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ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
OPERATIONS

1. **Concept of Operations**.

a. If a catastrophic event occurs, Federal response actions will be in accordance with the Federal Response Plan, including the supplements for FEMA Region X and Alaska. Most Federal response efforts will be managed by 12 multi-agency Emergency Support Functions. The lead agency for each ESF will manage operations of that ESF, including requesting assistance from its support agencies. (Normally, assistance within an ESF will be provided on a mission basis, rather than through the loan of personnel between agencies. However, there are exceptions, such as Structural Safety Assessment inspectors.) Assistance from other ESFs, such as Transportation, will be coordinated through the Disaster Field Office (or through the Regional Operations Center, in the early stages of the event). Some response activities will be accomplished under the in-house authorities of Federal agencies.

b. The Corps of Engineers is the DoD activity responsible for ESF #3, Public Works and Engineering. USACE is also the primary DoD planning activity for ESF #10, Hazardous Materials, and ESF #12, Energy; it may be called upon to provide support to any ESF. The Corps of Engineers also has some in-house authorities to respond to disasters, and will provide engineering and construction services for repair of some Federal facilities.

c. Pacific Ocean Division has overall responsibility for USACE activities in Alaska under the Federal Response Plan. POD will provide a "Division Forward" commander, who will manage the USACE response and recovery activities. For a catastrophic event, this will normally be the Division Commander or Deputy Division Engineer. (For a lesser event, the "Division Forward" role is normally delegated to the local District Commander.)

d. The majority of the response personnel will be provided from outside POD. Alaska District will be heavily impacted by the earthquake, and is expected to be a "victim district". The Division Office and the remaining districts will provide available support, but they have limited resources. (POD is the smallest division within USACE, and POA has about one-third of the U.S. civilian personnel within POD.)

e. The initial phase of activation, IIa, will involve immediate deployment of a minimum staff to key operations centers, including USACE EOCs, the ROC, the Federal Initial Operating Facility/State Emergency Coordination Center, and ALCOM. At the same time, pre-identified resources from outside of Anchorage will be alerted and will make arrangements for deployment. Time to accomplish may vary from a few minutes (during duty hours at a USACE activity) to a few hours outside of duty hours (assumed as 2 hours outside Anchorage and about 4 hours in Anchorage). Movement of personnel will normally be within the normal commuting area.

f. The second phase of activation, IIb, will involve deployment of the initial personnel to Anchorage, supplementing the initial team at the ROC, and deployment of those PRTs necessary for immediate response (e.g., power). Time to accomplish is estimated at 24 hours, but could be as long as 72 hours. This phase will include deployment of management and key PRT personnel.

g. Phase III consists of the deployment of personnel to establish a fully operational ERRO and DFO. This includes deployment of additional PRTs, plus conducting the initial operations on certain missions. During this time, many employees of Alaska District will need to take time off from work to attend to urgent personal needs. Northern Area Office will temporarily take responsibility for administering Southern Area Office contracts involving locations outside of the impacted area. Southern Area Office, if functional, will concentrate on projects within the impacted area.

h. Phase IV is the primary period for accomplishment of Federal Response Plan missions. Activities are managed by the ERRO. The Alaska District reconstitutes, begins working on long-term recovery projects for its regular customers, and gradually takes over the disaster recovery missions.

i. Phase V is the transition back to normal conditions. The ERRO is closed out; the Alaska District Commander assumes the "Division Forward" role; the staffing of Alaska District returns to normal; missions are closed out financially; and recovery projects for regular customers are handled under normal procedures. Some portions of this phase may continue for several years.

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APPENDIX 1 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
PHASE I: PREPAREDNESS

1. Scope: Since an earthquake is a no-notice event, this phase consists of the special preparedness efforts that need to be completed before the earthquake.

2. **ENGLink.** Selected POH-EM, POF-EM and POD-EM personnel must have permissions to enter data for Alaska District. Following the earthquake, POH personnel would receive information from POA via telephone or radio and prepare the POA SITREP.

Responsibility: POA-EM

3. **CEFMS.** Selected POH (and possibly POD) personnel must have permissions to enter and certify financial transactions in the POA CEFMS database.

Responsibility: POA-RM

4. **Urban Search and Rescue.** USACE has both technical search specialists (to locate survivors) and structural specialists (to evaluate buildings for safety and to advise on necessary reinforcement to allow rescuers to work.) These persons require initial training and periodic refresher training, arranged through the USACE Readiness Support Center. Alaska District has a technical search team and a structural specialist, but capabilities are limited due to the lack of USACE-sponsored training. In particular, the technical search team has some designated members who have not been trained and others whose training is well past the time for refresher training.

Responsibility: POA-EM; USACE Readiness Support Center.

5. **Public Affairs.** The Alaska Media Guide is the primary reference used to locate recipients for press releases. Copies of this guide need to be available to PAO personnel who deploy to Alaska. Since most persons mobilizing to Alaska will travel through Sea-Tac Airport or McChord AFB in the Puget Sound area, a copy of the media guide needs to be available at Seattle District.

Responsibility: POD PAO

6. **Personnel and Logistics.** Certain key responders (e.g., ERT-A, Power PRT) must be pre-selected and provided in advance with adequate cold weather clothing. These persons will need to travel on the first available airplane to Anchorage. There will not be time to select such persons nor for them to purchase the necessary clothing after the earthquake.

Responsibility: POD and supporting EMs

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<u>APPENDIX 2 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP</u>
PHASE IIa: ACTIVATION

1. Scope:

a. This subphase consists of assembling a minimum operating staff at each initial operating location, using local personnel. Because an earthquake does not allow the normal pre-disaster deployments, local personnel will need to fill in until USACE emergency teams can be mobilized.

b. Implementation of this phase is automatic provided that **both** of the following conditions exist.

(1) There is a reliable report of a major earthquake in the Anchorage area.

(2) Telephone communications to Anchorage are cut off.

c. Phase IIa activities will include:
(1) Activation of command centers
(2) Situation Assessment
(3) POA Structural Safety Assessment of District Headquarters and Federal Interim Operating Facility/SECC.
(4) POA support of Urban Search and Rescue
(5) POA technical assistance
(6) Activate of CONUS and POD support for Urban Search and Rescue
(7) Activate of CONUS and POD personnel to support detailed structural safety assessments of operational facilities and shelters
(8) Activate logistics support
(9) Activate an Emergency Power PRT in CONUS
(10) Activate management cell of a Temporary Housing PRT in CONUS
(11) Activate CTOC, RRV, and DTOS assets
(12) Activate CONUS RM PRT

d. The priorities in the impacted area will be:
(1) Search and Rescue
(2) Evacuation of damaged areas
(3) Reuniting families
(4) Open shelters
(5) Restore electrical power and communications
(6) Prioritize ATC-20 inspection of buildings
(7) Emergency power where commercial power cannot be quickly restored

(8) Clearing and repair of emergency access routes
(9) Receive, store, and distribute supplies/water/fuel
(10). Mobilize volunteers, food, and housing assets

e. This phase does not include deployment of personnel outside of a reasonable driving range of their home duty stations, except that, in some circumstances, initial support at the Region X ROC may need to come from Portland.

f. Under normal circumstances, the initial activation outside of Anchorage should be complete by two hours after the event. (This excludes extreme traffic/weather situations.) In Anchorage, **minimal** staffing should be available about 4 hours after the event.

2. POD:

a. At Division Headquarters: Emergency Management; EOC staff; Crisis Management Team; Crisis Action Team; in-house RM PRT members; PAO.

3. POA:

a. At District Headquarters: Emergency Management; EOC staff; Crisis Management Team; Crisis Action Team; Urban Search and Rescue personnel; ATC-20 detailed inspectors, group 2.

b. At State Emergency Coordination Center/Interim Federal Operating Facility: ESF #3 initial staff; ATC-20 detailed inspectors, group 1.

c. At ALCOM Headquarters: Liaison Officer

d. In Fairbanks: HF-SSB radio operators at both Chena Flood Control Project and Northern Area Office; NAO key personnel for potential Alternate Headquarters operations.

4. POH:

a. At District EOC, Bldg 525 Fort Shafter: Emergency Management; EOC staff; Crisis Action Team; in-house RM PRT members.

b. At District Headquarters, Bldg 230 Fort Shafter: Crisis Management Team

c. Aloha Reception Center: begin process for deployment of personnel and CTOC

d. CTOC staff: prepare to deploy

5. NWD

a. NWS, at FEMA X ROC: 1 TL, 1 ATL, 1 Logistics representative

b. NWS, initially at District: PAO (possible redeployment to Joint Information Center at Regional Operations Center)

c. NWP, at U.S. Government Moorings, Mile 6 Willamette River, Portland, OR: Radio operators; also RRV personnel.

6. 249th Engr Bn, Fort Lewis Detachment, at FEMA X ROC: 1 representative

7. HQUSACE/UOC: immediately direct the following individuals/teams to mobilize, pending a confirming directive to actually travel:

a. ESF #3 management cell/ERT-A

b. Structural safety assessment/management team and detailed ATC-20 inspectors.

c. Emergency Power PRT—CONUS (POH team will not be available because members will be needed for other response functions)

d. Logistics PRT

e. 249th Engr Bn, (Fort Lewis and Fort Shafter Detachments are best positioned for rapid response)

f. Temporary Housing PRT (management cell)

g. Deploy Liaison Officers at PACOM and NORTHCOM (local area)

8. Because of the urgency, funding procedures will be handled concurrently with the actual operations.

a. Code 210 funding will be requested from HQUSACE for activation of USACE EOCs.

b. Pre-declaration funds should be requested at the ROC for deployment of PRTs, activation of ESF #3, etc. (However, deployment could be authorized as an exercise, to prevent delay while awaiting the FEMA authorization.) POH/POD will make this request for POA.

c. POA will also conduct operations under Military Support to Civil Authorities (MSCA) authorization.

d. POA may provide assistance for military facilities. For the initial life-safety response, this would be accomplished using any available funding. Assistance for restoring the military facilities would require military funding (probably Operations and Maintenance, Army/Air Force as appropriate). FEMA funding may NOT be used.

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<u>APPENDIX 3 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP</u>
PHASE IIb: INITIAL DEPLOYMENT

1. Scope:

a. This subphase involves deployment of the initial augmentees from Hawaii and CONUS to Alaska, plus deployment of trained ESF #3 personnel to the ROC.

b. Phase IIb activities will include:
(1) Additional activation of command centers
(2) Situation Assessment
(3) POA Structural Safety Assessment of operational facilities and shelters.
(4) POA support of Urban Search and Rescue
(5) POA technical assistance
(6) Deployment of CONUS and POD support for Urban Search and Rescue
(7) Deployment of CONUS and POD personnel to support detailed structural safety assessments of operational facilities and shelters
(8) Full activation of logistics support
(9) Deployment of an Emergency Power PRT from CONUS
(10) Begin to identify resources from existing construction work for diversion to emergency needs.

c. The priorities in the impacted area will be:
(1) Search and Rescue
(2) Evacuation of damaged areas
(3) Reuniting families
(4) Open shelters
(5) Restore electrical power and communications
(6) Prioritize ATC-20 inspection of buildings
(7) Emergency power where commercial power cannot be quickly restored
(8) Clearing and repair of emergency access routes
(9) Receive, store, and distribute supplies/water/fuel
(10). Mobilize volunteers, food, and housing assets

d. Because of the magnitude of the event, a Federal declaration will probably be issued during this time period. FEMA normally uses a disaster declaration limited to Category A, Category B, and Response activities. However, an Emergency Declaration could be issued. These allow agencies to provide urgently-needed assistance before a full situation assessment has been completed.

2. POD:

a. Division Headquarters, prepare for second shift: Emergency Management; EOC staff; Crisis Management Team; Crisis Action Team.

b. Mobilize to Alaska: 1 TL or ATL; Division Forward Commander; others TBD

c. Evaluate need for additional staff (e.g., EOC staff, RM PRT) and request augmentation through UOC as appropriate.

3. POA:

a. District Headquarters, prepare for second shift: Emergency Management; EOC staff; Crisis Management Team; Crisis Action Team, selected technical assistance personnel

b. State Emergency Coordination Center/Interim Federal Operating Facility, prepare for second shift: ESF #3 initial staff.

c. ALCOM Headquarters, prepare for second shift: Liaison Officer

d. Field operations: Urban Search and Rescue personnel; ATC-20 detailed inspectors.

4. POH:

a. District EOC, Bldg 525 Fort Shafter, prepare for second shift: Emergency Management; EOC staff, Crisis Action Team, RM support.

b. District Headquarters, Bldg 230 Fort Shafter, prepare for second shift:

c. To Alaska: (TBD-identify initial increment for setting up ERRO)

d. Prepare CTOC for potential shipment to Alaska; ship on confirmation from UOC.

e. Evaluate need for additional personnel (e.g., EOC staff, RM PRT) and submit request through POD to UOC.

5. NWD

a. LPRT and others: Activate Northwest Aloha Reception Center as required to support initial deployments.

b. NWP: U.S. Government Moorings, Mile 6 Willamette River, Portland, OR: Radio operators; personnel for deployment of RRV.

6. UOC must activate and/or deploy:

a. Activate and deploy LPRT assets for both the Northwest Aloha Reception Center and the disaster area.

b. Activate and deploy additional function PRT personnel as needed to support Northwest Aloha Reception Center operations.

c. Deploy full emergency electrical power team.

d. Deploy management teams for temporary housing and structural safety assessment.

e. Deploy trained ESF #3 management team to ROC.

f. Deploy ERT-A to Alaska.

g. Deploy additional personnel from 249th Engr Bn to ROC (second shift) and to Alaska. Note: Coordinate with POD and PACOM LNO as to possible use of PACOM transport from Hawaii to Anchorage.

h. Alert emergency water and emergency access PRTs.

i. Deploy CONUS RM PRT personnel to Northwest Aloha Reception Center and, as requested, to POD and POH EOCs.

j. Alert functional teams from CONUS for Information Management,

7. Because of the urgency, USACE and FEMA funding will be handled through verbal authorizations.

a. Code 200 funding will be requested from HQUSACE for activation of USACE EOCs.

b. FEMA funding may come from any (or all) of the following sources.

(1) Pre-declaration funds should be requested immediately at the ROC for deployment of PRTs, activation of ESF #3, etc. Pre-declaration funds allow deployment of personnel and supplies, but do not allow for the delivery of assistance to the impacted population. Such funding does allow for the stockpiling of generators and other supplies at Federal facilities (including leased property) within the disaster area.

(2) An emergency declaration may be issued as an interim measure, while the request for a major disaster declaration is still being considered. It allows FEMA to provide direct assistance, or to provide reimbursement for, debris removal (category A) and emergency protective measures (category B). However, FEMA recently has been using a limited major disaster declaration (category A, category B, and response activities) in lieu of an emergency declaration; this simplifies the accounting.

(3) A major disaster declaration allows FEMA to provide recovery assistance. Normal FEMA procedures for a severe event provide an expedited initial declaration, limited to category A, category B, and response assistance. After a situation assessment has been completed, the

declaration can be amended to include roads (Category C), Water Control Facilities (Category D), Buildings and Equipment (Category E), Utilities (Category F), and parks, recreation, and other (Category G).

(4) Only one type of FEMA funding will be available at any one time, for operations involving Alaska. As soon as a greater level of authorization becomes available, all funding activities under the earlier authorization will be cut off and new funding actions (e.g., travel orders) will be issued. Exceptions are:

(a) A multi-state event could result in different funds sources being active in adjacent states. This will not occur for this event, but other earthquakes in Alaska have produced tsunami damages in Hawaii and along the Pacific Coast in CONUS.

(b) The return portion of round-trip airplane tickets may be charged to the same funding as used for deployment, when that will avoid the need for a cost transfer. (This applies ONLY to round-trip tickets purchased while the earlier funding was available.)

c. POA will also conduct operations under Military Support to Civil Authorities (MSCA) authorization.

d. POA may also be supporting military installations under appropriate O&M funding (or under overhead for immediate, life-saving activities including Structural Safety Assessments).

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APPENDIX 4 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
PHASE III: DEPLOYMENT

1. Scope:

a. Phase III consists of the deployment of personnel to establish a fully operational ERRO and DFO. This includes deployment of PRTs, plus conducting the initial operations on certain missions. During this time, many employees of the District will need to take time off from work to attend to urgent personal needs.

b. Northern Area Office will temporarily take responsibility for administering Southern Area Office contracts involving locations outside of the impacted area. If the District Headquarters is unable to function, Northern Area Office will serve as the District Alternate Headquarters.

c. Southern Area Office, if functional, will concentrate on the existing projects within the impacted area. If SAO is not functional, NAO will need to administer all regular work; additional staffing will be required.

d. The Division Forward element will be responsible for managing the disaster operations. The ESF #3 cell, at the DFO, will receive missions and coordinate activities with other ESFs and with FEMA. The ERRO will manage the FRP missions.

e. Phase III activities will include:
(1) Activation of full DFO and ERRO
(2) Situation Assessment
(3) Structural Safety Assessment of operational facilities and shelters; begin planning for general assessment mission.
(4) Support of Urban Search and Rescue
(5) Technical assistance
(6) Major airlift of supplies and equipment from CONUS and Hawaii, plus start of sealift operations for longer-term emergency work. Begin planning sealift of supplies and equipment for recovery effort.
(7) Emergency Power PRT oversees installation of generators by contractor
(8) Most ongoing contracts in the impacted area will be suspended to allow use of personnel and equipment for emergency work. Even critical projects will need to be evaluated for potential damage to the work already completed.
(9) Coordinate with military installations and other existing customers on status of existing workload as well as requirements for new/changed work resulting from earthquake.
(10) Conduct debris clearance and begin effort for debris removal.
(11) Evaluate water and sewer situation. Upon receipt of request from FEMA, begin delivery of drinking water.
(12) Potential mission for emergency access.

(13) Potential start of planning for temporary housing.

(14) Urban search and rescue may continue during summer; in winter, the activities will transition into recovery of remains soon after the start of this phase.

f. Estimated completion is 7 to 14 days after the earthquake.

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APPENDIX 5 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
PHASE IV: RESPONSE AND RECOVERY OPERATIONS

1. Phase IV is the primary period for accomplishment of FEMA missions. Activities are managed by the ERRO. The Alaska District reconstitutes, begins working on long-term recovery projects for its regular customers, and gradually takes over the disaster recovery missions.

a. Mission assignment, funding, and inter-agency coordination will be accomplished at the DFO.

b. Mission management will be accomplished at the ERRO.

c. ESF #10 coordination is an Alaska District mission, rather than a division mission. RRT 17, unlike any other Regional Response Team, covers only a single state-level jurisdiction and the Alaska District (which covers the identical area) is the designated member. In addition, a key area of support in past disasters has been regulatory authorization.

2. This phase is anticipated to last between 30 and 90 days.

3. Most activities will be conducted under standard USACE disaster procedures.

4. Alaska District will conduct reconstitution during this period. The sequence for resuming activities is:

a. Regular workload outside the disaster area.

b. Work for regular customers within the disaster area

c. Civil disaster response activities.

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APPENDIX 6 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
PHASE V: TRANSITION AND CLOSEOUT

1. Scope:

a. Phase V occurs when the Alaska District takes over operations from the ERRO.

(1) Some of the direct assistance and/or technical assistance missions may still be active. In particular, the debris removal mission will require considerable coordination with the Municipality of Anchorage. Final disposal may take two years or longer; the USACE mission will leave debris stockpiled in the sorting/temporary storage areas.

(2) A major concern during Phase V will be administrative and financial closeout of FRP missions.

(3) Recovery projects for regular and new District customers (e.g., military bases) may continue for several years.

(4) The District will need to process contract change orders and handle other impacts to its normal workload.

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APPENDIX 7 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
ALASKA DISTRICT CONTINUITY OF OPERATIONS (COOP)

1. **SCOPE:** This appendix covers the steps necessary for maintaining the normal Alaska District functions after the earthquake.

2. **BACKGROUND.** The Northern Area Office at Fort Wainwright (Fairbanks), Alaska, because of its workload and its physical separation from the main District, has significant capabilities—including experienced managers, some engineering capability, a computer network segment that can operate independently, plus utilities and logistical support systems that can function independly from Anchorage. In addition, Fort Wainwright and Fairbanks have the capability to support an expansion of the Area Office.

3. **LIMITATIONS.**

a. Extreme cold weather during certain periods in winter (minus 40 degrees and colder) will interfere with routine operations; the impact is greater with temporary employees who may not be prepared for the weather.

b. Operating costs are greater in the Fairbanks area, and costs would increase when the supply routes through Anchorage were inoperative.

c. Data bandwidth may be limited due to the loss of links through Anchorage.

4. DISTRICT OFFICE PROCEDURES

a. Initial. If there is possible structural damage to the building, the District Headquarters evacuation plan will be utilized. Structural Safety Assessment cadre or structural engineers will conduct a rapid evaluation before the building is reoccupied. If the earthquake occurs outside of duty hours, qualified inspectors will need to conduct a rapid inspection before general responders enter the building.

b. Relocation Sites. If the District Office cannot be occupied, key district personnel will report to the first available of these relocation sites: The Logistics Building (5223 Finletter Street) Tri-Resident Office (Fairchild and Fighter), or the parking lot of the Talkeetna Theater (off Fighter Drive). The District Commander, Deputy Commander, or other senior available person will determine whether employees are to be relocated to another work area or released, based on the situation. Regardless of any decision to release employees, no one will leave until he/she has checked in with the appropriate supervisor so that the District can obtain accountability of employees.

c. Alternate EOC. If the District Office is not usable, the EOC will be established in the communications trailer, located east of the motor pool.

d. Accountability. Every employee must check in with his or her supervisor following evacuation of the building. Supervisors must verify that every employee from the building has been accounted for. In case of fire, building collapse, or other situation that does not permit checking for trapped personnel, supervisors must follow up with a 100 perecent accountability of personnel, plus account for visitors who may have been in the building at the time of the incident.

e. Reports. A telephone report should be made to POD as soon as possible, using satellite phones if regular phone systems are inoperative. A natural disaster causing death, serious injury, property damage over $100,000, or desiously degrading operational capabilities must be reported within 24 hours as a Category 2 Serious Incident, using the ENGLink Incidentr Reporting System. Damage over $50,000, but less than $100,000, and deaths of off-duty personnel, must also be reported within 24 hours, but as a Category 3 SIR. POH must enter the report, based on telephoned information, if POA does not have communications. (Note that ENGLink does offer a dial-up capability, which may be used if the District network is inoperable but local and long distance phone service is still available.)

4. **NORTHERN AREA OFFICE (NAO) PROCEDURES.**

a. Phase IIa, activation:

(1) Northern Area Office and Chena Project Office must each activate the HF-SSB radio in case of a major earthquake in the Anchorage area which causes an outage in long distance telephone service. (Priority: Chena Project Office)

(2) Contact the Alaska Fire Service office, and exchange available information from Anchorage.

(3) Contact POD EOC and advise them of the local conditions.

b. Phase IIb, initial deployment:

(1) Based on initial reports, identify Southern Area Office (SAO) construction projects that are out of the impacted area.

(2) Contact Construction-Operations Division at Alaska District, and advise them that NAO is prepared to administer contracts while SAO is reconstituting.

(3) If no contact has been made with District Executive Office, Construction-Operations Division, or Southern Area Office within 4 hours of the event, contact POD EOC and request that NAO be activated as the Alternate Headquarters for POA.

(4) Contact all prime contractors on SAO projects outside the disaster area, both at the primary offices and the on-site project offices, and all USACE Quality Assurance personnel working at the proejct sites. Advise them that NAO will be temporarily handling the administration of the contracts.

(5) Check status of Quality Assurance personnel on transferred projects. Some personnel may need to return to Anchorage because of personal impacts. Others may have been back in Anchorage at the time of the earthquake.

(6) Identify any NAO employees who need to return to Anchorage because of personal impacts, and any who were in Anchorage at the time of the earthquake..

(7) Request personnel through POD to replace employees who are not available due to the reasons in (5) and (6) above.

b. Phase IIb, Initial Deployment, and Phase III, Deployment.

