-6-6	Typo – Local restaurants and kitchens <b>being</b> feeding	... <b>begin</b> feeding	Typo
C-6-6	Missing Information: Red Cross	Should note that in that first 72 hours, the vast majority of shelters will be staffed and run by CBOs and local government. In SF, ARC has indicated it will max out at 3 shelters with local staff and resources. Perhaps a state or federal objective might be prioritizing the movement of ARC national resources and personnel into the affected area.	The roles and responsibilities of the Red Cross listed here – especially in the first 24 hours – far exceed their capacity. This plan does not account for the need to prioritize resources or how to integrate informal, ad hoc, or local government shelters. This comment was previously submitted (June 2015) and is not reflected in the current draft.
C-6-6	Missing Information	Building inspectors will need to inspect shelter facilities prior to opening. Shelter openings will be constrained where inspectors are overwhelmed with other critical facilities to inspect first. Local government will expect mutual aid assistance from the State during the first 72 hours to augment the limited number of local government building inspectors. Could be added to EF 6.	This comment was previously submitted (June 2015) and is not reflected in the current draft.



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C-6-12	Missing Information	MTC doesn't have a role in Phases 1 and 2?	This comment was previously submitted (June 2015) and is not reflected in the current draft.
C-8-1	Ensure a safe and secure environment for communities and response operations.	The Planning Factors are missing. The data model should indicate number of jails/prisons impacted, law enforcement needed/available, etc.	Data should be provided in a manner consistent with other Appendix C content (see C-4 Fire or C-3 Fatalities for details).
Table C-8-2	Missing Information	Local mutual aid law enforcement strike teams available should be listed similar to Appendix C-4.	
C-8-8 Table C-8-2	Missing Information	Is there supposed to be a capability listed for CHP?	
C-8-8 Table C-8-2	Title 32 Forces (EMAC)	Force Protection for state personnel Security augmentation for local law enforcement.	Title 32 (EMAC) is not a capability but rather, a method for obtaining NG forces from other states.
C-9-6 and Figure C-9-2	Candlestick Park in SF is listed as a potential HLZ for fixed-wing evacuation of patients	Candlestick Park is currently a construction site and when completed will have limited open space appropriate for helicopter landing.	Not a viable option for HLZ after site configuration changed.
Table C-9-1	Resources - Veterinary Medicine Support	Remove animal-related resources	No mention of animal care in Appendix C-9 CONOPS. Move resources to appropriate Appendix.
C-9-11	Missing Content	Tasks by Phase: Phase 2a Immediate Response (0-24 hrs) - EF 8: Include 'Deploy ambulance strike teams'.	This is a fundamental task for this EF as mentioned in the narrative concept of operations. This comment was previously





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			submitted (June 2015) and is not reflected in the current draft.
C-9-12	Sub-bullet 6: edit 'modify licensing'	Change 'modify licensing' to 'modify facility licensing'.	To distinguish from paramedic or health care licensing. This comment was previously submitted (June 2015) and is not reflected in the current draft.
C-10-1	With a Gross Domestic Product (GDP) of \$535 billion, the Bay Area ranks 19th in the world when compared to national economies ....	Fact check needed.	UN lists Saudi Arabia as 19th at \$748B.
C-10-1	Planning Factors	List number of potential impacted workers outside Alameda County.	Missing data
C-11-1	Situation Health and Social Services	Section on patient movement to support medical evacuation of patients requiring specialty care not even mentioned although it is known to be anticipated. Workforce may need to accompany patients to the receiving facility resulting in decreased workforce at referring facility and need for relocation of medical personnel.	There is no mention of the need to perform numerous evacuations, decompressions and patient medical transportation. There are insufficient resources to support medical transportation of special populations including NICU, PICU and Perinatal populations
Table C-14-1	Missing Data	Why are the bridge counts and other facilities identified in Table C-14-1 not included with their respective Appendix for transportation, infrastructure, etc?	



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D-13	The Red Cross coordinates feeding operations and bulk distribution in disaster response, in conjunction with local governments	Local government is responsible for coordinating - at least bulk distribution (PODs) - with support from the Red Cross.	The Red Cross is not equipped or staffed to undertake this mission in a catastrophic event. This comment was previously submitted (June 2015) and is not reflected in the current draft.
D-14	Missing Information	Identify local government responsibilities. When commodities arrive in the local jurisdiction does unloading remain the responsibility of the delivering entity? Unclear if the local jurisdiction was expected to take control once the commodities arrive, including unloading.	This comment was previously submitted (June 2015) and the response that “This is something that can and should be worked during the incident” is unacceptable. This plan effectively establishes policy and all the stakeholders need to understand what is expected of them so that they can resource appropriately.
D-14	Missing Information	Would expect that most local jurisdictions will ask for State National Guard support with distributing commodities – at least initially. Should that be noted under EF 6?	This comment was previously submitted (June 2015) and the response was insufficient. This procedure should be addressed in the plan.
D-14	Missing Information	Suggest noting somewhere that along with commodities a successful shelter-in-place strategy will need to include distribution of sanitation resources including portable toilets for affected neighborhoods. If people don’t have	This comment was previously submitted (June 2015). The response noting that “if there is a shortfall in in this capability, the requirement may need to be defined in terms of



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		drinking water pressure it is assumed toilet flushing is also impacted.	local efforts ...” is unacceptable – this is a catastrophic plan and it’s a safe assumption that if local governments can’t provide their communities with water, providing portable toilets is certainly also going to be beyond their capacity. People will stay in their homes without water and power if they have access to sanitation and phone charging.
App X	Appendix X	Appendix F	Why the jump from Appendix E to X?
X-13	Mass CARE SERVICES	There is no mention or discussion of child care, schools critical to recovery and stabilizing of a community.	This is a major gap in the document. Child Care is critical to allowing parents to return to work. Schools are critical to supporting the well-being and recovery of children and the return of normalcy.
X-22	Appendix C-9 Public Health and Emergency Medical Services	Need to plan for mutual aid requests to support patient movement of NICU, high risk perinatal and PICU patients which will likely require out of state resources.	Medical transportation resources are limited. NDMS has limited to no pediatric/neonatal patient movement.