(1) Check with contractors from NAO projects, and transferred SAO projects, to determine their capability to continue work. Possible impacts: supply problems due to loss of Southcentral Alaska ports; direct impacts to Anchorage offices and other facilities; loss of personnel due to personal impacts or a need for them to assist in urgent response activities; etc.

(2) Establish three-way coordination, with District's Project Managers and with customers, on potential impacts to projects under construction. Prioritize projects so that, if necessary, resources can be given to the projects that are most essential to the missions of the customers.

c. Phase IV, Response Operations.

(1) Establish procedures for handling progress pay estimates for SAO projects.

d. Phase V, Transition and Closeout. (Note: may be earlier than Phase V for the disaster response activities)

(1) Coordinate with SAO to verify their capability to resume administration of contracts.

5. **SOUTHERN AREA OFFICE**

a. Phases IIa and IIb:

(1) Conduct a situation assessment. Determine current capabilities—both personnel and physical plant. Are the Area Office and its subordinate resident offices able to function?

(2) Determine status of projects—amount of damage; is it possible to continue from current state, or does the contractor need additional work or materials in order to continue?

(3) Identify contractor equipment and personnel that could be used to assist the military bases and the civilian population in meeting emergency needs.

(4) Document any use of project equipment and/or materials for other needs, so that all costs go to the correct funding.

b. Phase III:

(1) Provide NAO with information on pending claims, known problems, etc. on transferred projects.

c. Phase IV:

(1) Coordinate with CEPOA-PM to identify additional workload for existing customers (emergency repair/replacement).

(2) Coordinate with ERRO to identify any FEMA direct assistance projects that will still be active at ERRO closeout.

(3) As capability is restored, coordinate with NAO for return of projects.

(4) Individual projects that are close to completion may remain with NAO.

6. **ALTERNATE HEADQUARTERS.** If the District facilities in the Anchorage area are not usable, the NAO will serve as the temporary headquarters.

a. Minimum management staffs for most district elements will be set up in Fairbanks. While some existing personnel will be available, several positions will probably need to be filled by TDY assistance.

b. Generally, personnel from POD and POH will not be available for the alternate headquarters, as they will be needed for ESF #3 and ERRO functions. The exception would be the smaller elements, such as Security and Equal Employment Opportunity, where a staff member from POD or POH could be dual slotted. (This would be similar to the initial situation after the transition of POD from the Operating Division organization.)

c. NAO will need to handle initial coordination with Fort Wainwright for additional space, until the POA Real Estate Office is reestablished.

d. NAO might be required to manage all construction activities, including projects in the Anchorage area, until the SAO is able to resume operations.

e. Currently, there is office space available in the Fairbanks area to support the establishment of the temporary headquarters. The main concerns would be if USARAK had to relocate much of its own operations from Fort Richardson to Fort Wainwright, and/or if military activities increase

at Fort Wainwright because of additional missions (the new, fast response army organizations and/or National Missile Defense).

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APPENDIX 8 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
POH SUPPORT PLAN

HONOLULU DISTRICT BASIC SUPPORT PLAN

1. SITUATION. This Honolulu Engineer District (POH) Basic Support Plan to the Anchorage Catastrophic Earthquake Disaster Response Plan (Anchorage CDRP) provides for Honolulu Engineer District (POH) support to the impacted Alaska Engineer District (POA), following significant damages from a magnitude 7.5 shallow crustal earthquake within the Municipality of Anchorage, or a magnitude 8.0 subduction zone earthquake under Anchorage. POH has been designated as the relief district for administrative, civil disaster, and civil works operations in the event Alaska District is declared a victim district. Far East District (POF) has the same role for emergency support of military installations and for military programs.

2. MISSION. POH will serve as the relief district if Alaska Engineer District (POA) is designated as a victim district. POH will accomplish all response and recovery missions to save lives, alleviate human suffering, mitigate severe property damage, and support community recovery efforts following a catastrophic earthquake disaster event in Anchorage, Alaska. POH, supported by all other USACE elements as required, will provide emergency management response and recovery efforts, logistical services, technical engineering, construction management, emergency contracting, real estate services, and other emergency-related services, to assist the impacted Alaska Engineer District until POA has fully reconstituted. POH will also provide assistance to POA's continuity of operations for administrative matters and civil works missions, including providing administrative assistance to POF's military support activities for Alaska. POH will also provide technical and administrative support via reachback to minimize the number of personnel required in the disaster area.

3. EXECUTION.

a. Commander's Intent. POH will support Alaska Engineer District (POA) by accomplishing all response and recovery missions to save lives, alleviate human suffering, mitigate severe property damage, and support community recovery efforts following a catastrophic earthquake disaster event in Anchorage, Alaska, until POA is fully reconstituted and missions can be transferred from POH to POA. POH will also support POA's continuity of operations in the civil works arena, and will provide administrative support to POF for both installation emergency support activities and POA military programs continuity of operations.

b. Concept of Operations. This is a 5-Phase Operation in which POH, Pacific Ocean Division (POD), and all other USACE elements provide total support efforts for the impacted Alaska Engineer District (POA) following a catastrophic earthquake event in the Municipality of Anchorage.

Except for support of military installations, POH will relieve Alaska District once POA has been declared a victim district. POH will deploy its Containerized Tactical Operations Center, including operating personnel, upon authorization. POH will serve as the organizing district for the Emergency Response and Recovery Office (ERRO) in Alaska and will also operate the Aloha Reception Center to support any deployments occurring from, to, or through Honolulu.

(1) Phase I. Pre-Event (Present to Event). POH will

a. Identify and equip early deployers

b. Establish CIF account, pending HQUSACE funding

c. Insure that POH staff have appropriate permissions in POA's ENGLink and CEFMS data bases to manage response activities immediately after the event.

d. Annually review the complete Anchorage Earthquake CDRP and provide comments to POD-EM.

e. Establish, annually review, and make necessary changes for RO document for POH; annually review RO document for POA and provide comments.

(2) Phase IIa. Activation - Initial Response (Event + 4 Hrs). POH activates the POH EOC, makes a situational assessment, reviews and finalizes POH and POA RO documents, provides alert notification of emergency essential personnel, liaisons, and emergency representatives such as the POH Crisis Action Team (CAT) and the POH Crisis Management Team (CMT), alerts and mobilizes POH initial response personnel, establishes contact with the Northwest Aloha Reception Center (NARC) once that activity is activated, activates the Aloha Reception Center (ARC), immediately coordinates through POD to the UOC for the mobilization of various USACE teams and for augmentation personnel for both the POH EOC and the ERRO, and, upon order or upon determination that POA has lost communications, begins to input disaster activities into the POA databases in both ENGLink and CEFMS.

(3) Phase IIb. Initial Deployment - (Event + 24 Hrs). POH deploys initial personnel and CTOC to Anchorage, and assists the deployment of POD and Prime Power initial personnel. POH coordinates with the NARC to verify the deployment activities in the Puget Sound area and to insure that they are properly documented in ENGLink and CEFMS. Upon determination that POA is a victim district, POH contacts POA district headquarters, POA Northern Area Office (NAO), and POF to identify support requirements for POA Continuity of Operations (COOP). Phase IIb ends when augmentation support arrives from Hawaii and CONUS to Alaska.

(4) Phase III. Main Deployment (24 Hrs - ~10 Days). POH, acting as relief district for POA, provides overall management of disaster response activities, establishes the ERRO, oversees the recruitment and deployment of teams, individual responders, supplies, and equipment to Alaska, supports those deployments that occur from, to, or through Honolulu, and supports the continuity of operations of POA. POH will also need to support the reception of

augmentees for the POD and POH EOCs. Phase III ends when there has been a full ramp-up of response operations and the ERRO is fully operational.

(5) Phase IV. Response And Recovery (~10 - ~120 Days). POH provides reachback administrative support through the Emergency Response and Recovery Office (ERRO), which is in charge of response and recovery operations and activities in Anchorage. The Division Forward Commander oversees Division/District disaster operations in Anchorage. Recovery missions are initiated and major response missions are accomplished. Alaska District reconstitutes and begins to provide recovery support to its regular customers. If the primary Alaska District Headquarters is non-functioning, POA will begin to reconstitute the District at the Northern Area Office. Phase IV ends when POA is reconstituted to a level that enables them to accept battle hand-off of missions, and when POH and POA have jointly established a transition plan.

(6) Phase V. Transition And Closeout (~120 Days To Closeout). The Emergency Response and Recovery Office (ERRO) is closed out during the transition phase. The management of recovery operations is transferred to the Alaska District, as directed by the Division Forward Commander and in accordance with the transition plan. Alaska Engineer District accomplishes long-term recovery and rehabilitation projects for its regular customers and for FEMA, and assumes full responsibility for disaster response mission. POH assists POA in the transfer of CEFMS input and in the administrative and financial closeout of FRP mission assignments.

c. Typical USACE ESF-3 Missions. DOD, who has overall responsibility for ESF-3, Public Works and Engineering, has designated USACE as its lead agency for ESF-3 planning, preparedness, response and recovery. Potential USACE missions for the Anchorage earthquake include:

(1) Emergency Power
(2) Support of Urban Search and Rescue
(3) Structural Safety Assessments
(4) Temporary Housing
(5) Emergency Water
(6) Emergency Clearance and Removal of Debris
(7) Temporary Construction of Access Routes
(8) Emergency Restoration of Critical Public Facilities
(9) Demolition and/or Stabilization of Structures
(10) Technical Assistance
(11) Support to all other ESFs

d. Specified Critical Tasks. POH, as the supporting USACE District to the USACE victim District, POA, has the following responsibilities in the performance of critical tasks on behalf of POA:

(1) Accomplish ESF-3 Missions. This normally is accomplished through the use of USACE mission planning and response teams (e.g., Emergency Power), although some missions (such as Technical Assistance) involve direct management by the responding district.

(2) Establish the ERRO. POH will deploy key management personnel, will initiate recruitment for all other personnel, and perform all other work necessary to establish an ERRO in the disaster area.

(3) Support US&R Operations.

(4) Perform POA CEFMS Functions. POH Emergency Management Division (EMD), assisted by POH Resource Management Office (RMO) and members of the USACE Resource Management Planning & Response Team (RM PRT), will perform full or partial CEFMS activities for Alaska District until POA is able to resume financial functions in CEFMS. This requires that designated POH staff have pre-established permissions to work in the POA financial database. Using the POA database, POH EOC would immediately issue funds (MIPRs) to USACE response and recovery teams that are activated by USACE to support the victim District, and would continue to record financial transactions for POA. In addition to disaster-related projects and mission assignments, POH may perform CEFMS data entry for POA Civil Works, Military Construction (MILCON), Operations & Maintenance, Army (OMA), and other projects, until such time Alaska District has reconstituted and can fully resume its responsibilities.

(5) Support Deployments. POH EMD and EOC staff, assisted by other trained POH employees and by RM PRT members, will take the necessary steps in the POA ENGLink database to recruit and deploy all individuals needed to support the response and recovery efforts for this event.

(6) Prepare Daily SITREPs in ENGLink. POH EM and EOC staff will be responsible for preparing POA Daily Situation Reports (SITREPs) in ENGLink, including assigning roles for individuals as POA SITREP Writer(s) for access to the USACE ENGLink database.

(7) Accomplish Corps' PL 84-99 Projects in Alaska. POH will provide support to POA for PL 84-99 activities in Alaska. This is not a major consideration for this event, as there are only a few, small dams in the impacted area.

(8) Provide assistance for Existing POA Projects. POH will provide assistance for canceling, terminating, deferring, or continuing to completion existing POA civil works projects, and for initiating new critical POA projects that will assure reconstitution of the impacted District. POH will also provide support to impacted non-DoD customers.

(9) Assistance for Financial Management of POA Projects. Working in the POA CEFMS database, POH will complete critical tasks involving financial management of all POA existing, on-going, and newly developed engineering and construction projects.

(10) Support Engineering/Construction Workload for Northern Area Office. POH will support POA's Northern Area Office in maintaining the ongoing engineering and construction workload, including the Southern Area Office projects located outside the disaster area.

(11) **Support of POD and POH Augmentees.** Additional personnel will be needed from CONUS, POJ, and POF to accomplish the workload in the POH and POD EOCs. The Aloha Reception Center will need to provide support to these augmentees, including housing, rental cars, and return reservations.

(12) **Support Disaster Area Communications.** POH will dispatch the CTOC equipment and staff during Phase IIb, Initial Deployment (pending authorization from the UOC) to support USACE and other FRP activities in the disaster area.

e. **POH and USACE Assets.**

(1) POH Mission Essential Personnel. CEPOH-DE Commander's Policy Memorandum #14, Subject: Designation of Mission Essential Personnel During Times of Crisis, dated 29 Nov 01 (Reference IV.J.), provides for the designation of mission essential employees in the Honolulu Engineer District, applicable to natural disasters, local/national emergencies, catastrophic events, etc. Core District mission essential personnel are designated as follows:

(a) Executive Office (All Staff: District Commander/District Engineer (DE), Deputy District Commander/Deputy District Engineer (DDE), Executive Assistant, and Administrative Support Assistant).

(b) Emergency Management Division (All Staff: EMD Chief, 2 Emergency Operations Planners, and EOC Coordinator/Emergency Management Administrative Assistant).

(c) Information Management Office (IMO Chief, and IM Staff to maintain LAN/WAN networks).

(d) Principal Staff Meeting Attendees (All Advisory and Administrative Staff, i.e. All POH Chiefs of District Offices).

f. POH Mission Essential Staff / Teams. Selected POH mission essential personnel are identified on special POH, USACE, and/or FEMA mission essential teams with specific capabilities for response and recovery missions. All teams will be placed on alert notification and activated for FEMA deployment missions according to the Time-Phased Force Deployment List (TPFDL) for this catastrophic earthquake event. See Attachment D. POH staff or POH teams considered mission essential are described below:

(1) District (POH) Emergency Management Division (EMD) Staff, EMD Chief, 2 Emergency Operations Planners, and EOC Coordinator/Emergency Management Administrative Assistant).

(2) District (POH) Emergency Operations Center (EOC) Support Team,

2 EOC Shift Leaders; 1-2 Mission Coordinator(s); 2 Resource Management Analysts; 2 Logistics Specialists (Transportation/Lodging/Rental Vehicle/Deployable Equipment); and 1 Personnelist (ENGLINK Deployment Module).

(3) District (POH) Crisis Management Team (CMT) Chief, Programs and Project Management Division (PPD); Deputy District Engineer (DDE); Chief, Office of Counsel (OC); Chief, Resource Management Office (RMO); Chief, Engineering and Construction Division (E&C).

(4) District (POH) Crisis Action Team (CAT) Deputy Chief, Programs and Project Management Division (PPMD); Deputy Chief, Engineering and Construction Division (E&C); Deputy Chief, Resource Management Office (RMO); Deputy Chief, Office of Counsel (OC); Chief, Contracting Division (CT); Chief, Real Estate Division (RE); Chief, Information Management Office (IMO); Chief, Logistics Management Office (LMO); Chief, Safety Office (SO).

(6) USACE (POD) ESF-3 Team Leaders (TLs) / USACE (POH) ESF-3 Assistant Team Leaders (ATLs) : currently there are 5 TLs/ATLs within POD: 4 in Hawaii, one in Alaska (considered to be unavailable due to event impacts). One TL/ATL will deploy with the Division Forward; most requirements will be met from the nationwide cadre.

(7) District (POH) Aloha Reception Center (ARC) - Personnel Deployment Team, Deputy District Commander/Engineer, DDE; Personnelist, Human Resources Office, HR; Logistics Specialist, LMO; Logistics Specialist (Passports), LMO (not required for this event); Logistics Specialist (Travel/Lodging/Auto Rental), LMO; Contracting Specialist (IMPAC Card), CT ;Budget Analyst (Travel Card), RMO; Safety Officer, SO; Ethics Officer, OC

(8) USACE Emergency Power Planning & Response Team - POH Power PRT will not be used for this event, as the members will be needed for other tasks during the response and recovery. (With POA being a victim district, about one-third of the US-citizen civilian employees in the division will be unavailable.)

(9) Prime Power, 249th Engineering Battallion (249th EN BN). Prime Power soldiers from the 249th EN BN, Company A, at Schofield Barracks Military Reservation in Wahiawa, Island of Oahu, Hawaii, could be deployed simultaneously with other USACE elements to Anchorage through the POH ARC.

(10) USACE Resource Management Planning & Response Team (RM PRT) Cadre: this cadre includes a limited number of POH personnel (2 Budget Analysts) as Team members of the approximate total of 40 total RM PRT Cadre. POF and POJ each have one cadre member; POA has three, but they are in the impacted area and will not be available. POH cadre members will be needed at the POH EOC; additional cadre members will be needed from CONUS for the ERRO and the NARC.

(11) USACE / POD Logistics Planning & Response Team (LPRT) will not deploy, due to the event's impact on total personnel availability, including the non-availability of the LPRT

members from Alaska District. POD LPRT members will provide logistics functions at the ARC, and individual logistics experts may deploy to the ERRO and/or the NARC.

(12) District (POH) Containerized Tactical Operations Center (CTOC) Team is a 5-member Team that is capable of providing communications to a remote site (i.e. to an established ERRO, modified ERRO, or DFSO) using the CTOC equipment, which is stored in 40 containers in the 2nd floor EM storage area, Rm 14, Bldg 525. The team and its equipment will deploy in Phase IIb. Supplemental personnel may be needed, as team members from outside Honolulu will not be available in time.

(13) District (POH) Technical Assistance Capabilities. POH currently has 6 civil engineers, designated to conduct Preliminary Damage Assessments on flood control / flood protection works (Civil Works) projects under the USACE Inspection of Completed Works (ICW) Program. However, POH engineering resources for potential technical assistance missions from FEMA also include experienced civil, design, construction, structural, electrical, mechanical, geotechnical, environmental, design and construction engineers, cost estimators, and SMEs. District GIS planners, planning and mapping technicians, specialists in real estate, logistics, and contracts can also be called upon for formation of other required special teams as needed for specific requirements

(14) .Structural Engineering Support Groups.

a. Structures Specialist (SS). The SS supports the FEMA Urban Search & Rescue (US&R) efforts and is a structural engineer with at least 5 years experience who is tasked to analyze collapsed buildings and design shoring systems to stabilize structures for rescuers to gain safe entry and egress. These engineers may also provide detailed evaluations of shelters and operational centers, soon after the earthquake, to insure that they are safe for use.

c. USACE Structural Safety Assessment (SSA) PRT: USACE has four trained SSA PRTs, which will utilize the Applied Technology Council (ATC-20) criteria to determine whether damaged, or potentially damaged, buildings are safe for use or if entry should be restricted or prohibited. The PRTs are actually management teams, which are supplemented by 100 inspectors per team for performing the actual field inspections. Inspectors are provided from throughout USACE, and can be either engineers or experienced building construction inspectors. to assist local authorities in determining whether provide that are not required to have a great degree of structural engineering expertise and training. Most of the inspectors will be providing rapid (visual) inspections of smaller buildings, but 20 of the inspectors for each team are supposed to be more experienced engineers who can provide more extensive inspections. The members are responsible for performing rapid visual inspections utilizing The buildings are inspected for damage and from this inspection the buildings are assigned a safety rating or posting category. These inspections will be coordinated with the appropriate local officials. USACE CONUS SSA Teams are located in Seattle, Sacramento, and Buffalo Districts, each with detailed inspectors to assist in evaluating shelters and operating facilities.

(15) Mission Essential Deployable Equipment. POH has the following mission essential deployable equipment with specific capabilities for response and recovery missions in the USPACOM / ALCOM AOR:

(a) <u>POH Fly-Away-Kit (FAK)</u>, consisting of 1 Gateway laptop computer, 1 NERA satellite phone, 1 Lowrance GPS unit, 2 Motorola handheld radios, and 1 Sony digital camera.

(b) <u>USACE Containerized Tactical Operations Center - 2, (CTOC-2, Hawaii)</u>, consisting of 40 ruggedized containers of communications equipment, including 8 laptops / laptop batteries, 1 server, 1 printer, 1 fax machine, 2 small kw generators, 1 video camera, 1 GPS unit, 2 digital cameras with chargers, 50 Motorola VHS handheld radios with VHS radio bank chargers, 50 spare radio batteries, antennas, and cases, 1 Motorola VHF repeater/antenna/peripherals, etc., 1 ASTRO VHS radio. Total weight = 2,368 lbs for these 29 CTOC containers. Total weight = _____lbs for the Satellite System 7 (with dish sections, dish mount, electronics, horn), which is unassembled and stored in 11 CTOC containers.

(c) <u>Deployable Tele-Engineering Center (DTEC) - Generation 2</u>, consisting of 2 rackmounts with Polycom/ADTRAN unit, computer unit, satellite phone (INMARSAT 4), ProSyne Inverter, and multiple cord hookups, to provide communications through televideo or live feed communications from a remote field site. The DTEC-2 is currently under the ownership of POD. POH expects to receive a DTEC in FY03 from the TeleEngineering Operations Center (TEOC), Engineering Research and Development Center (ERDC) in Mobile, AL.

(d) <u>Other Deployable Communications Equipment</u>, consisting of 2 COMSAT Planet 1 Satellite Phones, 3 Scout M+ Trimble Navigation GPS units, 1 Sony Digital Handycam Video Camera Recorder.

H. <u>TIME-PHASED FORCE DEPLOYMENT LIST (TPFDL)</u>.
E-day is the day the catastrophic earthquake disaster occurs in Anchorage. Prior event planning occurs prior to E-day, and initial deployment operations will begin on E+1 for this "No-Notice" event. All follow-on deployment operations for mission essential personnel, teams, and equipment, are identified on the TPFDL, occurring from E+1 through E+30 and beyond, as requried. See Attachment D.

IV. ADMINISTRATION AND LOGISTICS.

A. CONCEPT OF SUPPORT. POD has overall responsibility for USACE activities in Alaska under the Federal Response Plan. POD will provide a "Division Forward Commander, who will manage the USACE response and recovery activities for the Federal Emergency Management Agency (FEMA) Region X under Emergency Support Function - 3 (ESF-3), IAW the Federal Response Plan (FRP) through an established Emergency Response and Recovery Office (ERRO) or Division Forward Support Office (DFSO). For a catastrophic event, this will normally be the Division Commander or Deputy Division Engineer. For a lesser event, the "Division Forward Commander" role may be delegated to the local District Commander or

Deputy District Commander, or designee, who will manage the USACE response and recovery activities for FEMA, Region X.

B. LOGISTICS.

(1) <u>Initial Deployments of USACE Personnel Through the POH Aloha Reception Center (ARC)</u>. POH, through the POH Aloha Reception Center (ARC), will initially provide the logistics support, including issuance of supplies, equipment, rain and cold weather gear, basic safety equipment, transportation, lodging, rental car, IMPAC or credit card, accountable property/equipment, etc., for initial deployments early on from E+0 through E+5. Deploying personnel will be briefed by the ARC Personnel Deployment Team and provided an ARC Individual Deployment Packet containing the following items:

(a) Aloha Reception Center (ARC) Checklist.
(b) General SOH Orientation (Appendix 7-B, EP 500-1-10).
(c) Safety and Health Tips for Personnel on Emergency Operations.
(d) Travax Report from Tripler Army Medical Center (TAMC) - Health precautions for a specific country, and inoculation recommendations.
(e) Antiterrorism Individual Protective Measures.
(f) IMPAC Government Purchase Card Use.
(g) Travel Credit Card Information.
(h) Dept of the Army, USACE, Honolulu Engineer District, Employee's Guide to the Standards of Conduct Expected of All Federal Employees, by Office of Counsel.
(i) Emergency Operations Time and Attendance Sheet.
(j) CEPOH-HR Memorandum, Subj: Regularly Scheduled Administrative Workweek During Emergency Operations.
(k) Overtime, Compensatory Time, Training, and Travel Under the Fair Labor Standards Act (FLSA).
(l) U.S. Office of Personnel, 2002 Biweekly Pay Cap on Premium Pay for General Schedule Employees.
(m) USACE Policy and Procedures for Deteermining Non-Exempt Status under the Emergency Provisions of the Fair Labor Standards Act (5 CFR 551.208).

The ARC Personnel Deployment Team will process initially deploying USACE (POD/POH) personnel through the Preparation-for-Onward-Movement (POM) process, provide initial/final medical screening, outfitting with cold weather gear and equipment, conduct or provide the required USACE safety, security and deployment briefs to include professional, commercially-made video(s) on situational awareness, and general USACE policy of do's & don'ts in Alaska. See Attachment C, POH Aloha Reception Center (ARC) Standard Operating Procedures (SOP).

(2) Initial Deployment Through POH and Follow-On Deployment Through the Northwest Division (NWD) Division Forward Support Area (DFSA). From E+1 through E+30 or beyond, as required, the Northwest Division Logistics Planning and Response Team (NWD LPRT) will assist POH in initially providing the required logistics support for deploying USACE personnel through the NWD DFSA in the Seattle/Tacoma/ Puget Sound area, including issuance of supplies, equipment, rain and cold weather gear, basic safety equipment, etc., transportation, lodging, rental car, IMPAC or credit card, accountable property/equipment, et.al. Personnel deploying through the NWD DFSA will be provided all the necessary information, supplies, equipment, cold weather gear, required safety, security, deployment briefings, etc. before being further deployed to Anchorage, or to a site TBD outside of the impacted area. See Reference IV.C., Northwest Division (NWD) Division Forward Support Area (DFSA), Draft Concept of Operations.

(a) Initial Advance Element, Emergency Response Team - Advance (ERT-A): The initial Advance Element, ERT-A will be deployed to FEMA Region X ROC in Bothell, WA. POD will provide 1 individual as support to ERT-A. Others on the ERT-A Cadre from CONUS will be assisted by the Seattle District (NWS) with their deployments, especially if the ERT-A is from NWS, NWD, or CONUS. NWS support includes early deployment of the NWD LPRT to Anchorage.

(b) Initial Division Forward Element: The initial Division Forward Element staff for the Emergency Response and Recovery Office (ERRO) for a major catastrophic earthquake event in Anchorage consists of the Division Forward Commander, which is the Division Engineer (POD CDR) or his Division Chief of Staff (POD Deputy CDR), and the Division ESF-3 Team Leader (TL) and Assistant Team Leader (ATL), represented by Division Emergency Management Director (GM-13/14) and his Division Emergency Operations Planner (GM-13), respectively. For a lesser event, the POD Division Commander might designate the POH District Engineer or POH Deputy District Engineer to be the Division Forward Commander for an ERRO or Division Forward Support Office (DFSO). The ERRO or DFSO Deputy Division Forward Commander might be a GS/GM-13/14/15 to assist in the management of the ERRO or DFSO cell. POH will initiate the Preparation-for-Onward-Movement (POM) process for direct deployment of the ERRO Management Cell to Anchorage through the POH Aloha Reception Center (POH ARC).

(c) Deployments Through NWD FDSA. Seattle District (NWS) will process all subsequent deploying USACE personnel through the Preparation-for-Onward-Movement (POM) process and through the NWD Forward Division Support Area in Seattle, provide initial/final medical screening, outfitting with cold weather gear and equipment, and conduct or provide the required USACE safety, security and deployment briefs (professional, commercially-made video(s) on situational awareness), and general USACE deployment policy of do's & don'ts in Alaska. The total number of support teams and District mission essential staff required for deployment missions will depend on the severity of the earthquake event in Anchorage.

C. PERSONNEL. All POH mission essential personnel and other POH non-essential personnel will likely be engaged in support efforts on behalf of Alaska District in the event of a catastrophic earthquake disaster. Many will be called into the POH EOC immediately upon

activation of the District EOC at E+2 hrs, and critical requirements such as alert notification of key staff, PRTs, ESF-3 support staff, CTOC/DTOS Team(s), and deployment of initial response teams to CONUS or to Anchorage, will be initiated. Personnel involved will include:

(1) Key Leadership Staff.
(2) EMD and EOC Support Staff - Crisis Management Team (CMT) and Crisis Action Team (CAT).
(3) USACE RM PRT.
(4) USACE LPRT.
(5) ERT-A, Division Forward Advance Element.
(6) ESF-3 Team Leader (TL)/Assistant Team Leader (ATL).
(7) ARC Support Staff.
(8) USACE Emergency Power PRT.
(9) USACE Prime Power (249th EN BN) Team.
(10) USACE Preliminary Damage Assessment (PDA) Team.
(11) Structural Engineering Support Staff - Structures Specialist (SS), Technical Search Specialist (TSS), and Structural Safety Assessment (SSA) PRT.
(12) USACE Debris Management PRT.
(13) USACE CTOC Team.
(14) ERRO or DFSO, the Division Forward Element.

Note: PRT Action Officers for various PRTs (Emergency Power, Prime Power, Debris, are responsible for supporting the ESF-3 Team Leader in delineating mission requirements for successful execution.

D. PUBLIC AFFAIRS. If available, the POD/POH Public Affairs Officer (PAO) or representative should be initially deployed to Anchorage through the NWD Division Forward Support Area. If not available, the PAO should be initially from NWS with one representative at the FEMA Region X ROC, and subsequently, represented on site in Anchorage.

V. COMMAND AND CONTROL (C2).

A. COMMAND RELATIONSHIPS. For a catastrophic earthquake disaster event in Alaska, the Pacific Ocean Division (POD) has overall responsibility for USACE activities in Alaska under the Federal Response Plan (FRP). POD will provide a "Division Forward Commander", who will manage the USACE response and recovery activities on behalf of the impacted or victim District, Alaska Engineer District, for Federal Emergency Management Agency (FEMA) Region X, under Emergency Support Function #3 (ESF-3), Public Works and Engineering, IAW the Federal Response Plan (FRP) through an established Emergency Response and Recovery Office (ERRO) or Division Forward Support Office (DFSO). For a catastrophic event, this ERRO Division Forward Commander will normally be the Division Commander or Deputy Division Engineer. For a lesser event, the "Division Forward" role may be delegated to the local District Commander or Deputy District Commander, or designee, who will manage the USACE response and recovery activities for FEMA Region X from a modified ERRO or DFSO.

B. COMMAND POSTS. Several options should be considered for the location of Command Post(s).

(1) Location of the ERRO or DFSO will be in the Anchorage area, or in an area outside of, and adjacent to Anchorage where impact and damages from the catastrophic earthquake are less severe.

(2) Air Force and Army military installations, such as Elmendorf Air Force Base or Fort Richardson, respectively, may also be considered for an ERRO or DFSO site. Current day elevated Force Protection Conditions (FPCONs) at the installation may affect entry onto the installation and hamper overall disaster response and recovery efforts.

(3) Location of the ERRO or DFSO in the proximity of, or co-located with the FEMA Disaster Field Office (DFO) to be established, in or adjacent to, Anchorage in an area less impacted by the event, should also be considered.

IV. REFERENCE.

A. Draft USAED PO Catastrophic Disaster Response Plan, Alaska; Anchorage, Alaska Earthquake; Headquarters, USAED Pacific Ocean, August 2002.

B. FEMA Region 10, Regional Response Plan (Annex H, Tab AK).

C. Northwest Division (NWD) Division Forward Support Area (DFSA), Draft Concept of Operations, undated but forwarded by
E-mail from Gretchen Martinsen (NWS) to Katie Tamashiro (POH) , 16 September 2002.

D. U.S. Army Corps of Engineers, ESF #3 Field Guide Supplement, All Hazards Contingency Plan, 1 September 2002.

E. U.S. Army Corps of Engineers, Emergency Support Function #3 (ESF-3) Handbook, July 2000. Provides USACE Division Forward Commander and ESF-3 Team members with an essential tool, a readily accessible resource with info and guidance, for potential disaster response operations.

F. U.S. Army Corps of Engineers, Honolulu District, Draft Disaster Response and Recovery Standard Operating Procedures, 3 July 2002.

G. Draft All Hazards Plan, Emergency Operations Center Standard Operating Procedures, Honolulu District, July 2002.

H. POD Briefing to HQUSACE: CDRP, POD Catastrophic Disaster Response Plan, Management Review HQUSACE,
26 March 2002.

I. Dept of Defense, Corps of Engineers, Dept of the Army, 33 CFR Part 203, Natrual Disaster Procedures; Preparedness, Response, and Recovery Activities of the Corps of Engineers, Federal Register/Vol. 67, No. 38/26 February 2002, Proposed Rules (Pgs. 8748 - 8761).

J. CEPOH-DE Commander's Policy Memorandum #14, Subject: Designation of Mission Essential Personnel During Times of Crisis, 29 November 2001.

K. CECW-OE, Dept of the Army, U.S. Army Corps of Engineers, Engineer Regulation (ER) 500-1-1, Emergency Employment of Army

and Other Resources, Civil Emergency Management Program,
30 September 2001.

L. CECW-OE, Dept of the Army, U.S. Army Corps of Engineers, Engineering Pamphlet 500-1-1, Emergency Employment of Army and Other Resources, Civil Emergency Management Program - Procedures, RCS CECW-O-65, 30 September 2001.

M. 196th Infantry Brigade, Military Support to Civil Authorities (MSCA) SOP, 30 July 2002.

ATTACHMENTS ***(Draft Listing)***

A--Command and Control (C2) Scheme (Organization Charts)

1. **POH Emergency Operations Center (POH EOC)**
2. **Division Forward Support Office (DFSO)**
3. **Emergency Response and Recovery Office (ERRO) Management Cell**

B--EOC Operations, Annex A to Disaster Planning, Response and Recovery Standard Operating Procedures (SOP), Honolulu District, U.S Army Corps of Engineers.

C--POH Aloha Reception Center (ARC) Standard Operating Procedures (SOP)

1. **ARC Organization Chart**
2. **Establishment of ARC - Concept of Operations**
3. **ARC Individual Deployment Packet**

D--Time-Phased Force Deployment List (TPFDL) Flow

E--Process-for-Onward-Movement (POM) for First Responders

F--POH Resource Management (RM) Process

G--CEFMS Access to POA Database

H--ENGLINK Access to POA Database

I--Containerized Tactical Operations Center - 2 (CTOC-2, Hawaii)

J--Coordination of POA Missions

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APPENDIX 9 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
INSTALLATION SUPPORT PLAN

Currently to be developed by POF. Concept: POF will provide a management cell, and supplement with staffing from throughout USACE; maximum use will be made of reachback. CRU is a potential resource to support POF

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APPENDIX 10 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
PACIFIC NORTHWEST AREA SUPPORT PLAN

ROC and NORTHWEST ALOHA RECEPTION CENTER

1. SITUATION

a. General:

The Puget Sound area will be the primary location for deploying personnel, equipment, and supplies for an earthquake response in Southcentral Alaska. In addition, FEMA Region X, which has responsibility for Alaska, is located in Bothell, Washington, north of Seattle.

Because this is a no-notice event, an immediate response is required, and Puget Sound is in the NWD/NWS AOR, the initial activities there will have to be conducted by personnel from NWD and particularly from NWS, working within the response organizations of POD and its districts. After POD and HQUSCAE are able to establish normal staffing arrangements, NWD/NWS will still need to provide local expertise and other assistance.

b. Critical Players for Initial Response:

(1) Accredited TL/ATL personnel
(2) NWS LPRT members and regular logistics staff
(3) NWS and other contracting officers/purchasing agents
(4) PAO
(5) Safety
(6) Portland radio personnel and RRV staff
(7) NWS SSA PRT cadre

c. Assumptions:

(1) FEMA will activate the ROC immediately after the event, and will need immediate representation from every ESF
(2) Logistical support will be needed immediately for the initial deployments to Alaska.
(3) Persons deploying to Alaska will need to obtain appropriate clothing, and receive training, in the Puget Sound area prior to departure.
(4) There will be limited resources to support response personnel in the disaster area.
(5) Transportation to the disaster area will be limited, and it will be centrally controlled through FEMA (and/or the PFO).
(6) Support for deployment of personnel, equipment, and supplies will be required for a significant time after the event.

2. MISSION:. USACE will provide ESF #3 and other representation at the ROC while it is operational; will provide logistical support for transporting personnel, equipment, and supplies from the Puget Sound area to Alaska; and will provide logistical support, training, briefings, etc. to deploying personnel prior to departure to Alaska.

3. EXECUTION:

a. General. Support in the Puget Sound area will be needed primarily in two areas:

(1) **Regional Operations Center (ROC).** This will be FEMA's center for managing response activities for the first several days. (Due to communications and other support limitations in Alaska, the ROC may continue functioning for longer than normal). The ROC requires staffing by trained ESF #3 Team Leaders/Assistant Team Leaders, with assistance from a Logistics subject management expert and probably from a Prime Power technical expert on emergency power and possibly by a Structural Safety Assessment mission expert. The ESF #3 representation at the ROC will be under the command and control of the UOC; mission requirements will be fully coordinated with the POD EOC for accomplishment.

(2) **Northwest Aloha Reception Center (NARC).** In addition to providing logistics functions, the NARC will provide briefings, training, general administrative, and any additional services prior to deployment. The purpose is to reduce the requirements for supporting response personnel in the disaster area, where facilities will be in short supply. The NARC will initially be under the command and control of the POD EOC; command and control will shift to the Division Forward, once adequate communications are available.

b. Initial Response (Phases IIa and IIb; first 24 hours):

(1) NWD will provide the initial USACE representation at the ROC. This will require immediate dispatch of qualified personnel (including accredited TL/ATL personnel).

(2) NWD will provide a logistics cell (the first increment of the Northwest Aloha Reception Center) to support initial deployment to Alaska. Persons deployed during this time frame will normally be prepared for immediate deployment, and should not require extensive support (other than local transportation and possibly overnight housing). However, any required support will be urgent.

(3) PAO, safety, and other elements of NWD and its districts may need to provide support as required by the situation.

(4) NWP must be prepared to deploy the Rapid Response Vehicle (RRV), upon direction from the UOC, and to immediately activate the HF-SSB base station to serve as an emergency link for communications with POA. Deployment of the RRV will require authorization from the UOC and confirmation of both need and transportation availability from the ROC. However, the RRV is currently included in FEMA's Time Phased Force Deployment List (TPFDL).

(5) POD and POH will not have a representative in the Puget Sound area during this time frame; their efforts will be concentrated on deployment of initial personnel to Alaska and on performing the initial administrative tasks for the response (in place of POA, which will not have the necessary data communications capability for ENGLink and CEFMS).

(6) Normally, Phase IIa only involves travel within the local commuting area. However, personnel availability could require that some of the ROC and/or NARC initial responders come from elsewhere in the Pacific Northwest.

b. Full Deployment (Phases III and IV)

(1) For phase III (after about 24 hours) the UOC will be able to deploy additional ESF #3 TLs and ATLs for ROC operations. The initial responders may be included in this organization, or they could return to other duties, depending on the UOC's staffing decisions. The ROC is expected to close down at the end of Phase III, when response organizations become fully operational in Alaska. However, not all agencies/activities will make the transition at the same time.

(2) The NARC will be a critical element in USACE's response during Phase III and well into Phase IV. It must insure that all persons deploying from CONUS are properly prepared for conditions in Alaska, and are fully trained and briefed so that they are ready to start work upon arrival in the disaster area. The NARC must also coordinate the procurement and/or shipment of supplies and equipment for the USACE response effort. Staffing will be through the normal disaster response procedures. The NWD LPRT will not necessarily provide the logistics element for the NARC; the team could already be deployed elsewhere, or it could be selected for deployment to Alaska.

(3) NWD may need to provide administrative and other support to the NARC, such as special briefings (e.g., safety) where there is not enough demand for a full-time person.

(4) POD will have one representative (assigned as an assistant to the Division Forward G-3) to oversee the NARC operations and to advise on potential additional/reduced requirements.

4. ADMINISTRATION AND LOGISTICS.

a. Administration. The cell in the ROC will be functioning under the Regional Activation mission assignment(s), except that Prime Power and other mission-specific assistance will be provided under that specific mission. The NARC will be part of the ERRO, providing general support to all the assigned missions. The NARC itself will be set up under USACE Code 210 funding, but activities in support of specific missions (e.g., SSA PRT training) will be charged to the appropriate mission.

b. Logistics. The NARC will include a Logistics PRT, so it will be, to a major extent, self-sufficient logistically. Additional support will be provided through NWS, if needed.

5. COMMAND AND SIGNAL.

a. Command Relationships. The ESF #3 staff at the ROC are a HQUSACE element working under the command and control of FEMA. The NARC will initially be under the command and control of the POD EOC, transitioning to the Division Forward once communications are available to the disaster area.

b. Signal. Commercial systems are available in the Puget Sound area for most requirements. There are two special concerns:

(1) Communications at the ROC will be furnished by FEMA Region X, and are limited.

(2) Communications to the disaster area will be limited during the early stages of the response.

5. **Northwest Aloha Reception Center (NARC)**

a. Concept. In the early stages of the response, conditions in the disaster area will be austere, and the area will have only limited capability to support response personnel. The NARC is designed to insure that deploying personnel are prepared for the conditions to be encountered, to insure that any necessary briefings, training, administrative processing, etc. are conducted outside of the impacted area, to minimize the requirements for on-site support of responders; and to support personnel who are waiting for transportation availability.

b. Activation. For the first day of the response (Phases IIa and IIb), deploying persons should have been pre-equipped for winter deployment. NARC operations will be provided by a limited activation of NWD LPRT/NWS Logistics personnel, who will assist the response personnel, including arranging for local transportation and for overnight housing if necessary, and will insure that the current status of deployment is entered into ENGLink.

c. Operations. During the main response period, the NARC will provide a wide range of services to help deploy personnel and ship supplies and equipment to the disaster area. Staffing will include: a Logistics PRT; representatives of the Resource Management PRT; personnel to provide briefings on safety, security, and disaster area conditions; etc. If USACE receives a structural safety assessment mission, then the ATC-20 training will be provided at the NARC rather than in Alaska. Services may include

(1) Arranging housing for incoming responders.

(2) Arranging transportation from airport to hotel for incoming responders (normally vans rather than rental cars)

(3) Insuring that ENGLink is updated to reflect current location of employees.

(4) Verifying that responders have the appropriate cold weather protective gear and other necessary items.

(5) Obtaining and issuing any items (such as cold weather gear) required for deployment, when necessary.

(6) Insuring that response personnel sign for any property issued at the NARC. (This involves liability as well as property accountability concerns; if an injury occurs, the Corps may need to determine whether the appropriate safety gear was not issued or not used.)

(7) Providing necessary general briefings, such as safety/winter driving, and providing any required facilities, transportation, etc. for such briefings.

(8) Supporting any mission-specific briefings, such as the Structural Safety Assessment ATC-20 training.

(9) Coordinating with FEMA Region X/ESF #1 on the transportation schedule to the impacted area.

(10) Coordinating and furnishing transportation so that responders connect with departing transportation in accordance with the mission priorities established by FEMA.

(11) Insuring that ENGLink is again updated to reflect the departure of responders from the reception area for the disaster area.

(12) Purchasing supplies and equipment for response activities.

(13) Coordinating transportation of supplies and equipment with FEMA X/ESF #1, and ensuring that supplies and equipment are delivered to the airplane/ship loading area at the correct time.

(14) Insuring that all activities are properly recorded in both ENGLink and CEFMS; this may be done at the NARC (RM PRT personnel are included in the organization) or the information may be furnished to the ERRO or the POH EOC for entry there.

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APPENDIX 11 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
TECHNICAL ASSISTANCE MISSION

REFERENCES

a. **Maps and Charts**. See Annex B.

b. **Documents**
(1) See Basic Plan

1. **SITUATION** See Basic Plan, Annex A, and Annex B.

2. **MISSION**.

a. The FEMA post-declaration mission simply says "Provide technical assistance to State and/or local jurisdictions to aid them in accomplishing priority missions as directed by FEMA."

b. Technical Assistance may also be provided by the Alaska District pre-declartation, under Military Support to Civil Authorities.

c. A considerable amount of Technical Assistance will also be required for military customers, to evaluate earthquake impacts to their facilities. This will be handled under appropriate Military Construction/Military Operations and Maintenance funding.

d. This is a flexible mission. It can involve any area of USACE expertise, and there can be multiple funding authorizations.

3. **EXECUTION**

a. **Commander's Intent.** To provide all necessary technical assistance to support military organizations, Federal response agencies, the State of Alaska, and local agencies, in accordance with the appropriate authorizations.

b. **Concept of Operations.**

(1) Initial support will be provided using available District personnel. Support to State and local governments can be provided under AR 500-60 authority. Due to the severe impacts to District personnel, POA's capabilities will be limited. However, almost all existing work will be deferred to make personnel available to support the impacted bases and communities. Support can be provided to military installations under district overhead if customer funds are not available.

(2) Personnel for technical assistance missions will be included in the immediate recruitment for assistance. Once communications capabilities have been restored, reachback (tele-engineering) procedures will be used whenever practical to expand the pool of available expertise while minimizing the need to support personnel in the disaster area.

(3) Once a Federal major disaster (or emergency) declaration has been issued, the ESF #3 staff at the ROC will ask FEMA to activate the Technical Assistance pre-scripted mission assignment. Under that mission assignment, specific task orders can be issued at the ROC, the IOF, or the DFO for the furnishing of various areas of assistance.

(4) The task orders may be specific or generalized; however, FEMA requires that the assistance be within the scope of the task order for USACE to be reimbursed. Technical assistance under the FEMA mission assignment does not involve cost sharing by local/state governments, so there is an incentive for the recipients to try to stretch the scope of the assistance. FEMA also objects to any effort of an agency to sell its services during the furnishing of technical assistance.

(5) There is no standard organization for technical assistance missions; it depends on such factors as the total amount and the geographical distribution of the work. Generally, there will be a mission coordinator at the ERRO to oversee the full mission. There may also be mission team leaders assigned for specific locations where there is a major effort.

(6) Extensive technical assistance to a military base requires funding provided by that base. Such requests are coordinated by the project managers responsible for dealing with the particular installation. However, the effort must also be coordinated with the ERRO, so that the supporting district is aware of the total workload resulting from disaster activities.

(7) Care is required to insure that technical assistance incorporates appropriate "arctic engineering" criteria.

4. **ADMINISTRATION AND LOGISTICS.** See basic plan

. **COMMAND AND SIGNAL.** See basic plan

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APPENDIX 12 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
URBAN SEARCH AND RESCUE MISSION

REFERENCES

a. **Maps and Charts**. See Annex B.

b. **Documents**

(1) USACE US&R Mission Guide.
(2) FEMA US&R Field Operations Guide (FEMA FOG).
(3) USACE Structures Specialist Training Manual.
(4) USACE Technical Search Specialist Training Manual.
(5) USACE US&R Structures Specialist Field Operations Guide (SS FOG).
(6) The Federal Response Plan (FRP) for Public Law 93-288, as Amended, dated April 1999.
(7) USACE ESF #3 Field Guide
(8) USACE ESF #3 Field Guide Supplement – All Hazards Contingency Plan

1. **SITUATION**

a. **General**. There are four levels of Urban Search and Rescue:

(1) Self/Spontaneous. This involves victims digging themselves out and/or being rescued by untrained personnel who are already in the immediate area. This level accounts for about 50 percent of all rescues.

(2) Light. This involves removal of debris by hand and the use of hand tools (e.g., levers) to allow extraction of victims. Normally it involves one trained person directing a work crew that has not been trained in advance. DoD (primarily US Army Alaska-USARAK) will support local efforts; it has provided training for team leaders, who will direct the actual efforts by military personnel. The Anchorage School District and the Department of the Interior have conducted training for light US&R, to support their own facilities. This level accounts for about 30 percent of all rescues.

(3) Medium. This involves the use of standard fire department rescue equipment, such as the "jaws of life", shoring techniques, and some structural hazard mitagitation. This level accounts for about 15 percent of all rescues.

(4) Heavy. This involves the use of heavy equipment to remove debris. FEMA sponsors 28 Task Forces nationwide; these Task Forces are mobilized to the disaster site. The closest team is in the Puget Sound area; Alaska has special arrangements to expedite the deployment of this team. This level of rescue involves the heavily entombed victins and accounts for about 5 percent

of all rescues. That percentage is expected to be lower for Alaska, particularly in winter because hypothermia will greatly reduce the anticipated survival time.

b. **Threat**. For this scenario the HAZUS model predicts that there will be approximately 9612 completely collapsed structures in Anchorage for a 7.5 shallow crust earthquake (1106 concrete/masonry, 247 steel frame, 8259 wood frame and mobile homes). The 8.0 deep subduction zone earthquake would produce 1374 collapsed structures throughout the three Cook Inlet borough/unified government areas (250 concrete/masonry, 42 steel frame, 1082 wood frame and mobile homes).

c. **Response Organizations.**

(1) Light Urban Search and Rescue may be conducted by teams from within the specific facility (such as a large office building), or by teams dispatched to assist. The US Army Alaska (USARAK) is the primary Federal provider of support.

(2) Medium Urban Search and Rescue will be coordinated by the Municipality of Anchorage (MOA) Fire Department (by the military installation for on-base locations).

(3) Heavy Urban Search and Rescue will be accomplished by the FEMA National US&R Task Force(s). The state will request the Task Force(s) through FEMA. The Task Forces will then be provided to the Municipality of Anchorage for emergency response.

d. **Assumptions.**

(1) See CDRP Basic Plan.

(2) State and local US&R organizations will be overwhelmed and will not be able to respond to all requirements.

(3) Specific mission priorities will be decided by the MOA in conjunction with the state and Federal US&R Team Leaders.

(4) Security will be provided by the MOA Police Department, or in some cases by the Alaska National Guard (by the military installation for on-base locations).

2. **MISSION**. Provide support to local civil and military Urban Search and Rescue operations. Provide Light Urban Search and Rescue for USACE Alaska District facilities.

3. **EXECUTION**

a. **Commander's Intent.** POD will provide support to the Urban Search and Rescue mission as part of this CDRP. This will be accomplished through (1) immediate use of available POA assets and (2) rapid deployment of POD, NWS, and USACE-wide resources in support of the Federal Response Plan/ESF #9, the Municipality of Anchorage, POA, the regular Alaska District

customers, and the military. The mission will be completed when the MOA determines that it is unlikely that there are additional trapped, living victims within the impacted area.

b. **Concept of Operations.**

(1) The MOA will request US&R assistance from the State Emergency Coordination Center. The state will immediately request DoD assistance under the AR 500-60 Immediate Response authority, and will also request assistance from FEMA under the FRP/ESF #9. The state could also request medium US&R assistance from other states, under interstate mutual support authority.

(2) Under the Immediate Response authority, Fort Richardson would supply light US&R teams, consisting of trained leaders and untrained team members; POA would provide available ATC-20 trained personnel to assist by evaluating building safety.

(3) Under the FRP, FEMA would provide one or more of the National teams; if available, the Puget Sound team would probably be the first to arrive. USACE would provide technical search specialists and structural engineering support to assist the teams, and/or to assist MOA medium US&R operations. USACE could also provide ATC-20 trained personnel to assist light and medium US&R.

(4) FEMA has the authority to transport the US&R teams and other assets to Federal facilities in the disaster area, in advance of a Federal emergency or major disaster declaration.

(5) The mission-specific priorities will be decided by the MOA and the Federal US&R team leaders. (If areas outside the MOA are affected, the State will determine priorities among local governments.)

c. Tasks.

(1) S&R Structures Specialist Mission – Technical assistance to the State of Alaska or through FEMA under the Federal Response Plan.

(2) US&R Technical Search Mission – Technical assistance to the State of Alaska or through FEMA under the Federal Response Plan.

(3) ATC-20 technical assistance to assess structural safety specifically with regard to temporary shelters (e.g. schools, church auditoriums, civic centers), mass care facilities, and other key operational facilities. These inspections could be conducted by the US&R Structures Specialist cadre members and/or by engineers that have a strong structural background. (These inspections would be conducted under a Structural Safety Assessment mission assignment, not US&R.)

4. **ADMINISTRATION AND LOGISTICS.**

a. **Concept of Support.** See CDRP Basic Plan. Initial on-hand resources will quickly be overwhelmed; it is anticipated POD will request assistance from HQUSACE UOC for immediate US&R assistance.

b. **Logistics.** See CDRP Basic Plan. US&R personnel will need logistical support with car rentals and lodging. They will also require 2-way radios with frequencies set to their supported element. Also, see the equipment list in the US&R Mission Guide for the equipment that the US&R cadre will bring with them that may need to be re-supplied.

c. **Personnel.** See CDRP Basic Plan. The USACE US&R cadre consists of:

(1) US&R Structures Specialists
(2) US&R Technical Search Specialists
(3) US&R Subject Matter Experts (Team Leaders)
(4) US&R FEMA IST engineering element support personnel

d. **Public Affairs.** See CDRP Basic Plan. POA Public Affairs may be asked to help facilitate dissemination of information regarding the US&R effort. All contacts with the media will be through FEMA and/or the Joint Information Center (JIC). Personal interviews should reflect USACE support to the locals and FEMA.

5. COMMAND AND SIGNAL.

a. **Command Relationships.**

(1) The Municipality of Anchorage Fire Department will be in charge of all light, medium, and heavy urban search and rescue activities within the municipality, except for activities on military installations and for light US&R performed by the individuals, owners and tenants of a facility.

(2) USACE and other DoD personnel will support MOA operations, but must maintain reporting requirements for their respective DoD chain of command.

b. **Command Posts.**

(1) The Municipality of Anchorage will coordinate activities from its Emergency Operations Center (EOC), located at 1309 E. Street. Individual command sites will be established for heavy and medium urban search and rescue activities.
(2) POA will coordinate emergency operations from its EOC located at 2204 3rd Street, Elmendorf, AFB.
(3) In the event of FEMA US&R Task Force activations, FEMA will establish an Incident Support Team (IST) to coordinate with individual command sites and to provide logistical support to the FEMA US&R Task Forces during emergency operations. The IST also conducts needs assessments and provides technical advice and assistance to the state and local government emergency managers.

c. **Succession to Command.** See CDRP Basic Plan.

d. **Signal.** Reference CDRP Basic Plan and see Annex K for detailed communications information. It is anticipated that US&R personnel will require cell phones and 2-way radios to ensure communications with their supported element and EFOs/ERRO.

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TAB A TO APPENDIX 12 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
USACE URBAN SEARCH AND RESCUE MISSION

1. MISSION DEFINITION.

The scope of the USACE Urban Search and Rescue (US&R) Mission is to provide efficient and effective physical and technical support to the Federal Emergency Management Agency (FEMA) mission response effort under Emergency Support Function (ESF) #9 as a pre-designated Department of Defense (DoD) agency. This includes developing, training, and equipping USACE personnel to operate as support to the FEMA US&R Task Forces. The scope of work includes two distinctive and separate cadres that are cross-trained to a limited extent.

The Structures Specialist cadre serves in support of FEMA US&R Task Forces as the component that analyzes collapsed buildings and designs shoring systems to stabilize structures for rescuers to gain safe entry and egress.

The Technical Search Specialist cadre serves in support of FEMA US&R Task Forces as a component of the Technical Search Operations. The Technical Search Specialist evaluates, plans and executes search pattern(s) for detecting survivors trapped within a collapsed or partially collapsed structure. This team utilizes the System To Locate Survivors (STOLS) and any other methodology to maximize the effectiveness of their search pattern.

The Incident Support Team (IST) will decide specific mission priorities in conjunction with the State and Federal US&R team leaders.

2. MISSION.

a. USACE has established a cadre of Structures Specialist and a cadre of Technical Search Specialist. These cadres are trained to support the FEMA Task Forces and others involved in emergency operations.

b. Specific mission priorities will be decided by the State; however, based on input from State Emergency Management personnel and the status of the Federal US&R mission, the following priorities are listed for planning purposes:

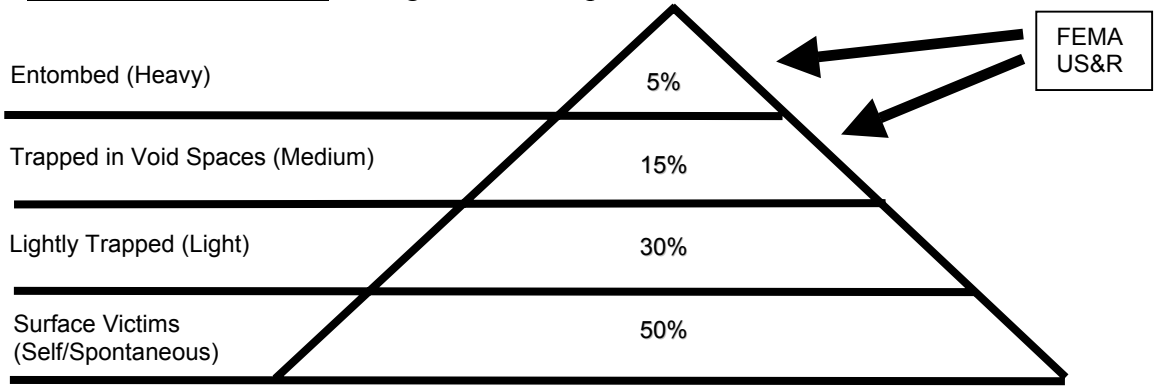
Priority 1: Support to FEMA Task Forces for either backfilling positions or augmentation. Support the IST engineering element.

Priority 2: Technical assistance to local jurisdictions with rescue efforts.

Priority 3: Technical assistance to military personnel who will continue to provide basic and light US&R support.

Priority 4: Other agency support (e.g., FBI support).

3. LEVELS OF US&R. The figure below depicts the levels of US&R:



4. SPECIAL CONSIDERATIONS.

a. **Climate.** US&R planning assumes a 72-hour period before there is a major drop in survival rates. During winter in Alaska, hypothermia would reduce that period to 12 hours or less, thus all US&R assests must be initiated without delay.

b. **Transportation.** Anchorage is 3 ½ hours by air from the closest FEMA US&R Task Force located in Washington State. One of the two major airports in Anchorage must be operational to allow their prompt arrival.

c. **Lighting.** In late December, Anchorage has about 8 hours of usable light. US&R personnel will have to bring in lighting equipment and/or use locally available equipment. This makes operations slower and more dangerous.

d. **Weather.** Personnel deployed to Alaska must be fully informed of current weather conditions and deploy with the appropriate clothing and equipment.

e. **Post Earthquake.** Following an earthquake, aftershocks, secondary events, and/or other hazards (such as fires, tsunami, landslides, flooding, and hazardous materials releases) may compound problems and threaten both disaster victims and rescue personnel.

f. **CIS Debriefings.** In order to keep cadre members psychologically healthy, on-scene Critical Incident Stress (CIS) debriefings should be provided by trained professionals.

g. **HAZMAT.** The US&R personnel should be aware of the dangers involved with US&R missions and working around and in damaged structures. All USACE US&R cadre members have received Hazardous Materials First Responders Awareness training and all FEMA Task Forces have a Hazardous Materials expert to support the work being accomplished.

5. US&R OPERATIONS.

a. The Incident Commander is in charge of all US&R assests to include the local EMS response, the FEMA Task Forces and any associated resources to include USACE Structures and Technical Search Specialists.

b. The immediate local concern will be light and medium US&R.

c. The Municipality of Anchorage could ask for ATC-20 trained employees to assist in the light US&R with building hazard identification and safety assessment.

d. Structures Specialists will be needed immediately for the medium US&R. POA has limited capability in this area. Support from the Corps' Seattle and Portland Districts might be available in time to save lives in winter; immediate support from throughout the Western U.S. would be deployed if necessary in warmer weather.

e. The effectiveness of heavy US&R will depend on both weather conditions and the speed of deployment. In the coldest weather, many of the trapped victims will die before any of the FEMA Task Forces can arrive. In somewhat warmer conditions, survival times are longer but the FEMA Task Forces will need to work very rapidly. During the summer, normal survival times are expected.

f. The State of Alaska has made special arrangements with the State of Washington US&R Task Force. That Task Force would begin to mobilize immediately in case of a severe earthquake in Anchorage. FEMA will still need to arrange transportation, but the total deployment time would be shortened. The team's projected training includes a test deployment to Anchorage (Elmendorf AFB).

g. Available POA Technical Search Specialists will be used immediately after the event to identify locations where the FEMA Task Forces will immediately begin operations. In extreme cold weather, the Technical Search Specialists may be used to support medium US&R with the detection and location of trapped victims.

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TAB B TO APPENDIX 12 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
ESF #9 URBAN SEARCH AND RESCUE

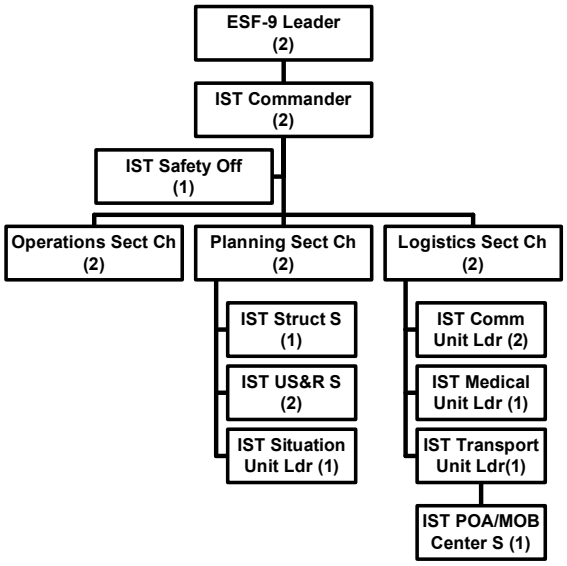
FEMA ESF #9 Urban Search and Rescue
(Description of Duties and Operational Structure)

The ESF #9 Urban Search and Rescue response conducts search and rescue operations in locating, extricating and initial medical stabilization to victims of structural collapse.

1. **SCOPE.**

FEMA is the lead agency for ESF #9.

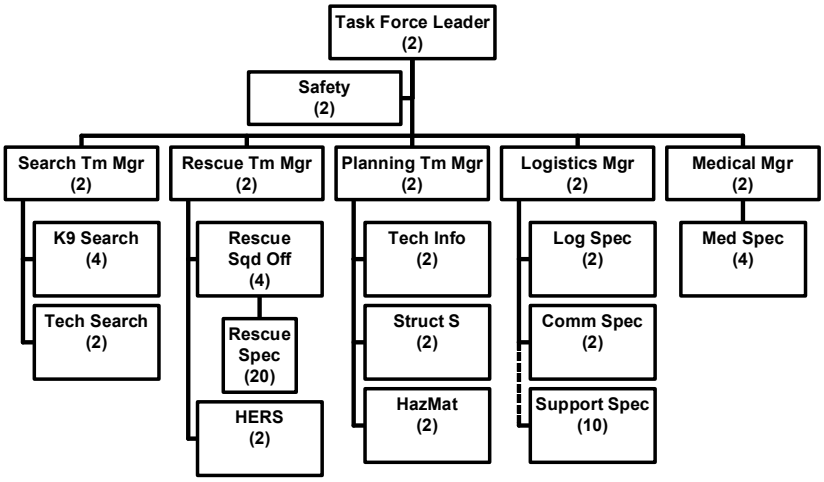
Once deployed to a disaster site, the Incident Commander (IC) interacts with the ESF #9 Leader and the Incident Support Team (IST) Commander. The IST Commander is responsible for the IST resources, which includes the FEMA Task Forces, technical specialists (such as contractors and consultants), and the USACE US&R Cadre. The IST consists of 20 individuals for 24-hour operations. The diagram below shows the ESF #9 IST resources.



FEMA US&R Task Forces operate under the Operations Section of the Incident Command System (ICS) organization.

Each of the FEMA US&R Task Forces is comprised of 62 members for 31 positions that cover

each 12-hour operational shift. A Task Force is multi-disciplinary, self-contained for 72 hours, has extensive medical and equipment cache, has organized internal communications, and has specialized rescue training. The positions are organized into five functional teams (management, search, rescue, medical, and technical) with each team staffed to permit around-the-clock operations. The diagram below shows US&R Task Force resources.



The diagram below shows the location of US&R Task Force.

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TAB C TO APPENDIX 12 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
CHECKLIST FOR RECEPTION OF ESF #9 RESOUCES

GENERAL: The ESF #9 Urban Search and Rescue (US&R) Group conducts search and operations in locating, extricating and initial medical stabilization to victims of structural collapse. FEMA is the primary agency for ESF #9. The following checklist covers the actions required of the US&R Group Leader during the reception of ESF #9 resources; USACE personnel may be required to support these activities..

Duties and Responsibilities

_____ Report to predetermined work area at the SECC/DFO.

_____ Upon arrival, complete DFO check-in process.

_____ Attend the briefing by the Operations Section Chief on the current situation and procedures for AERT operations.

_____ Unpack US&R administrative support kits and supervise set-up of the unit's assigned work area.

_____ Get IST status briefing from IST liaison at the SECC/DFO.

_____ Assign duties and responsibilities to assigned staff for SECC, DFO, IST site and other locations.

_____ Notify FEMA's ROC and EOC of operational status and obtain current status on US&R resources.

_____ Contact State counterpart and establish formal communications, agree on procedures for processing resource request and disseminating information.

_____ Provide functional expertise to state and local governments in the acquisition and utilization of FEMA ESF #9 resources.

_____ Deploy personnel to assist with ground assessment, mobilization center operations, and to provide technical support to State and local government officials. Order additional US&R support staff as needed.

_____ Ensure there is a documented process for re-supply of the Task Forces. Ensure a logistics specialist is available to process requests through the Defense

Coordinating Element (DCE) at the DFO.

_____ Establish a resource ordering system within ESF #9 for requesting additional equipment and supplies, personnel and US&R Task Forces.

_____ Maintain appropriate displays including situation and resource status.

_____ Check E-mail system and insure communications with the EST. Check external communications system to ensure immediate contact with all Task Forces and Incident Support Team personnel in the field (assessment team) and at the State and county/city EOC's.

_____ Establish liaison with the JIC and be prepared to respond to questions and request for interviews.

_____ Ensure staff are briefed on planned actions, critical issues and management expectations.

_____ Ensure financial reports are processed including cost projections for assigned task, strategic planning, and the tracking of expenditures.

_____ Receive tasking, clarify requirements and expedite documents through the Operations Sections approval process.

_____ Coordinate activities with support functions (logistic/finance) and other ESF's as needed.

_____ Document actions on operations tracking form and follow-up until action is closed.

_____ Maintain chronological log highlighting significant events and actions.

_____ Ensure functional action plans are submitted to Information and Plans Section in a timely manner (as scheduled).

_____ Ensure ESF #9 personnel are using the automated data processing (ADP) process for electronically submitting reports including SITREPs, Action Plans, action tracking etc.

_____ Ensure Incident Support Team members are properly briefed and needed equipment has been issued prior to their departure to field locations.

_____ Ensure a property accountability system is established and maintained for all non-expendable property.

_____ Ensure ESF #9 has adequate staff work space and administrative support.

_____ Identify problems and issues associated with your assignment task/mission and adjudicate when required.

_____ Based on anticipated work load, established work schedules for a 24 hour operation or reduced operational periods as determined by the Operations Section Chief.

_____ Maintain contact list for assigned personnel including pagers, cellular phone and hotel numbers.

_____ Ensure appropriate functional representatives are notified of and attend all required briefings, coordination and planning meetings.

_____ Brief the EST ESF #9 Leader twice a day on current status or more often if significant events occur.

Demobilization

_____ Assist the Emergency Services Group Leader or designee in returning all equipment issued in support of disaster operations.

_____ Prepare inputs to the AERT After-Action Report as directed by the Emergency Services Group Leader or designee.

_____ Assist the Emergency Services Group Leader or designee in gathering files and records for archiving by the Documentation Unit of the Plans and Information Section.

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TAB D TO APPENDIX 12 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
STATE RECEPTION OF URBAN SEARCH AND RESCUE ASSETS

GENERAL: the following is a checklist regarding the duties and responsibilities for the State Response Agency for reception of Urban Search and Rescue (ESF #9) assets. USACE personnel may have to assist with these activities.

State Response Agency Duties and Responsibilities

_____ State prepares to work with local authorities to identify Mobilization Center sites.

_____ State Search & Rescue (SAR) Coordinator will serve as the State POC for ESF #9 assets and will lead the ESF #9 effort.

_____ State SAR Coordinator will be in contact with Local Incident Commanders (IC) to identify the local needs and priorities.

_____ State SAR Coordinator assists Local IC in procuring resources that are difficult for the Local IC to acquire.

_____ State SAR Coordinator will identify priorities, in cooperation with the US&R Incident Support Team (IST), and maintain constant contact with the Local ICs for Task Force assignments.

_____ State SAR Coordinator will determine appropriate routes to selected sites.

_____ State assets will be prepared to provide supplement logistical support to the deployed Task Forces if Department of Defense cannot.

_____ State assets will be prepared to provide continued communications support between the SECC to the IST.

_____ State SAR Coordinator evaluates SAR progress to determine if there should be modification to the plan of action.

GENERAL: the following is a checklist regarding the duties and responsibilities for the Local Response Agency for reception of Urban Search and Rescue (ESF #9) assets. USACE personnel may have to assist with these activities.

Local Response Agency Duties and Responsibilities

_____ Local government identifies local needs and priorities.

_____ Local Incident Commanders should be designated for specific sites.

_____ Local officials will designate local staging areas and potential sites for the Base of Operation (BoO).

_____ Local officials will document and post local search efforts in order to eliminate duplication of effort.

_____ Local officials will document local hazards, technical information, plans and maps, points of contact and expenditure of resources.

_____ Local officials will establish scene control and site security.

_____ Local officials will prepare to provide local Liaison Officers to the IST.

_____ Local ICs will provide a detailed situation briefing to the incoming IST.

_____ Local ICs will have a strategic SAR plan and a detailed tactical SAR specific site plan.

_____ Local ICs will provide intelligence to State SAR Coordinator on site progress.

_____ Local officials must establish contact with local medical system to provide medical assistance for local victims and to assure the smooth transfer of victims from rescue workers to hospital facilities.

_____ Local ICs will review process for continued logistical support.

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APPENDIX 10 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
STRUCTURAL SAFETY ASSESSMENT (SSA)

REFERENCES

a. **Maps and Charts**. See Annex B.

b. **Documents**.

USACE SSA Mission Guide
USACE ESF #3 Field Guide
USACE ESF #3 Field Guide Supplement – All Hazards Contingency Plan

1. **SITUATION**

a. **General**. After a major earthquake, buildings will need to be inspected to verify that they can be safely reoccupied. Past earthquakes have demonstrated that local building safety departments can quickly be overloaded with inspections, to the extent they need outside assistance to conduct timely safety evaluations. Either of the two planning events (Richter magnitude 7.5 shallow crustal or magnitude 8.0 subduction zone earthquake) will likely exceed local capabilities and result in requests for USACE SSA resources to augment local building inspection efforts.

b. **Local ATC-20 Program**. The Applied Technology Council-20 (ATC-20) program was developed to provide uniform guidelines and procedures for postearthquake safety evaluation of building types characteristic of the United States. A guiding principal is to promote inspection uniformity to maximize the potential for different inspectors to reach the same conclusion regarding structure's safety and corresponding placard (i.e. Green = Safe to Enter; Yellow = Limited Access; Red = No Entry). MOA has a robust ATC-20 program (which has been adopted statewide), which includes several hundred engineers and building maintenance personnel capable of supporting response efforts associated with seismic events. The MOA inspection program has a strong business recovery program, with special emphasis on training personnel of critical facilities, as well as emphasis on upgrading placards to minimize displacement. Further, MOA ATC-20 training takes 2 days to complete (ATC-20 training in other states takes between 4 and 8 hours) in order to include actual field inspections. It is expected that during actual response efforts, ATC-20 trained building maintenance and engineering personnel will conduct immediate rapid inspections of their own and their client's buildings, to be followed by more detailed inspections. A guiding principal of the MOA ATC-20 training program is to educate the public in order to facilitate safe re-entry and minimize displacement of citizens as much as possible.

c. **Local assistance capabilities and limitaitons**. Many local busineesses as well as Federal agencies have employees who have MOA ATC-20 training (or contracts with engineering firms

which have such employees). Such trained employees/contraced personnel can assess (and potentially authorize the reoccupying of) the companys' own offices. Volunteers from among these inspectors would be available for short-term assistance, to conduct inspections after their own buildings have been evaluated. It is anticipated, however, that responsibility to their own business/agency continuity will prevent these inspectors from participating in recovery efforts for longer than a few days. In addition, most of these inspectors will themselves be victims of the earthquake, and will need to attend to their personal/family recovery activities.

d. **Use of volunteers**. Volunteers (other than current local, State, and Federal employes) will normally be hired as temporary employees by the Alaska Division of Emergency Services, in order to transfer the liability from those inspectors and their employers.

e. **Regions outside MOA jurisdiction**. Only a few cities in Alaska have building code enforcement programs. Outside of Anchorage and the City of Kenai, authority for inspections in the impacted area will come from the State of Alaska Fire Marshal's Office. (Fairbanks, Kodiak, and Juneau also have their own enforcement programs, but will not be impacted by either planning event.)

f. **Threat**. Significant structural damage is anticipated from either of the 2 events described in the Basic Plan. It is anticipated the magnitude 7.5 shallow crustal earthquake will generate more severe damage, concentrated mostly in the MOA. The expected magnitude of either event and corresponding damage will require significant augmentation from CONUS to meet inspection requirements. The critical need for rapid inspections will be exacerbated by extreme cold weather. Annex B of this plan quantifies physical damage associated with both events.

g. **Response Organizations**.

(1) Buffalo (LRB), Anchorage (POA), Sacramento (SPK), and Seattle (NWS) Districts are the designated support elements for SSA PRT missions. However, POA would be seriously impacted by an earthquake in Anchorage and would not be able to provide its team for that event.

(2) SSA PRTs will augment existing MOA inspector assets (also Mananuska-Susitna, Kenai Peninsula, and other boroughs/regional jurisdictions, as applicable).

(3) US&R Structures Specialist Cadre members may be used to evaluate mass temporary shelters (schools, church auditoriums, civic centers, etc) and other key operational facilities. USACE may also need to deploy specialty inspection teams early, prior to execution of the main inspection mission, to inspect key facilities. Use of US&R Structures Specialist assets may involve close coordination between the IST Commander, USACE ESF #9 Team Leader/SME, USACE ESF #3 Team Leader, SSA SME, and ATC-20 Training Officer.

(4) USACE districts nationwide will need to provide personnel to conduct the inspections. In additions, those districts may be asked to provide personnel to support detailed/special inspection requirements such as electrical, mechanical, geotechnical, and hazardous material (HTRW) applications.

(5) Inspectors may include personnel from other Federal agencies (e.g. Bureau of Reclamation engineers). This may include local Federal agency employees (e.g., Department of Interior) in the early stages of the event.

(6) Elmendorf AFB and Fort Richardson may also request assistance on structural inspections through ALCOM and Joint Task Force (Civil Support). These requests would be handled through POA military project management channels, not through the Federal Response Plan.

h. **General Assumptions**.

(1) See assumptions outlined in Basic Plan.

(2) It is anticipated that extensive structural damage associated with the event will require major augmentation of the surviving local ATC-20 program assets. Because this will be a no-notice event, and could occur in winter; USACE must be prepared for immediate activation and deployment of inspectors to mitigate the potential for further displacement or loss of life.

(3) USACE SSA, civil/structural engineers, and other USACE assets may be used to support Mananuska-Susitna and Kenai Peninsula Boroughs, and other jurisdictions peripheral to MOA.

(4) Due to the limited availability of facilities in Anchorage after the earthquake, response personnel will initially be deployed to a CONUS pre-staging area in or near Seattle (for mission briefing, ATC-20 training, receiving special equipment including cold weather clothing, etc.) prior to deploying to Anchorage area.

(5) Deployment strategies are based on anticipated number of damaged structures generated by the HAZUS model. It is also anticipated that, following an actual event, the initial mission requirements will be developed based on preliminary assessments by Municipal, State, and Federal personnel on site, rather than through waiting for inspection requests from the residential application process.

(6) The worst-case scenario of approximately 40,000 structures requiring inspections was used as the basis for planning.

(7) Damage associated with the magnitude 7.5 shallow crustal earthquake will be concentrated mostly in the MOA, and will generate a higher level of damage (anticipated damage to structures equates to 8,500 extensive, 21,000 moderate, 13,000 slight).

(8) The 8.0 subduction earthquake will generate less damage overall (3,500 extensive, 12,500 moderate, and 24,500 slight), but the damage will cover a wider area. The damaged area will include the Matanuska-Susitna and Kenai Peninsula Boroughs, generating the need to establish additional field offices and additional coordination through local jurisdictions, the Alaska Division of Emergency Services (ADES), and State Fire Marshal's office.

2. **MISSION**.

a. **SSA Mission Definition**. The USACE SSA mission is to provide quality structural safety inspections as required in conjunction with local response and recovery efforts. The basic purpose of these structural evaluations is to determine whether buildings are safe for use or if entry should be either restricted or prohibited. The buildings are to be inspected for damage and assigned a safety rating/posting category in a uniform manner. These inspections will be coordinated with the Anchorage Office of Emergency Management, Building Safety Division (under the Development Services Department, Office of Planning, Development, and Public Works), ADES, as well as other appropriate local officials. Inspections are normally conducted through the ATC-20 process (for earthquake damages).

b. **Types of Inspections**.

(1) Rapid inspections: Rapid visual inspections are conducted to allow rapid reoccupation of apparently safe buidlings, to prevent access to obviously unsafe buildings, and to make most efficient use of the limited available structrural engineering expertise. Inspectors are typically experienced construction inspectors, engineers, or architects, who have been trained in accordance with ATC-20 *Procedures for Postearthquake Safety Evaluation of Buildings*. Rapid inspections will constitute the majority of inspections during the recovery phase.

(2) Detailed inspections: Detailed or special inspections are typically in-depth visual inspections conducted by structural engineers. These inspections are conducted as a follow-up for buildings that could not be established as either apparently safe or unsafe during a rapid inspection. These inspections are also conducted for operating facilities and shelters during the early stages of the event. Additional special inspections might be required for certain locations when electrical, mechanical, hazardous material, or other concerns warrant specialized expertise.

(3) Engineering Evaluations, the third level of inspections under ATC-20, are not included in the basic SSA mission. This level of inspection requires an actual design effort to determine the revised structural capabilities of a building. Such inspections will probably be needed for some of the local military facilities; those inspections will be handled under regular POA military programs, NOT the FRP. (Requests for such inspections for state and local facilities would be managed as a technical assistance mission, even if they were requested as part of the normal SSA mission.)

3. **EXECUTION**

a. **Commander's Intent**. POD will provide assistance as needed to MOA and peripheral jurisdictions (e.g. Mananuska-Susitna and Kenai Peninsula Boroughs) through SCO/Alaska Division of Emergency Services (ADES), to facilitate building inspections, minimize displacement of citizens, and promote safe work space and housing for local personnel, while minimizing the risk of unsafe facilities.

b. **Concept of Operations**.

(1) Surviving POA capabilities will provide assistance until other SSA support can arrive from CONUS. (This may include use of available pre-trained inspectors from other Federal agencies.) A "division forward" management cell will be established in or near MOA. The basic concept of the MOA ATC-20 inspection program is initially to assimilate "drive-by" inspection data, followed by more detailed structural evaluations depending on severity of damage and function of structure. To that end, inspections are conducted based on the following priority:

Critical infrastructure and temporary shelters
Support of essential services
Residential homes

(2) Local civil/structural engineers and building inspectors registered in the MOA Building Safety Division ATC-20 database will assess structural conditions of their own work places, and those of their clients, prior to initiating volunteer inspections.

(3) Volunteer inspectors will be hired by the State of Alaska/ADES, but their inspection activities will be managed by the agency which has local building safety authority (e.g., MOA Building Safety Division).

(4) USACE resources would be brought in to assist in the inspection workload to the extent that in-house and volunteer inspectors are unable to meet the need. Requests for such assistance will be initiated by the MOA Building Safety Division, and will be validated by ADES (which oversees the volunteer effort) in conjunction with the SCO.

(5) SSA inspections within MOA will be conducted in conjunction with the Building Safety Division. Immediate support will be needed to assess the safety of temporary shelters (schools, church auditoriums, civic centers, etc), mass care facilities, medical facilities, and other key operational centers throughout the impacted area. Arrangements will have to be made with the City of Kenai and the State of Alaska (Fire Marshal's Office) in the event the impact area includes jurisdictions peripheral to MOA (e.g. Mananuska-Susitna and Kenai Peninsula Boroughs).

(6) Due to the anticipated damage in the Anchorage area, ATC-20 training for the first wave of inspectors will be conducted in the Seattle area.

(7) The deployed SSA AO will coordinate the mission assignment with FEMA in the DFO; the Mission Manager will govern deployment of required personnel and other resources to the impacted area from the ERRO; the ATC-20 Training Officer will train incoming inspectors and orchestrate specialty team (e.g. geotechnical, mechanical, electrical, and detailed structural) inspections; and Inspection Team Leaders ensure inspections are completed and submitted to the local building safety department/EFO.

(8) Completed ATC-20 inspection reports (either hand-written forms or electronic files from handheld PCs) will be submitted to the Supervisory Inspection Team Leaders and respective EFO. Essential elements of information (EEIs) will be submitted to Mission Managers in the

ERRO, who in turn will submit upward reporting through proper channels consistent with standard PRT mission procedures.

(9) Inspection personnel must be careful to avoid any inference that red-tagging a standing building is equivalent to "condemning" the building. Many such buildings are unsafe because of correctable safety problems; indeed, at least one of the sample ATC-20 "red tag" buildings (damaged in the 1964 earthquake) is currently in use in Anchorage.

c. **SSA Mission Timeline**. A catastrophic earthquake in MOA will warrant immediate deployment, particularly during the winter season. To that end, deployed personnel will first stop at a CONUS pre-staging area (i.e. staging center near Seattle) to receive instructions, training, special equipment, etc. Local trained, volunteer ATC-20 inspectors suspending volunteer inspections much sooner than SSA 30 day mission has been evident from past missions (expect 2-4 day involvement); it will be important for USACE SSA assets to be rapidly deployed to ensure continuity of inspections during this transition period.

The initial priority will be to ensure structural safety of temporary shelters, mass care facilities, critical public buildings (will necessitate deployment of personnel with strong structural background), followed by habitability assessments of residences. Detailed inspections will be required for some shelters. In cold weather, people will not be using tents for interim shelter. In addition, the 7.5 shallow crustal event will cause at least moderate damage to about two/thirds of the buildings in the Municipality of Anchorage. Even if the Glenn Highway is usable, a shortfall of safe, warm shelter space is anticipated. The following timeline is based on HAZUS output of 40,000 structures with slight to extensive damage (from either of the 2 earthquake scenarios):

Days post Disaster	SSA Mission Elements
D + 0	PRT alerted; Structural engineers w/ATC-20 training alerted
D + 1	Mission Assignment (MA) developed; AO reports to DFO in (or near) Anchorage; ATC-20 TO reports initially to staging area in Seattle; balance of PRT management cell deploys to ERRO; SITL reports initially to staging area
D + 2	Mission scoping/coordination w/FEMA, State, locals; resource requirements to UOC identified
D + 3	Inspection Team Leaders (ITLs) deploy (initially to staging area in Seattle)
D + 4	ITLs deploy to AK; 50 ATC-20 Inspectors deploy to staging area for training; transition/close out plan initiated
D + 5	1st 50 inspectors trained; 50 additional inspectors arrive at staging area
D + 6	1st 25 inspection teams (2 inspectors per team) deploy to AK; 50 additional inspectors trained
D + 7	Deploy 2nd 25 inspection teams; 50 additional inspectors trained
D + 8	Deploy 3rd 25 inspection teams; 50 additional inspectors arrive
D + 9	50 additional inspectors trained; 25 inspection teams deploy

D + 10	Full production rate of 1000 inspections/day
D + 16	Mission execution IPR
D + 22	Mission execution IPR; Inspector replacement resource requirements submitted to UOC
D + 24	Begin transition of PRTs and ITLs (3 days overlap)
D + 26	Complete transition of PRTs and ITLs
D + 27	50 new inspectors arrive at Staging Area
D + 28	Train 1st 50 inspectors; 50 additional inspectors arrive
D + 29	Deploy 1st 25 inspection teams; train 2nd 50 inspectors; disengage 1st inspectors who arrived on D + 4
D + 30	Deploy 2nd 25 inspection teams; 50 additional inspectors arrive; disengage 2nd set of inspection teams who arrived on D + 5
D + 31	Train 3rd 50 inspectors; 50 additional inspectors arrive; disengage 3rd set of inspection teams who arrived on D + 6
D + 32	Deploy 3rd 25 inspection teams; train 4th 50 inspectors; disengage 3rd inspection team who arrived on D + 7
D + 33	Deploy 4th 25 inspection teams; disengage 4th inspectors who arrived on D + 8
D + 41	Mission execution IPR
D + 50	Inspections Complete
D + 51	Out process inspectors
D + 52	After action reviews w/Management Cells and ITLs
D + 53	Disengage Management Cell and ITLs

d. **Timeline parameters and assumptions**.

Short suspense, no-notice event.

Rapid (habitability) inspections.

10 inspections/team/day.

Inspection rate may be less due to potential demand for numerous detailed/special inspections, re-inspections warranted by after-shocks, remoteness and proximity of structures, and cold weather.

50 inspectors/trained per day.

Timeline includes 2 Management Cells + 2 Support Elements; the 2nd wave of deployed resources will work less than 30 days to accommodate the 40,000 inspections. Team Leaders, HQUSACE, and Management Cell may choose to maintain the existing Management Cell (maintain original AO, Mission Manager, Mission Specialist, ATC-20 Training Officer) to

facilitate mission continuity, lessons learned process, and close-out. Decision makers may also elect to extend some of the original inspectors in lieu of rotating in new inspectors, pending actual inspection rate and remaining workload.

ATC-20 Training Officer will facilitate detailed/specialty inspections once Inspection Teams have been trained (or between training missions if Training Officer is extended).

Mission may require inspector support from other Federal agencies.

e. **Potential Tasks.**

(1) SSA Mission – assistance to State of Alaska through FEMA under Federal Response Plan.

(2) Technical Assistance to assess structural safety specifically with regard to temporary shelter (e.g. schools, church auditoriums, civic centers), mass care facilities, and other key operational facilities (inspections conducted by US&R Structures Specialist cadre members and/or structural engineers/civil engineers with strong structural background).

(3) Technical Assistance for geotechnical, mechanical, and other special inspections (to be facilitated by SSA SME and ATC-20 Training Officer).

(4) There will probably also be requirements for detailed inspections of military facilities on Elmendorf AFB and Fort Richardson. These inspections will be coordinated through POA and funded by DoD rather than FEMA. Mission personnel must make certain that labor and per diem costs are charged to the right projects, since some individuals could conduct inspections associated with multiple funding sources (Army O&M, Air Force O&M, and FEMA).

4. **ADMINISTRATION AND LOGISTICS**.

a. **Concept of Support**. See Basic Plan. Initial on-hand resources will quickly be overwhelmed; it is anticipated POD will immediately request assistance from HQUSACE UOC for SSA personnel.

b. **Logistics**. See Basic Plan. SSA personnel will need one car per team of 2 inspectors (for limited availability, closely-spaced sites could permit two teams per car, or several teams per van), laptops, and handheld PCs (iPAQ or equivalent) for electronic inspection forms. See also equipment list in SSA Mission Guide. Working space will be required in EFO(s) for Supervisory Inspection Team Leader(s) for collecting field data, the DFO for the AO, the ERRO for the Mission Manager/Mission Specialist, and in the EFO for the Training Officer. The Training Officer, ITL/SITL, and Support Elements will also need logistic support in the staging area (Seattle).

c. **Personnel**. See Basic Plan and Tab A for the SSA PRT Organization Chart. The SSA PRT consists of:

Management Cell (ESF #3 Action Officer, Mission Manager, Mission Specialist, ATC-20 Training Officer, Supervisory Inspection Team Leader)

Support Element (4 Inspection Team Leaders and Inspectors)

The SSA PRT trains incoming Federal inspectors and orchestrates inspections, data collection, continuing coordination with interfacing departments, and agencies, and upward reporting of EEIs in conjunction with local response and recovery efforts. An SSA SME may also be deployed to coordinate efforts between participating agencies and USACE assets.

d. **Public Affairs**. See Basic Plan. USACE Public Affairs may be asked to assist local/State authorities in the dissemination of information regarding the procedures for citizens to request safety inspections.

5. **COMMAND AND SIGNAL**.

a. **Command Relationships**. See Basic Plan. The SSA Management Cell will coordinate efforts with FEMA, local authorities, other ESFs, and Support Elements as needed to ensure mission requirements are met. Refer also to Tab A (SSA PRT Organization Chart) and the SSA Mission Guide for Command and Control and intra-team relationship descriptions.

b. **Command Posts**. See Basic Plan. In addition to command facilities in the periphery of MOA, a staging area (in or near Seattle) will likely be required to train and prepare incoming inspectors, in order to facilitate rapid deployment in impacted area.

c. **Succession to Command**. See Basic Plan in front of document.

d. **Signal**. See Basic Plan in front of document. It is anticipated that field inspectors will require cell phones and 2-way radios to ensure communication between the ERRO, EFO(s), and other Support Elements.

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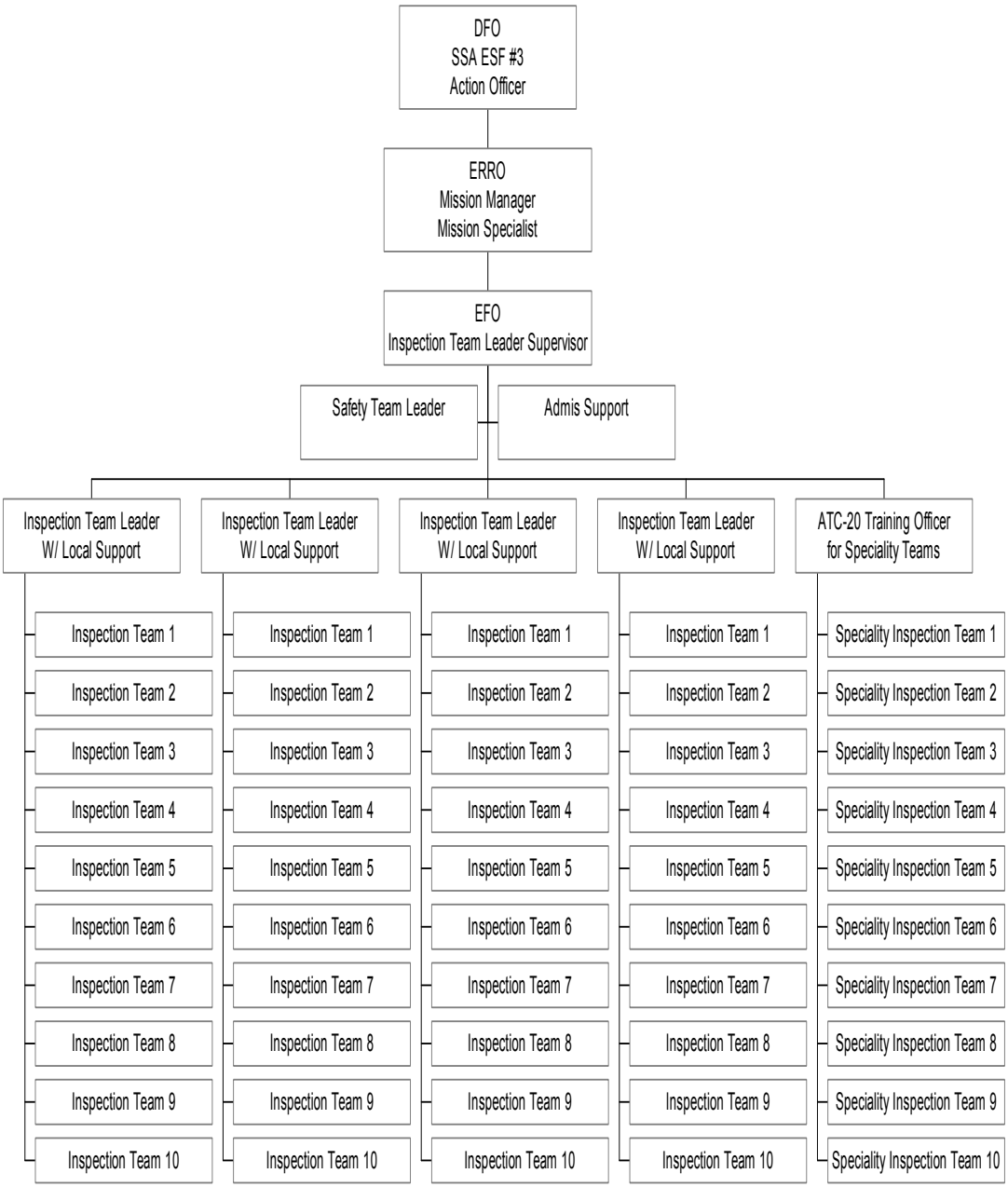
TAB A TO APPENDIX 13 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
STRUCTURAL SAFETY ASSESSMENT (SSA) PRT ORGANIZATION CHART



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APPENDIX 14 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
EMERGENCY ELECTRICAL POWER

1. REFERENCES

a. **Maps and Charts**.
(1) See Annex B.
(2) Maps serving as mission status charts will be produced by the proprietary USACE Emergency Power Information System (EPIS) software program ENGLink Limited Transmission (LT). See Tab A for additional information.

b. **Documents**.
(1) See basic plan.
(2) USACE Emergency Power Mission Guide
(3) The Emergency Power Mission Support Advance Contracting Initiative (ACI) contract for the State of Alaska, Contract DACW 59-03-D-0001.
(4) Disaster event specific Emergency Power Support procurement package. (NOTE: This document should be available on the Power PRT pages within the USACE ENGLink web page, on or about 1 October 2002.)
(5) Miscellaneous Emergency Power Mission support and execution documents as posted within the Power PRT pages of the USACE ENGLink web page. To access these documents, use the Teams – Mission PRT – Teams – Power successive links on the menu bar at the top of ENGLink.

c. **Other**. The USACE-developed ENGLink Limited Transmission (LT) Emergency Power Information System (EPIS) software program. This is a proprietary software program utilized by the USACE Emergency Power Planning & Response Team(s) assigned to execute an emergency power mission.

1. SITUATION

a. General. This annex is based on response to a catastrophic winter earthquake in Anchorage, Alaska. The two distinguishing characteristics of a "catastrophic earthquake" are 1) it is a no-notice type of event, and 2) the damage will be so severe that Federal response will be quickly authorized through an emergency or a major disaster declaration. A wintertime event in Alaska has the additional factor of an immediate requirement to provide power to operate heating systems in surviving buildings, to protect the population from freezing/hypothermia injuries and deaths. Almost all existing heating systems require electrical power for operation.

All of these factors result in a mission requiring the immediate provision of physical assistance to the victims. The normal response and reaction time, including pre-positioning of equipment, will **NOT** be available.

b. Threat. Along with the initial devastation, including loss of life and serious injury to the people of Alaska a catastrophic earthquake threatens long-term disruption of basic human services such as: heat, water, electricity and natural gas. This threatens the safety and well being of the affected population until temporary emergency power can be supplied or until commercial power is restored. This lack of commercially available power will also have a direct impact on the operations of several other potential Corps of Engineers' missions from FEMA including: Water, Ice and Temporary Housing.

c. Response Organizations

(1) Federal Emergency Management Agency (FEMA). Implements the Federal Response Plan (FRP) for mobilizing Federal resources from the plan's twenty-seven (27) Federal departments and agencies, including USACE, to assist State and/or local governments' unmet response and recovery needs following a major disaster or domestic emergency. FEMA will issue these Federal agencies a Request for Assistance (RFA) or Mission Assignment (MA), the document providing basic requirements and funding for response. To save time in initiating the Emergency Power mission, FEMA will probably use a Pre-scripted Mission Assignment (PSMA) to provide the necessary basic mission scope and funding to mobilize an Emergency Power PRT Team. However, they may elect to issue a disaster specific mission assignment based upon unmet needs known by the State of Alaska. FEMA normally mobilizes generators, in lots of 50 or 100, from one or more of their Territorial Logistics Center's (TLC's) to a pre-determined staging area in the disaster region. For Alaska, FEMA will also immediately ship the generators from its logistical staging area at Fort Shafter, Hawaii.

(2) Department of Defense (DOD). The Department of Defense supports each of the twelve Emergency Support Functions (ESF) of the Federal Response Plan. DOD has primary responsibility for ESF#3, Public Works and Engineering, and has tasked USACE to plan and execute this function.

(3) US Army Corps of Engineers (USACE). USACE is the designated DOD planning and operating agent for ESF#3, Public Works and Engineering. A USACE ESF#3 Team Leader (TL) will represent the Corps of Engineers, first at the Regional Operations Center (ROC), then at the Disaster Field Office (DFO) established for the event. The TL will be the liaison between FEMA and the Corps for all issued missions, including the Emergency Power mission. USACE will provide the manpower to manage, administer, and execute the mission assignment through the use of Emergency Power PRT teams, Functional Support teams, the 249th Engineer Battalion, and contracted resources. The power mission is issued under the Federal Response Plan, as authorized by the Stafford Act (previously known as PL 93-288). The USACE internal disaster response authority, PL 84-99, Flood and Coastal Storm Emergencies, is used to prepare for the response. However, it does not provide any authority for the execution of an emergency power mission.

(4) 249th Engineer Battalion (Prime Power), USACE. The 249th Engineer Battalion primarily assists in the technical assistance needs of the Emergency Power Mission. They are the primary resource for performing power needs assessments of critical facilities. In so doing they provide

the information necessary to determine the overall scope of the mission with respect to Federal resources needed. The Prime Power detachment at Fort Lewis, Washington will probably provide the immediate support to the response effort, but personnel for the main response effort could be drawn from any of the organization's detachments—including Fort Shafter, Hawaii.

(5) Advanced Contract Initiative (ACI) Contractor. The ACI Contractor typically performs generator installations, including transportation to the site. They are also responsible for maintenance, refueling and recovery of any generators used to support the FEMA emergency power mission.

(6) Department of Energy (DOE). The DOE is responsible for coordinating the restoration of primary power to the affected area. This coordination with the emergency power mission helps to set priorities and ensures that time and resources are not wasted in providing support to a facility that is about to have its power restored. Under the FRP they are expected to provide liaison personnel under ESF #12 at the ERT-A/DFO. The National Association of State Energy Officials (BASEO) may also provide a liaison to assist with this coordination. Within the State of Alaska this coordination function is likely to be performed by the Alaskan Energy Authority.

(7) Alaskan Command (ALCOM). Coordinates the use of the Joint Mobility Center at Elmendorf AFB for the off-loading and initial temporary storage of FEMA assets, including generators, to assist in relief efforts. ALCOM also provides the Defense Coordinating Officer (DCO) from within the command's J-6 organization, and provides coordination with the State of Alaska.

(8) State Government. The Alaska Division of Emergency Services (ADES), assisted by the Alaska Department of Commerce and Economic Development (ADCED) and the Alaska Department of Community and Regional Affairs (ADCRA), coordinates the emergency power needs of the affected areas with the local governments and requests assistance through FEMA based on the priorities established by the state. The Alaska Energy Authority (part of ADCED) owns the Railbelt Intertie, which transmits power between Interior Alaska (Fairbanks/Golden Valley Electric Association) and Southcentral Alaska, and also owns the Bradley Lake Hydroelectric Project, a major supplier of electric power for the Railbelt area.

(9) Local Government. The Municipality of Anchorage, through Office of Emergency Management, coordinates the emergency power needs within the Municipality with ADES and also assists ADES in establishing priorities. There are also many variations of Mutual Aid pacts with commercial, local, State and Federal agencies that exist within the region. Awareness of these will decrease the likelihood of duplicative resources being allocated to a single unmet power need.

(10) Public Utilities. Municipal Light and Power (ML&P), Chugach Electric Association (CEA), and Matanuska Electric Association (MEA) provide power to various areas within the Municipality of Anchorage. MEA provides power in the Matanuska-Susitna Borough, while CEA provides power for Whittier and for the eastern portion of the Kenai Peninsula Borough (excluding Seward). Homer Electric Association provides power for the western portion of the Kenai Peninsula Borough, from Homer to Kenai. See Tab A for details. There are a number of

power sharing agreements and Mutual Aid pacts established among the local utilities, and with utilities located outside the impacted area. The three utilities serving the MOA will have a representative in the MOA EOC, and that is the location for coordinating the status of restoration of service. That coordination is critical for scheduling the installation of emergency generators, to avoid the lost effort of installing generators when the regular electrical power is about to be restored to the same facility.

d. Assumptions.

(1). While the Alaska District may be classified as a "Victim District" following an Anchorage area earthquake, sufficient replacement personnel will be provided by POH and other USACE organizations to fill the positions noted in this plan as "CEPOA personnel.

(2) Most critical facilities in the region already have emergency power generation capabilities, but some of these will fail to operate either due to mechanical difficulty or because of impacts of the event.

(3) The event can happen in the winter and this will require special considerations for the generators. These can be found in Tab B to this Appendix.

(4) Prior to an earthquake event in the Anchorage area, some FEMA generator assets will have been modified to be able to operate in extreme cold weather conditions. However, many of the incoming generators will not have been so modified.

(5) Installations and productivity will be complicated by the extended darkness and severe cold. Portable lighting and heating equipment will be required to maintain operations in cold weather and in extended periods of darkness. Special purpose equipment and/or additional manpower may be required to keep productivity on par with mission needs, and to permit safe mission execution.

2. **MISSION**. The Emergency Power Mission includes the assessment of emergency electrical power needs and all other support provisions necessary to provide temporary electrical service to critical public facilities and agencies until the restoration of reliable commercial power is achieved. This USACE mission administration will be accomplished the deployed Emergency Power PRT, and execution will be by 249th Engineer Battalion personnel and the ACI Contractor. Execution will include the assessment, supply, delivery, installation, operation, maintenance, recovery, return to depot, and inventory control of generators, ancillary equipment, and materials for generator installations and other unmet power needs requirements levied by FEMA and the State of Alaska.

3. **EXECUTION**

a. Phase 1 – Pre-Event Because an earthquake is a no-notice event, generators and personnel can not be pre-staged. The primary advance measures that must be taken are:

(1) To insure that cold weather clothing has been issued, prior to the earthquake to the team designated to initially respond. (This cold weather preparation would also be needed for other potential winter events, such as the January, 1998 Canada/New York ice storm.)

(2) To prepare at least a portion of FEMA's stockpiled generators for cold weather operations.

b. <u>Phase 2 – Activation and Initial Deployment</u> For this particular event, FEMA will immediately activate personnel and deploy equipment to Anchorage.

(1) **FEMA**. FEMA initiates the mission assignment and activation process and implements the FRP and resultant deployment of pertinent personnel from FRP agencies into the affected area to begin the disaster response and recovery processes. FEMA mobilizes generators to the region from its Territorial Logistics Centers (TLC's). The two primary sources of generators will likely be TLC-West in Sacramento, CA, and the FEMA staging area in Hawaii. NOTE: At the time this Annex was prepared, none of these FEMA generators have been modified for extreme cold weather operations.

(2) **USACE.** The ESF#3 Team Leader(s) and Assistant Team Leader(s) will deploy to the disaster area and work under the operational control of the Federal Coordinating Officer (FCO). Along with these individuals, planning and organizational staff, independent assessment teams and functional subject matter experts may be deployed depending on the magnitude of the event. In the case of Emergency Power, personnel from the 249th Engineer Battalion, Emergency Power PRT team and ACI Contractor will also deploy. For a catastrophic earthquake in winter, the full PRT will be activated within a few hours of the event.

(3) **249th Engineer Battalion**. Typically will send an advance team to the impacted area to determine the scope of the disaster and level of 249th resources necessary to accomplish the work and to coordinate with the PRT AO and the ESF#3 Team Leader. For a catastrophic earthquake, the 249th will need to provide immediate technical assistance while the assessments are still in progress.

(4) **ACI Contractor.** If the ACI is in place for an event in the State of Alaska, then they will be tasked to send an advance team to the site to determine the scope of their efforts and resulting level of Contractor resources necessary to accomplish the work.

(5) **ALCOM** – Coordinates with all agencies in anticipation of the disaster response. Puts into effect the Air Force Response Plan 5210. Prepares to use the Joint Mobility Center for off-loading aircraft and providing temporary storage of FEMA commodities until they can be shipped to local distribution points and staging area(s). (FEMA policies call for such storage to be the minimum possible; however, some generators will need to be stored to help to match specific generator capabilities to appropriate load requirements.)

(6) **State & Local Government and Public Utilities**. Assess Damage and coordinate with each other, the Municipality of Anchorage, Alaska Emergency Services, and FEMA.

b. <u>Phase 3 - Deployment.</u> For this particular event, an earthquake, there is no prior notice to allow teams/personnel to be identified and prepare for deployment. Specifically, Phase 2a - Activation will also be deployment for most Emergency Power mission administration and execution individuals. This phase will deal with the deployment of individuals not previously deployed under Phase I.

(1) **USACE**. As quickly as possible after the first respondents have time to survey the magnitude of the disaster USACE will deploy appropriate mission support personnel. Early deployments will consist of Functional-Planning and Response Teams such as: Logistics Management Response Teams, Resource Management Teams, Contracting Management Teams and Mission PRT teams (ex. Ice, Water, Power, Temporary Roofing, etc.).

USACE will be prepared to support the operation as required, including manpower and material augmentation. Supporting Divisions will be prepared to assume the main effort based on the situation. If a USACE organization is impacted by the event and is rendered a 'victim' (unable to execute assigned missions) their primary mission switches from response to reconstitution of their workforce and command structure.

(2) **249th Engineer Battalion**. The 249th Engineer Battalion deploys the appropriate personnel necessary to accomplish the mission of assessing the power needs of critical facilities impacted by the event.

(3) **ACI** Contractor. The ACI Contractor mobilizes the personnel necessary to execute the mission, based on the scope of the work created from the event. This may be a moving target and initial response will be based on early estimates.

c. <u>Phase 3 - Execution</u> This is the period of time that commences with the formal establishment of the mission and culminates with the fiscal/physical closeout of the mission.

(1) **FEMA**. FEMA accepts the unmet needs from the State of Alaska and requests of the affected State and provides direction to USACE to accomplish the planning and execution of various technical missions, including the Emergency Power mission. FEMA provides the Corps with the necessary generators to accomplish the work.

(2) **USACE**. Accepts the unmet power needs identified from FEMA and executes the overall emergency power mission using a trained management cell called the Emergency Power PRT Team, and executes mission requirements using the 249th Engineer Battalion and the ACI Contractor teams. The mission is formally executed as described in the USACE Emergency Power Mission Guide.

(3) **249th Engineer** Battalion. The 249th Engineer Battalion assesses the critical facilities power needs and determines what size generator is needed to restore the facility to an operational condition until primary commercial power can be restored. The 249th also assists in generator installations and Quality Assurance (QA) of Contractor related work, and can provide other assets and services related to safe power restoration to a facility or area.

(4) **ACI Contractor**. The ACI Contractor is tasked by the Corps of Engineers to assess, haul, install, maintain, fuel and recover generators under the mission. Typically these generators are FEMA owned, but there are contract provisions to allow procurement via rental/lease of generators if the need should present itself.

(5) **Department of Energy (DOE)**. The Department of Energy represents the ESF#12 cell and is tasked with coordinating the restoration of primary commercial power to the affected area. DOE coordinates with the local power companies and the ESF#3 cell to communicate the progress of power restoration and eliminate the inefficient use of resources associated with emergency power efforts in areas that are soon to be restored to service.

(6) **Alaskan Command (ALCOM)**. Barring severe damage to Elmendorf AFB facilities, ALCOM will provide a means of landing FEMA generators and off-loading them at their Joint Mobility Center. This site is intended to be a temporary storage facility and the generators will still require transport to the staging area.

(7) **State & Local Government**. The State of Alaska, Municipality of Anchorage, and other & local government emergency management agencies, as applicable, will identify the critical facilities that must have temporary emergency power restored due to the event. They will prioritize the needs of the state and formally request assistance from FEMA.

(8) **Public Utilities**. The public utilities will work to restore reliable primary power to all of the affected facilities. They will coordinate their efforts with DOE so that they can properly coordinate with the Emergency Power mission.

4. **MISSION SUPPORT**. The following paragraphs describe the various emergency power mission support activities provided by a combination of PRT and/or supporting District personnel. They also contain mission-critical support provided by FEMA, Other Federal Agencies (OFAs), or local/State personnel. This document assumes that CEPOA will not become a "victim District", and will be able to provide minimal emergency power mission support personnel until augmenting USACE personnel can be transported into the area. NOTE: The actual initiation of the execution phase of the mission will ultimately determine who will provide these efforts, if not CEPOA personnel.

a. **PRT/Mission Management**.

(1) The primary intent of the PRT concept is to conduct overall mission management. Thus the impacted District would only be tasked to provide minimal mission support personnel. However, as this scenario is based upon a no-notice event it is anticipated 1-3 days would be required to transport in an emergency power PRT to execute the mission.

(2) CEPOA will provide a part-time Emergency Power mission coordinator at the IOF to coordinate mission requirements with respective local/State/FEMA/OFA personnel while the PRT, generators, and support personnel/contractor(s) are being mobilized into the region.

(3) POH will establish the Emergency Power Mission in ENGLink in advance of PRT arrival, and will provide a coordinator for the mission, in the POH EOC, until the ERRO is able to handle that coordination.

b. **Mission Execution**. A variety of personnel are required for field-related support to the emergency power mission. The functions required, and potential sources of personnel to perform these functions are:

(1) Technical Assistance – Typically this mission element is provided by elements of the 249th Engineering Battalion. The 249th has pre-designated elements scheduled to deploy from Ft. Lewis, WA or Ft. Shafter, HI for an Alaskan disaster event. Should none, or only a limited number, of the 249th personnel be deployed, the ACI contractor can be tasked to provide this assistance, or locally available A-E contractors with electrical engineering capability can be tasked to provide this expertise.

(2) Quality Assurance – The staffing of an emergency power PRT does not include Government Quality Assurance (QA) Representative(s) for emergency power support contracting activities. However, some PRT members are expected to perform this duty should the mission be relatively small in scope and size. Several other short-term sources for power QA Reps are: the Logistics PRT or the 249th. But these 2 organizations should only be expected to provide this function for a short-term basis. The supported/impacted District is expected to be the primary source of any longer-term QA Rep need for this mission. The QAs can be provided from in-house CEPOA personnel, or augmented with TDY USACE personnel.

c. **Contract Procurement**. The Emergency Power PRT deploys with a Contracting Specialist (CS) to augment the impacted/supported District CT staff for procurement activities related to Emergency Power Mission support. It is recommended that CEPOA determine pre-event who will be granted access permissions, or signature authority, within their CEFMS database to support the emergency power mission. The PRT CS, the PRT MM, or the CEPOA EP-LNO would be likely candidates, thought the PRT MM is likely the best overall choice as they manage the mission execution decisions. CEPOA should also determine if the PRT CS will be granted data entry permissions in their "SPS"/"PD2" (i.e. "PD-squared") procurement software/database. If not granted access, the PRT CS will rely on CEPOA contracting personnel to perform the required data entry into this system for any emergency power mission-related procurement activities.

d. **Contract Administration**. CEPOA CT, or other appropriate CEPOA organization, shall determine who will be the designated Contracting Officer Representative(s) for the administration of the Emergency Power ACI task order, or event specific emergency power support contract procured, as applicable. Deployed PRT personnel can well perform this function, however there are differences in the member capabilities of each PRT that CEPOA will need to be aware of for this decision making process. The members of a PRT who can best perform this contract administration role are usually the CS, MS, or the LTM. The PRT MM should recommend to the CEDPOA Contracting Officer who, within their PRT, they recommend. It is also strongly recommended that the CEPOA Contracting Officer assign another COR from within the CEPOA organization to maintain contract administration continuity once the Power PRT re-deploys.

e. **Logistics**. The essential logistics support required for emergency power mission execution is usually provided by the Logistics PRT (LOG PRT) assigned to that disaster event. Support expected from the LOG PRT includes: short-term QAs; short-term administrative/clerical assistance; miscellaneous office-related support including, but not limited to, a workspace for the LTM, miscellaneous office supplies, facsimile machine access, land-line telephone, USACE LAN network access, copy machine access; property book officer support; and forklift/material handling support. The PRT Logistics Team Member (LTM) is typically "assigned" to work under the LOG PRT leader at the staging area. However the LTM's primary day-to-day role is the execution of their Emergency Power mission duties. If a USACE LG PRT is not deployed CEPOA LO personnel will be required to assist with the above listed items.

f. **Real Estate**. The USACE Real Estate (RE) policy for Emergency Power mission execution is for the CEPOA RE Division/Office to obtain any and all Rights-Of-Entry (ROEs) required for

the Emergency Power mission "prior" to the physical installation of any generator. (The ROE forms used for the emergency power mission execution can be found on the Power PRT pages within the ENGLink web page listed in paragraph 1.b.(5)) Should CEPOA RE be unable or unwilling to support this real estate execution policy, members of the 249th, the ACI contractor, and/or PRT members can perform this task on an as-needed basis until USACE RE augmentee(s) is/are deployed to CEPOA. NOTE: The lack of a signed ROE will never delay the physical installation and operation of any emergency generator in a disaster response and recovery situation.

g. **Environmental/Regulatory**. An initial Environmental Baseline Assessment (EBA) is conducted prior to the installation of the generator. The appropriate CEPOA Environmental/Regulatory personnel are expected to support this requirement, or CEPOA RE can perform the EBA should they obtain the ROE prior to generator installation. The ACI contractor, 249th assessment/installation personnel, or PRT members can also perform the EBA at the time of generator installation. An EBA will be conducted NLT the time of the physical installation of the generator to document installation site conditions prior to actual generator operations.
A final EBA will be conducted when the generator is uninstalled and physically removed from the site. This final EBA is typically conducted by RE personnel, as the landowner is required to sign this EBA releasing the Government from liability of post-use site conditions. However, any of the parties listed earlier who can obtain ROE or the initial EBA can perform the final EBA if no CEPOA support is available.

h. **Resource Management**. There are several critical instances of Resource Management (RM) support required during emergency power mission execution. These are:

(1) Receipt of verbal mission assignment, or actual Mission Assignment (MA) (previously called a Request for Federal Assistance (RFA)) from FEMA allowing RM to establish the funded work item in the CEPOA CEFMS database. This initial step is critical to then allow funds to be MIPR'd to the District of the deploying Emergency Power PRT for PRT travel and labor related expenses.

(2) Establishing the PR&C in the CEPOA CEFMS database to issue a Task Order against the emergency power support ACI contract, or to allow procurement of any event specific power mission support contract(s).

(3) Establishing PR&Cs for any direct CEPOA provided support for the emergency power mission, or for MIPRs to Districts of any deploying power mission augmentees.
NOTE: It is assumed, for the purposes of this annex, that CEPOA personnel or the EP-LNO will coordinate and accomplish these RM-related tasks. Consideration should also be given to providing CEPOA CEFMS access permissions to the PRT MM to allow him/her to initiate any power mission related PR&Cs with CEPOA personnel then providing PR&C approvals and certifications required.
(4) FEMA mission travel and copies of labor/timesheet documentation would be held at the deploying PRTs home office RM.

i. **Administrative**. Emergency Power mission execution requires little administrative support requirements outside of what would be expected in normal, day-to-day USACE activities. The following assumptions are made with respect to administrative support requirements:

(1) PRT members will accomplish most required administrative functions. However, access to certain pieces of office equipment for them to accomplish these tasks will be required. The PRT MM, MS, and CS will be typically co-located at the CEPOA EOC or at the ERRO and would expect to use the office equipment there. The PRT AO would depend upon FEMA provided office equipment at their deployment location in the ERT-A/DFO. The PRT LTM would depend upon LOG-PRT office equipment at the Staging Area.

(2) Weekly labor timesheets would be routed via procedures established by CEPOA or the ERRO, as applicable.

(3) Any PRT related travel arrangements would be made with the deployed PRT home duty station travel agent and travel-approving official.

j. **Local/State Agency**. There are miscellaneous items that local, regional, or state agencies would be expected to provide, or provide a POC for coordination, that would impact the emergency power mission execution. These may include, but are not limited to:

(1) Power grid restoration schedule and status

(2) Any travel restrictions within the impacted area

(3) Clearance to enter any restricted area, but only to support power mission requirements

(4) Law enforcement escort or support as required by the situation

(5) Provide a POC for coordinating agencies as applicable to the situation.

(6) Either local/regional utility POC, or National Association of State Energy Official (NASEO) POC.

k. **FEMA/OFAs**. FEMA and OFAs also impact the execution of the emergency power mission. These impacts can include, but not be limited to:

(1) FEMA provides the majority of generators to be used from their national stockpiles strategically located at Territorial Logistics Centers (TLCs).

(2) FEMA ultimately provides the specific taskings to the PRT AO of any unmet power needs assistance requirements.

(3) FEMA and ESF #1 (Department of Transportation (DOT)) can impact material deliveries and personnel deploying into, and out, of the impacted area.

(4) ESF #12 (Department of Energy (DOE)) providing a POC and timely information on power grid restoration schedule and status.

5. COMMAND AND SIGNAL.

a. **Command Relationships**. Overall various USACE, FEMA, OFA, ESF #3, etc. overall command relationships have been provided and discussed elsewhere in this CDRP. Within the PRT, the Action Officer is the overall Team Leader. The PRT works under the overall direction of the ESF #3 Team Leader through the AO for the duration of the event. The basic command and activity relationships with respect to the 3 primary parties involved with an emergency power mission are as follows:

(1) PRT

(a) The AO ensures that the MM, MS, CS, and LTM deploy to their respective assignments with appropriate equipment to perform their mission-required tasks. The AO takes direction from the ESF #3 Team Leader with respect to conduct of USACE-related operations.

The AO receives specific unmet power needs taskings from FEMA, and enters emergency power taskings into ENGLink LT as soon as they are received.

(b) The MM, MS, and CS deploys to CEPOA/ERRO to establish themselves with the USACE event command and support personnel. The MM ensures that the contracting processes are in place to provide emergency power mission support requirements, and briefs the mission status. The MS is the immediate backup for the MM, and performs some field related support activities. The CS supports the emergency power mission contract actions required, and can support other USACE contracting efforts as necessary.

(c) The LTM deploys to the staging area and establishes themselves with the LOG-PRT. The LTM's primary role is to enter and print assessment/installation data form ENGLink LT and coordinate with 249th and the ACI and the LOG-PRT. They will assist the LOG-PRT as required when it does not impact their power mission duties.

(2) 249th – The 249th will have a Management Cell from their HQ unit (Ft. Belvoir), and mission execution teams deployed, most likely from either Ft. Lewis or Ft. Shafter as previously mentioned. The 249th may take direction directly form FEMA, especially if they are tasked under a Technical Assistance mission. Under a full emergency power mission they take direction from primarily the PRT AO who makes requests through the 249th management cell. The management cell then provides specific direction to the individual soldiers or teams to support the requirements.

(3) ACI/Event Specific Contractor – Takes direction from the designated Contracting Officer Representative (COR) on the PRT or from CEPOA for the emergency power support contract or task order, as applicable. They take direction from no other USACE personnel, nor any other Federal, local, or state personnel.

b. **Command Posts**. The PRT establishes themselves at different deployment activities as required to perform their mission execution duties\ as follows:

(1) AO and the 249th Management Cell to the ERT-A or DFO where they can interact directly with representatives from FEMA, ESF #12 (DOE), and the State of Alaska for unmet power needs.

(2) MM, MS, and CS to CEPOA or the ERRO to coordinate mission support requirements and provide mission updates to the event command staff.

(3) LTM, 249th mission execution teams, and ACI field operations manager to the Staging Area for receiving and executing emergency power mission directives, either as entered and received in ENGLink LT or as received directly from the AO or MM.

c. **Reporting**. Emergency Power mission reporting requirements primarily consist of the EEIs as previously listed in paragraph 1.a.(3) of this annex, and as supplemented by the desires of the USACE command staff at CEPOA/ERRO, and FEMA and the ESF #3 Team Leader at the ERT-A/DFO. FEMA will establish a reporting cut-off period. Typically USACE's reporting period attempts to mirror FEMAs so as to not introduce the likelihood of different quantitative mission status numbers being developed and reported, one in a FEMA report and then another in a USACE report. Close coordination and communication between the ERRO/CEPOA and ERT-A/DFO can eliminate the potential for a "losing battle" in the disaster event information war.

(1) ENGLink SITREP – Typically the MM is the primary responsible person for input on the emergency power mission status into the CDEPOA SITREP. In the MM's absence the MS, or the CEPOA EP-LNO will enter this information.

(2) ENGLink SPOTREP – The PRT MM, or MS or EP-LNO, will coordinate with the CEPOA/ERRO staff to determine if off-normal reporting notable event(s) related to the emergency power mission should be reported via SPOTREP. If so, the MM, or MS or EP-LNO, will enter this information into a SPOTREP and then request release from CEPOA/ERRO personnel.

(3) CEPOA/ERRO Command Staff Briefings – The MM, or MS or EP-LNO in the MM's absence, will report the emergency power mission support status.

(4) ERT-A/DFO Briefings – The PRT AO typically provides the ESF #3 Team Leader with the required information. The AO may be tasked by the ESF #3 TLK to brief only the emergency power mission's status as part of a larger briefing.

HEADQUARTERS, USAED PACIFIC OCEAN
FORT SHAFTER, HAWAII 96858-5440
■■ 2004

TAB A TO APPENDIX 14 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
REGIONAL ELECTRICAL UTILITIES

1. Electrical power for the area impacted by the planning earthquakes is provided by the Railbelt utilities system. The Railbelt system provides electrical power to the majority of the residents in Alaska, and accounts for 86 percent of the electricity generated within the state. The interconnections for this system roughly parallel the highway system, from Homer and Seward in the south, through Anchorage, along the Parks Highway to Fairbanks, then down the Richardson Highway to Delta Junction. The system involves five major cooperatives and municipal systems, several smaller utility organizations, and the Alaska Energy Authority, a State of Alaska agency. It is not connected to any other electrical system. The utilities within the impacted area are:

a. Municipal Power & Light (ML&P), owned by the Municipality of Anchorage, provides power for downtown and midtown Anchorage, out to Tudor and Boniface, and along the Glenn Highway to Ship Creek. ML&P both generates and distributes power; it also provides wholesale power to other Railbelt utilities. (See service area map, below.)

b. Chugach Electric Association (CEA), a cooperative, provides power in east and south Anchorage, including Hillside and along Turnagain Arm; in Whittier; in the eastern portion of the Kenai Peninsula Borough (excluding Seward); and in Tyonek. CEA both generates and distributes power; it also provides wholesale power to other Railbelt utilities.

c. Matanuska Electric Association (MEA), a cooperative, provides power for the Matanuska-Susitna Borough, and for the portions of the Municipality of Anchorage along Knik Arm northeast of Eagle River. Apart from its share in the Eklutna hydroelectric project, MEA only distributes power.

d. Homer Electric Association (HEA), a cooperative, distributes power to the western portion of the Kenai Peninsula Borough, from Homer to Kenai. It should not be impacted significantly by the 7.5 shallow crustal earthquake, but would probably be moderately impacted by the 8.0 subduction earthquake. HEA does not own generators, but it operates two generation plants for others: Bradley Lake (AEA) and Soldotna No. 1 (AEG&T)

e. Alaska Electric Generation and Transmission (AEG&T) is a generation and transmission cooperative formed by MEA and HEA. AEG&T owns Soldotna 1, a 42 MW simple cycle gas turbine unit. AEG&T provides the major power requirements for MEA and HEA; it is wholesale only.

f. Alaska Energy Authority (AEA) supports the Railbelt utilities by providing wholesale electricity through two means:

(1) Bradley Lake Hydroelectric Project provides power to all 6 retail distribution utilities within the Railbelt system. While the project is owned by AEA, it is operated by Homer Electric Association.

(2) The Railbelt Intertie, running parallel to the Parks Highway, connects the Southcentral Alaska electric utilities with the Golden Valley Electrical Association (GVEA) system in Interior Alaska. The 170-mile, 345kV transmission line runs between Willow and Healy. The Intertie allows Golden Valley Electric Association (GVEA) in Fairbanks to purchase electricity produced less expensively with lower cost energy such as natural gas and

hydroelectric from the Anchorage and Kenai Peninsula utilities. Fairbanks consumers save an estimated $7 million a year, and the Intertie reduces the number of black/brownouts throughout the system. GVEA operates the northern half of the Intertie, while ML&P operates the southern half. For a severe earthquake in the Anchorage area, the Intertie would be used to supply power to undamaged portions of the Matanuska-Susitna Borough, and to the northern portion of the affected area. Currently, much of the transmission is from south to north, due to the lower cost for Bradley Lake hydroelectric power and for natural gas-generated power from both ML&P and CEA.

g. Eklutna Lake Hydroelectric Project is jointly owned by ML&P, CEA, and MEA; all three utilities share in the output. MEA operates the facility.

h. Elmendorf AFB and Fort Richardson each has its own electrical power plant. These are primarily for internal supply, although each plant can serve as an emergency supplier for the Intertie system. Both bases plan to decommission their power plants within the next several years.

2. Other electrical utilities/suppliers in the Intertie system:

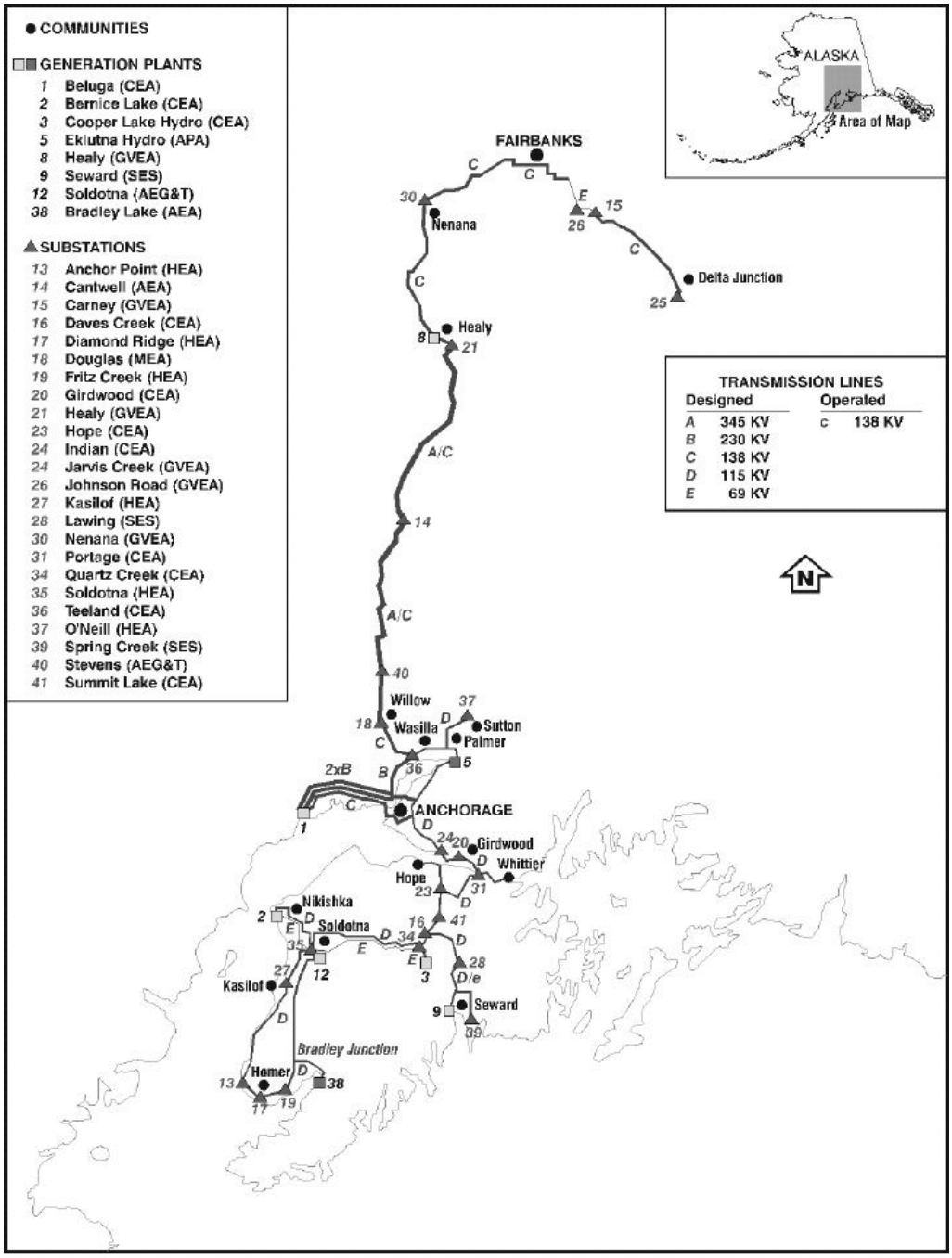
a. Golden Valley Electric Association (GVEA) provides power in Interior Alaska, from Healy through Fairbanks and down to Delta Junction. GVEA both generates and distributes power. It sometimes provides power to the other utilities, but is not a full-time wholesale source due to higher generation costs.

b. Seward Electric System (SES) is owned by and distributes power within the City of Seward. SES does not routinely generate power, but it does own a standby generating plant.

c. Aurora Energy, LLC in Fairbanks operates 4 coal-fired steam turbine units that it purchased when the City of Fairbanks sold its electrical generation and transmission facilities in 1997. Aurora is a wholesale electrical supplier; it is the only private entity among the Intertie utilities. Much of the waste heat from its plant is used to provide steam for heating buildings in the downtown Fairbanks area; it is the only certified “steam utility” in Alaska.

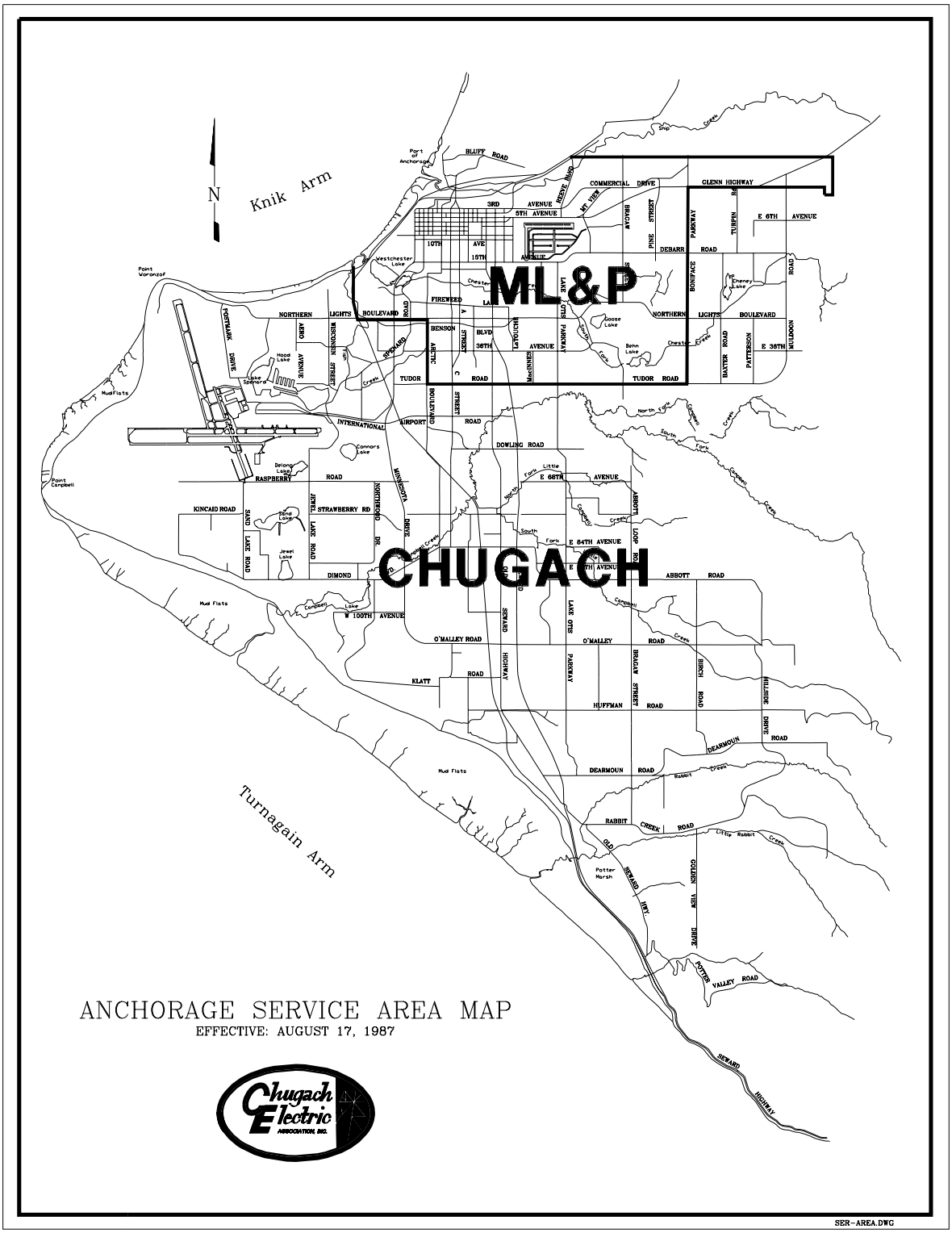
d. The University of Alaska Fairbanks (UAF), Eielson AFB, and Fort Wainwright each operate their own power plant. These are primarily for internal supply, although each plant can serve as an emergency supplier for the Intertie system. The UAF plant uses the steam heating systems of campus buildings for disposing of its waste heat. This means that its winter power generation capacity is far higher than the summer capacity; however, winter is also the season for peak electrical demand in Alaska.

3. The remainder of the state receives its electric power from over 80 smaller utilities, including municipal owned, cooperative, and privately owned entities. In addition, the State of Alaska owns 6 other hydroelectric projects. Some of the electrical utilities serve an individual community of a few hundred residents. Even when a utility (such as Alaska Power Company or Alaska Village Electrical Cooperative, Inc.) serves a large number of communities, it does so by means of several non-connected systems which each serve one or at most a handful of communities. None of these utilities are connected to the Railbelt system, but they would provide personnel to help restore systems damaged by the earthquake.



Overview of Alaskan Railbelt Transmission System
Figure A-1

Municipal Power & Light (ML&P) Service Area



J:\MAPS\Service Area\Anch_1987\Ser-area.dwg

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TAB B TO APPENDIX 14 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
COLD WEATHER GENERATOR OPERATIONS

The following items of concern were discussed with personnel and organizations familiar with operation of diesel engine powered equipment and generators in extreme cold weather conditions. These items are included in this Annex for use, as applicable, by the deployed emergency power mission executers.

1. Pre-Deployment Generator Modifications. Any generator that was not initially manufactured for cold weather operations, nor subsequently modified, shall have the following modifications made prior to shipment into that operating environment:

a. Most generator manufacturers who market generators for use in climates with ambient temperature of -20 degrees Fahrenheit typically install an engine block heater in the coolant system to keep the engine temperature raised to allow startup. These block heater units should circulate the water and heat the cooling system fluid/water to at least 75 degrees Fahrenheit, with 100-120 degrees Fahrenheit being more desirable. (Note: Per ONAN, for their units, the estimated price (parts only) varies from $120.00 to $480.00 depending on the size of the engine.)

b. Also installed are oil pan heaters to keep the oil warm and in a fluid state for better starting in cold weather. (NOTE: Per ONAN, for their units, the estimated price varies from $60.00 to $120.00 (parts only) depending upon the size of the engine.

c. Other typical items installed are battery heaters to maintain the cranking power of the batteries; cold batteries have a much lower maximum current output. The heaters would also keep discharged batteries from freezing. The heaters run around $45. Large units with two (2) batteries would require two (2) heaters.

d. The generator sets should come equipped with covers installed to allow the unit to be closed-up while operating to keep blowing snow from packing into the unit, and to reduce the effect of wind chill on the operating temperature of the engine.

e. Units operated in extreme cold weather are typically fueled with No. 1 Diesel versus No. 2 Diesel. Manufacturer should be consulted to ensure that no modifications to the fuel injection system or engine tuning are required for using No.1 Diesel in the unit.

2. **Deployment Considerations**. The following considerations should be made for the generator staging area, generator deployment, and any fuel storage:

a. If at all possible the staging area for generators should be in a heated, and enclosed space to limit the effects of exposure to ambient conditions on the units prior to their installation.

b. Provide trickle chargers and develop and implement a schedule to keep the generator unit batteries charged at the staging area.

c. Units that have been exposed to extreme cold ambient temperatures will require warm up prior to being able to physically start. This may require a "tent" to physically accompany the generator to its installation site. The "tent" would have to be erected around the unit and portable space or forced air heaters used to warm the unit. Units exposed to ambient air conditions for any length of time could well require up to 6 hours of exposure in this heated environment to be able to start and operate.

d. Portable, gasoline powered generators, in the 5-8 kW size range, are recommended for powering the portable heating apparatus at the installation site.

e. If No. 2 Diesel is going to be stored and used in this environment, then the fuel tanks will require heat blankets and insulation, and exposed fuel delivery lines require insulation and heat taping to ensure this fuel will remain fluid enough to flow.

f. An impermeable barrier should be placed under the unit when installed to prevent POL spills into the environment.

3. **Installation Considerations**. The following considerations should be made with respect to the installation Basic Order of Material (BOM).

a. Consider the use of "Locomotive Cable" in lieu of "MCM", or other types of cable. Locomotive cable is far more flexible in extreme cold weather conditions than MCM-type cable would be, allowing easier installation effort.

b. NOTE: If Locomotive-type cable used, then the connectors would also need to be sized for this type cable. Example – the equivalent 350 MCM cable size is 373 Locomotive, and the equivalent 500 MCM cable size is 525 Locomotive. As a result the FEMA BOM MCM-sized connectors would be undersized for use with Locomotive cable. BOM would have to be adjusted for use of Locomotive-type cable.

c. Add an electrically powered jackhammer to the installation toolkit to allow ground rod installation in frozen ground. NOTE: This will require the transportation of a small rated gasoline-powered generator to provide power for operating the jackhammer.

4. **Operational Considerations**. Some fascinating, but useless (?), trivia regarding aircraft engine operations in extreme cold weather:

a. Reciprocating engines typically quit operating around –30 degrees Fahrenheit. This could affect delivery of equipment or personnel to a remote site or around an impassible road condition via reciprocating engine powered helicopter or other transport aircraft.

b. Turbine engines typically quit operating around –50 degrees Fahrenheit. This too could affect delivery of equipment or personnel to a remote site or around an impassible road condition via

turbine-engine powered helicopter or other transport aircraft. Also add the fact that you may be able to enjoy the hospitality of Alaska for a longer period of time as well.

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TAB C TO APPENDIX 14 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
SPECIAL FORMS

Use ball point or roller ball pens only

ROE Number: _____

Bar Code _____

GPS Coordinates:

_____ Latitude

_____ Longitude

DEPARTMENT OF THE ARMY
RIGHT-OF-ENTRY FOR EMERGENCY POWER ACTIVITIES

_____
(Project, Installation or Activity) (Tract Number or Other Property Identification)

The undersigned, hereinafter called the "Owner/Agent", hereby grants to the United States of America, hereinafter called the "Government", right-of-entry upon the following terms and conditions:

1. The Owner/Agent hereby grants to the Government an irrevocable right to enter upon the lands hereinafter described, at any time within a period of ___( ) from the date of this instrument, for the purpose of generator placement, operation, maintenance and recovery and any other work necessary for emergency recovery activities. .

2. The right-of-entry includes the right of ingress and egress on other lands of the Owner not described below, provided such ingress and egress is necessary and not otherwise conveniently available to the Government.

3. All tools, equipment, and other property taken upon or placed upon the property by the Government shall remain the property of the Government and may be removed by the Government at any time within a reasonable period after the expiration of this permit or right-of-entry.

4. The undersigned agrees to accept responsibility for the reasonable and prudent care of the generator set while such equipment is in place pursuant to this right-of-entry.

5. If any action of the Government's employees or agents in the exercise of this right-of-entry results in environmental damage to subject real property, the Government will, at its sole discretion, either remediate such damage or make an appropriate settlement with the Owner. In no event shall such remediation or settlement exceed the fair market value of the fee title to the real property at the time immediately preceding such damage. The Government's liability under this clause is subject to the availability of appropriations for such payment, and nothing contained in this agreement may be considered as implying that Congress will at a later date appropriate funds sufficient to meet deficiencies. The provisions of this clause are without prejudice to any rights the Owner may have to make a claim under applicable laws for any damages other than those provided for herein.

6. Except as provided in paragraph 5, the undersigned agrees and warrants that it will hold and save harmless the Government of the United States, its contractors and representatives for any damage or loss of any type whatsoever including claims for negligence either to the above described property or persons situated thereon, and hereby releases, discharges and waives any and all actions, either legal or equitable, which the undersigned has or may have pursuant to this right-of-entry.

7. The property affected by this permit or right-of-entry is located in _____ and is described as follows:

WITNESS MY HAND AND SEAL this ___ day of _____, 20___ .

UNITED STATES OF AMERICA

_____
Owner/Agent Signature

_____ _____

U.S. Army Corps of Engineers

Print Name

_____

Address

_____

Phone

Use ball point or roller ball pens only

ROE Number: _____

FEMA Bar Code _____ GPS Coordinates:

_____ Latitude

_____ Longitude

Environmental Baseline Assessment Reconnaissance Report

This site is identified as an electrical generator site used during activities related to the _____ Emergency Response Operations. The size of the generator and location of the site are as follows:

A _____ kW/KVA generator is placed [address or narrative]:

_____

_____

(Sketch of location and/or placement:)

The general condition of the site is:_____

_____

_____

(Sketch site. Include oil/grease spots, etc. Attach photo.):

_____ I concur with the above stated site condition.

_____ I do NOT concur with the above, because:

UNITED STATES OF AMERICA

_____
Owner/Agent Signature

_____

U.S. Army Corps of Engineers

_____
Print Name

_____
Address

_____

U.S. Army Corps of Engineers

RELEASE OF LIABILITY

Emergency Power

(NOTE: To be filled out at time of generator set recovery)

Effective _____, 20_____, the owner hereby releases and forever discharges the Government, its officers, agents and employees from any and all claims for damages of restoration, except environmental damages pursuant to paragraph 5 of Right-of-Entry No. _____ and from all liability that may arise out of generator placement, operation, maintenance and recovery, and the occupation by the Government of the property during FEMA declared natural disaster _____ Emergency Response and Recovery Operations, except in the case of unpaid rent.

_____
Signature

_____
Print name

_____
Address

_____
Phone Number

Following to be filled out if no environmental damages or after environmental restoration/remediation completed:

Owner acknowledges that subject property, described in Right-of-Entry No. _____ has been remediated, as necessary, to acceptable environmental standards, and further releases the Government from any and all claims arising out of or relating to such remediation.

_____
Signature

_____
Print name

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TAB D TO APPENDIX 14 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP REPORTS

1. **Progress Charts.** The POA Commander or the ERRO Commander, as the situation warrants, will determine the map(s) or chart(s) they desire to see related to power mission execution status. The following color scheme is recommended for use in any graphical display of generator mission execution status:

■ = Red = Generator assessment requested, but not conducted
■ = Yellow = Generator assessment conducted, but generator not installed
■ = Green = Generator Installed
■ = Blue = Power restored, generator installation not required

a. The locations of these assessment and/or installation sites will be plotted initially using the street address provided by the State of Alaska/FEMA, and ultimately by the Global Positioning System (GPS) coordinates obtained by the assessment/installation teams.

b. Any chart prepared to brief and/or track the emergency power mission status shall include the established Emergency Power Essential Elements of Information (EEIs) as follows:

Total Number of Requests for Assessments (Cumulative to Date)	
Requests for Assessments (Last 24 Hours)	
Total Number of Assessments Completed to Date (Cumulative to Date)	
Assessments Completed (Last 24 Hours)	
Maximum Number of Generators Needed From Assessments	
Generator Installations No Longer Required	
Generator Installations Actually Required	
Generators Installed Total (Cumulative to Date)	
Generators Installed Today	
Staging Area Generator Inventory	
Generators Needed	
Generators Deployed	

c. The chart numbers are generated from within the proprietary USACE Emergency Power Information System (EPIS) software program Englink Limited Transmission (LT). Using this as a sole source will ensure consistent mission status information availability within USACE and as reported to FEMA.

d. Any other mission status information desired can follow the information presented in the above chart. Additional information desired by USACE command staff may include items such as mission personnel status, and/or the status of mission funding to include funds committed, obligated, expended, and available.

Power Assessment Form:

Power Assessment Work Order

Mission#: _____ Facility Name: _____ Remarks:

Alternate Mission #: _____ Location: _____

City: _____ State: _____

Date Received: _____

County/Municipality: _____

Mission Type: _____ Building Use: _____

FEMA Priority: _____

Agency Contact Information:

Point of Contact: _____

Agency: _____

Phone: _____

Fax _____

E-Mail: _____

Pre-Assessment (User) Site Data

	Power (kw)	Voltage	Amperage
Phase (1/3)			

Assessment Details

Team Name(s): _____

Assessment Date: _____

Main Breaker Current (Amps): _____

# of Service Drops: _____

Transformer Rating (kVA): _____

Site Voltage (Volts): _____

Feeder Cable Size: _____

Service Drop Type: Overhead, Underground

Transformer Mount Type: Pad, Pole

Backup / Existing Generator Information (if applicable)

Power (kW): _____ Voltage (V): _____

Internal Fuel Capacity (Gal): _____ Hours: _____

Fuel Type: _____ Phase: _____

Latitude (North): Degrees: _____ Minutes: _____ Seconds: _____ N

Longitude (West): Degrees: _____ Minutes: _____ Seconds: _____ W

Needed Generator Information:

Power (kW): _____

Voltage: _____

Phase(s): _____

Assessment Remarks:

BOM:	Category	Description	Qty Required	Unit

249th Work Assessment Form:

(Note: the original is a very wide Excel spreadsheet; the following screen shots show the information that is contained in a worksheet.

Microsoft Excel - Blank 249th Master.xls

File Edit View Insert Format Tools Data Window Help

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L3 =

	A	B	C	D	E	F	G
3	Mission #						
4	TML	Alternate	Date	Mission	FEMA	Facility Name	Location
5	ID#	Mission #	Received	Type	Priorties	Department/Use	Address or Site
6							
7							
8							

	H	I	J	K	L	M	N	O	P
3									
4								Year	#
5	Zip Code	City	State	County/Municipality	Building Use	Assessment:	Remarks	Built	Floors
6									
7									
8									

	Q	R	S	T	U	V	W	X	Y	Z	AA
3								Pre-Assessment Data			
4	Total	Building	Wall	Heat &	Roof			(User) Site Data			
5	SF	Class	Type	A/Cond	Type		Power (kW)	Voltage	Amperage	Phase (1/3)	
6											
7											

	AA	AB	AC	AD	AE	AF	AG
3				**Agency Contact Information**			
4							
5		Point of Contact	Agency	Phone #	Fax	E-Mail	
6							
7							

	AG	AH	AI	AJ	AK	AL	AM	AN	AO
3				**Assessment Details**					
4				Main Breaker	Site Voltage	# of Service	Feeder Cable	X-former Rating	Service Drop Type
5		Team Names	Assessment Date	Current (amps)	(volts)	Drops	Size	(kVA)	Over/Under
6									
7									

	AP	AQ	AR	AS	AT	AU	AV	AW	AX
3			**Back-up/ Existing Generator Information**						
4	X-former Mount Type		Power	Internal Fuel	Fuel Type	Voltage	Hours	Phase	
5	Pad/Pole		(kW)	Capacity (Gal)		(V)			
6									
7									

	AY	AZ	BA	BB	BC	BD	BE	BF
3	Latitude (North)				Longitude (West)			Elev.
4	Degrees	Minutes	Seconds		Degrees	Minutes	Seconds	Feet
5								
6								

	BG	BH	BI	BJ	BN	BO
3	Needed generator Information				Assessment Remarks	
4		Power	Voltage	Phase(s)		
5		(kW)				
6						
7						

	BO	BP	BQ	BR	BS	BT
3			BOM			
4		Category	Description	Qty	Unit	
5				Required		
6						
7						

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APPENDIX 15 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
EMERGENCY DRINKING WATER

REFERENCES

a. **Maps and Charts**. See Annex B.

b. **Documents**
(1) See Basic Plan

1. **SITUATION**

a. **General**. The Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5121 et seq.)(88 Stat. 143)(The Stafford Act), authorizes the President (FEMA per Executive Order 12673) to provide financial and other forms of assistance to state and local governments following presidentially declared major disasters and emergencies. The Federal Response Plan (FRP), a signed agreement among 27 federal departments and agencies, describes the mechanism and structure by which the federal government mobilizes resources and conducts activities to respond to a major disaster or emergency that overwhelms the capabilities of state and local governments. The FRP organizes the types of federal response assistance that a state or local government is most likely to need under 12 Emergency Support Functions (ESF's), each of which has a designated primary agency. The U. S. Army Corps of Engineers (USACE) is designated as the primary agency for ESF #3, Public Works and Engineering. One of the typical missions under ESF #3 is to provide for humanitarian support, including the purchase and delivery of potable water.

b. **Threat**. Two events are considered probable in the immediate future:

(1) A magnitude 7.5 shallow crustal earthquake within the Municipality of Anchorage, with significant damage occurring within the Matanuska-Susitna Borough. This earthquake could occur on the Border Ranges Fault (a known fault, but current activity matter of debate) or on an unknown fault west of the Border Ranges Fault.

(2) A magnitude 8.0 subduction zone earthquake on the portion of the Alaska-Aleutian Megathrust Fault that runs directly under Anchorage. The failure zone would probably extend to the Sterling Highway area within the Kenai Peninsula Borough, and could also extend into the Palmer area in the Matanuska-Susitna Borough. The earthquake would cause major damages beyond the failure zone. The failure zone would extend northwest from a portion of the fault segment that was involved in the 1964 Good Friday Earthquake.

c. **Response Organizations**

(1) **Federal:** FEMA will coordinate the Federal response, in accordance with the Federal Response Plan. FEMA is responsible for water mission assignment and funding.
(2) **Corps of Engineers:** The following USACE districts have Water Planning and Response Teams (PRTs) trained and available for emergency response on a rotating basis: The teams are normally deployed for up to 30 days.

LRC Great Lakes & Ohio River Division, Chicago District
MVK Mississippi Valley Division, Vicksburg District
NAE North Atlantic Division, New England District
NWK Northwestern Division, Kansas City District
SAW South Atlantic Division, Wilmington District
SPN South Pacific Division, San Francisco District
SWL Southwestern Division, Little Rock District

Current rotational status can be obtained from Englink Interactive at https://englink.usace.army.mil/

Once deployed the Water PRT would assume responsibility for the timely execution of the water mission.

Currently none of the water teams are pre-equipped for cold weather operations. There is a proposal to issue cold weather clothing to certain teams prior to activation.

(3) **State and Local Governments:** The Alaska Division of Emergency Services (ADES) will manage the state's disaster response activities through its Emergency Coordination Center at Camp Denali (Fort Richardson). All state agencies participate in the ECC. The Municipality of Anchorage, the Matanuska-Susitna Borough, and the Kenai Peninsula Borough all have emergency management organizations that would coordinate local responses. Advanced preparation is critical to the successful execution of the water mission. In either event scenario, state and local government should be prepared to provide the following:

a) Identify potential staging areas and water distribution sites. Staging areas and distribution sites should be fenced and lighted. The staging area should have climate control warehouse space and be paved and of adequate size to receive up to 100 tractor trailers per day. Distribution sites should be paved and of adequate size to accommodate delivery trucks and the public.
b) Provide 24-hour security at water distribution sites for possible crowd control and to prevent theft.
c) Provide status of critical transportation routes, and if necessary police escorts through heavily congested areas.
d) Provide logistical support at water distribution sites to accept deliveries and distribute water to the general public. National Guard can be used to assist at distribution sites and transport water to remote distribution sites.

d. **Assumptions**

(1) Magnitude 7.5 shallow crustal earthquake within the Municipality of Anchorage

a) In the event of a magnitude 7.5 shallow crustal earthquake, an estimated 81,519 households would be without potable water. Extensive water main damage in the winter could result in slow restoration of service, and an estimated 78,010 households would be without potable water for 90 days after the event.
b) Water demands will exceed state and local government capabilities.
c) After about 7 days without electrical power and potable water, and projections of extended outages (up to 90 days), approximately 20 percent of the residents in the disaster area would elect to evacuate.
d) Climate control warehouse space is available at the airport, seaport and staging area.

(2) Magnitude 8.0 subduction zone earthquake on the portion of the Alaska-Aleutian Megathrust Fault that runs directly under Anchorage

a) A magnitude 8.0 subduction zone earthquake is estimated to leave approximately 17,106 households without potable water. Seven days after the event, approximately 5,643 households would remain without potable water. Service is estimated to be completely restored in about 14 days.
b) Initial water demands will exceed state and local government capabilities.
c) Residents would not evacuate the disaster area following this event.
d) Climate control warehouse space is available at the airport and staging area.

(3) Water Need Calculations

a) Based on household and population data, assume 3 people per household.
b) Assume water consumption of 5 liters per person per day.
c) Conversion factor for converting gallons to liters is 1gallon equals 3.79 liters.

2. **MISSION**. The mission is to provide an emergency supply of potable water, bottled and or bulk, to include procurement, temporary storage and transportation to distribution sites in the impacted areas. State and local authorities would be responsible for distribution to the general public and security at distribution sites. USACE will attempt to fulfill requirements for drinking water by first utilizing bottled drinking water stored near the disaster location, donated water, and bottled or bulk water supplied by other federal agencies. If water from those sources is inadequate to meet the water demands, FEMA may task USACE to purchase and deliver additional water.

3. **EXECUTION**

a. **Commander's Intent.** In either event scenario emergency response activities would be beyond the available resources and capability of Alaska District. The initial assembly of local personnel and response teams would determine the likelihood of a water mission. POD would request HQUSACE to deploy an emergency Water PRT to execute the mission.

It is highly recommended that the impacted district assign a mission coordinator and liaison to assist not only the Water PRT, but all PRTs regarding upward reporting of mission status and situational awareness.

b. **Concept of Operations** Each Water PRT is required to deploy within six (6) hours of notification and be prepared to stay up to 30 days. Once deployed, the Water PRT would assume responsibility for the execution of the water mission.

The staffing of the PRTs is designed to provide the minimum number of personnel to effectively and efficiently manage and support the execution of a water mission in concert with the responding Emergency Response and Recovery Office (ERRO) command and control structure. The team configuration is designed to staff the three operational functions required to execute a major Federal Response Plan (FRP) mission. These three operational functions are the Emergency Support Function (ESF) #3 element at the Disaster Field Office (DFO), Emergency Response and Recovery Office (ERRO), and the Logistical Staging Operations area(s).

The Emergency Water PRT staffing is as follows**:**

Action Officer	DFO
Mission Manager	ERRO
Mission Specialist	ERRO
Contract Specialist	ERRO
Logistics Team Member	STAGING AREA

The Action Officer (AO) works in the ESF#3 element in the DFO and is responsible for fully coordinating emergency water mission requirements with FEMA, state and local governments, and other ESF agencies to determine the total scope of the mission. The AO represents the Division forward with FEMA and provides tasking to the ERRO/District. The AO is the Corps liaison with FEMA and all DFO agencies for the water mission. In addition, the AO will serve as the primary liaison between the DFO and ERRO on all activities relating to mission execution.

The Mission Manager (MM) works in the ERRO and serves as the Project Manager for mission execution. The Mission Manager is also responsible for overall team coordination to ensure the timely procurement, delivery and tracking of water to all staging areas and possible distribution sites. The MM works with the Mission and Contract Specialists to prepare scopes of work, cost estimates, procurement requirements, delivery schedules, tracking of mission funds and reporting.

The Mission Specialist (MS) works in the ERRO and assists the MM.

Logistics Team Member (LTM) works at the staging area supporting both the Water PRT and Logistics PRT. The LTM is responsible for receiving the water at the staging area, inventory management and storage, and quality assurance measures. The LTM coordinates with the Mission Manager to facilitate efficient water delivery to distribution sites and provides status reports as to deliveries and inventory.

Contract Specialist (CS) works in the ERRO and is responsible for all aspects of contracting transactions for the procurement, storage and transportation of water during declared emergency conditions in coordination with Contracting Division of the impacted district. The CS serves as liaison between the PRT, the Advanced Contracting Initiative (ACI) contractor and Contracting

Division of the impacted district. The CS monitors actual water deliveries to ensure substantial performance by the ACI contractor.

In the event of a magnitude 7.5 shallow crustal earthquake, the water mission is estimated to last several months and would require transition of the water mission from one PRT to another. A smooth and efficient transition will ensure the water mission continues without stoppage and that the new team is quickly acclimated to their new environment and workload requirement. A minimum of three days overlap of PRT's is required to transition work to the new team.

In the event of a magnitude 8.0 subduction zone earthquake, the water mission is estimated to last about 14 days and would not require transition of the water mission to another PRT.

Mission termination occurs when adequate supplies of potable water are available to the general public via commercial sources and or by public and private systems as determined by FEMA or when state and local entities can handle remaining emergency water needs. Upon receipt of a water mission closeout letter from FEMA, the last departing PRT must ensure all mission documentation is complete for proper financial closeout by Alaska District.

c. **Tasks.**

HQUSACE will notify deploying District's EOC of team deployment. Due to the extended travel time from most parts of CONUS to Anchorage, Alaska, some initial mission coordination may be required during team deployment. A backup Action Officer and Contract Specialist should be available at the deploying district to perform initial coordination with FEMA and POD EOC staff while the team deploys. The backup Contract Specialist should alert the ACI contractor of possible mission requirements.

Once deployed theWater PRT would assume responsibility for the timely execution of the water mission. The PRT would assist FEMA in estimating water needs and preparing a Request for Federal Assistance (RFA) for mission assignment. The Action Officer plays a key role in coordinating the mission requirements with FEMA, state and local governments, and other ESF agencies to determine the total scope of the mission. The existing National Water Contract, solicited under the Advance Contracting Initiative, would be used to procure, transport and deliver bottled water. The ACI contractor is responsible for delivering water by whatever means of transportation is necessary to meet the required timeframes.

During execution of the water mission the PRT would track deliveries, assess contractor performance and monitor mission funding. FEMA may also task the team to track water provided by other Federal agencies as well as donated water. Water tracking spreadsheet and delivery forms can be found in the Water Mission Guide located on ENGLink. The team would also continue to assess future water needs based on current consumption rates and status of recover efforts as coordinated with state and local governments. ENGLink would be used for upward reporting of water delivery quantities and mission status. The Water PRT Mission Manager would brief ERRO staff on mission status. The Water PRT Action Officer would also provide Essential Elements of Information (EEI's) to FEMA at the DFO.

Magnitude 7.5 Shallow Crustal Earthquake In this event scenario, water demands are estimated to be the following:

DAY	WATER DEMAND
1 – 7	1,260,000 liters per day
8 – 30	1,008,000 liters per day
31 – 60	972,000 liters per day
61 – 90	936,000 liters per day
After 90	Model data not available

Continuous coordination with FEMA, state and local governments and other ESF is critical due to the size and complexity of this water mission. The Water PRT needs to accurately forecast initial water demands far enough in advance to allow the ACI contractor sufficient lead time (approximately 10 days) to arrange sea transportation. Continuous assessment of future water requirements is needed throughout the water mission. The team needs to anticipate possible mission termination to allow sufficient time to stop additional water from entering the pipeline and minimize the amount of excess water.

ACI contractor would use air transportation, flying into either Alaska International Airport or Elmendorf AFB to meet the first ten days of water deliveries. Initial water needs would require about 15 cargo plane (747 type) deliveries per day. After ten days, needs could be met by 1 barge delivery every 5 days into either the Port of Anchorage or Seward. The ACI contractor could be used to transport water from the airport and seaport to distribution sites. The number of distribution sites should be kept to the absolute minimum necessary to allow efficient distribution of water to the general public by state and local government. Providing bottled drinking water for the first ninety days of this mission is estimated to cost approximately $100 million dollars. Approximately $40 million would be needed to meet the first nine days of emergency water needs under the existing ACI contract. The price for delivering bottled water drops substantially after day nine.

Because of the relatively high cost of providing bottled drinking water over an extended period of time, FEMA may utilize other means of providing potable water such as bulk and reverse osmosis.

Requirements for bulk water cannot be determined in sufficient detail to enable pricing in advance. The cost of providing bulk water varies significantly based on the source of the water and method of transportation. If tasked by FEMA, the Water PRT could negotiate with the ACI contractor and other bulk water suppliers to define specific contract requirements and pricing. Eklutna Lake is one possible source of potable water; however, ground transportation routes to Anchorage are likely to be disrupted for several days. Options for temporary storage of bulk water at the distribution sites would include tanker trucks and or sanitized containers in a climate controlled and secured facility. Bulk water requires continuous testing at the source, delivery point and storage containers. Tanker trucks and other storage containers need to be fitted with multiple bibs for filling individual containers. This method of distribution is extremely time consuming, especially considering the nearly quarter of a million people to be served.

The future ACI water contract will include a line item for providing bulk water at a cost "to be negotiated" based on specific location and delivery order requirements.

Reverse Osmosis Water Purification Units (ROWPU) can purify large quantities of water. ROWPU are available for purchase or lease commercially or may be government furnished. Government furnished ROWPU include those available from military (active and National Guard) units. A military ROWPU detachment is typically equipped with ten ROWPU, each capable of producing 3,000 gallons of potable water per hour from a fresh water source and about half this amount using a salt water source. Approximately 5 to ten of these units would be needed to fulfill the daily emergency water requirements for the Anchorage area depending on the source of the water. Access to National Guard ROWPU is through the State that is responsible for mobilizing their National Guard ROWPU. Any requirement for active military ROWPU should be coordinated through the DFO by the ESF #3 Action Officer. Similar to bulk water supplies, storage, testing and distribution of purified water would create additional logistical problems especially during winter conditions.

ESF #8, Health & Medical Services, may assist in coordination of any bulk water testing that may be required. While they may not be able to do the actual testing, they can provide information on contacting labs to perform the testing. For bulk water, ESF #8 can assist in coordinating with the state to determine safe public water systems for filling tanker trucks.

Magnitude 8.0 Subduction Zone Earthquake In this event scenario, water demands are estimated to be the following:

DAY	WATER DEMAND
1 – 3	270,000 liters per day
4 – 6	180,000 liters per day
7 – 9	90,000 liters per day
10 – 14	Additional water could be ordered if necessary, anticipate minimal needs. Water needs should be within the capability of state and local governments or could be met with excess inventory

Depending on road conditions, distances to nearest water suppliers and availability of trucking, the ACI contractor would first attempt to meet water requirements using ground transportation. If unable to meet water deliveries in the timeframe required, the ACI contractor would use air transportation flying into either Anchorage International Airport or Elmendorf AFB. This event would require about 3 cargo plane (747 type) deliveries per day for the first 72 hours. As potable water is restored to households, water demands are estimated to drop to about 2 cargo plane deliveries per day during days 4 – 6, and then 1 cargo plane per day until mission termination. The ACI contractor could be used to transport water from the airport to distribution sites. Providing bottled drinking water for this mission, is estimated to cost approximately $5 to $6 million dollars.

Water transportation would not be anticipated for this event as barge delivery to Anchorage would require approximately 10 days lead time and only minimal water demands would remain at that time.

4. **ADMINISTRATION AND LOGISTICS.**

a. Concept of Support. The deployed Water PRT is mostly self-sufficient, but will require the following ERRO support to successfully execute the water mission:

(1) Emergency Manager
- (a) Accept mission funding from FEMA and ensure timely entry in CEFMS.
- (b) Process MIPR to deploying Water PRT's District.
- (c) Sign Water PRT time sheets.
- (d) Provide CEFMS approval support.
- (e) Provide a Mission Coordinator to assist upward reporting and act as a liaison between PRT and ERRO staff.

(2) Resource Management
- (a) Honolulu District will provide CEFMS support to Alaska District.
- (b) The Water PRT will need CEFMS support from Honolulu District to enter various PR&Cs into Alaska District's CEFMS database for execution of the water mission.

(3) Information Management
- (a) Computer and communications support.

(4) Real Estate
- (a) Obtain rights-of-entry at staging and distribution sites.

(5) Contracting Division
- (a) Contracting Officer's support to enter contract data/task order into local Standard Procurement System (SPS) and sign contractual documents.

b. Logistics. The deploying Water PRT will need logistical support on availability of local hotels and rental cars. The team will also require office space and equipment at the ERRO for 3 team members (Mission Manager, Mission Specialist and Contract Specialist). Prior to deployment members of the Water PRT should be deployed with EM shirts, jackets/windbreakers, hats and cold weather gear. All members should have their Government ID, travel credit card, CEFMS card, and at least $200 in cash. Logistics staff may need to supplement additional cold weather gear to deploying team members.

c. Personnel. In either event scenario, additional logistical personnel support will be needed to staff the staging area and water distribution sites. The Logistics Team Member would coordinate water deliveries and distribution at the staging area. Additional logistical support would be required for 24-hour operation. A minimum of 2 logistic specialists is needed at each water distribution site. Additional staff may be required based on hours of operation and number of daily deliveries.

d. Public Affairs. Should be proactive in supporting emergency water operations. Activities include preparing notice of water distribution locations and schedules. Notices should be coordinated with Water Mission Manager to ensure accuracy and timeliness of information.

5. **COMMAND AND SIGNAL.**

a. Command Relationships.

(1)The Water PRT (Mission Manager, Mission Specialist and Contract Specialist) work for the ERRO Commander in support of mission execution.

(2) The Water PRT Action Officer (AO) works at the DFO in support of the ESF#3 Team Leader to coordinate mission requirements.

(3) The Water PRT Logistics Team Member works at the staging area and reports to the PRT Mission Manager. The Logistics Member also supports the National Logistics Team.

b. Command Posts. The staffing of the PRTs is designed to provide the minimum number of personnel to effectively and efficiently manage and support the execution of a water mission in concert with the responding Emergency Response and Recovery Office (ERRO) command and control structure. The team configuration is designed to staff the three operational functions required to execute a major Federal Response Plan (FRP) mission. These three operational functions are the Emergency Support Function (ESF) #3 element at the Disaster Field Office (DFO), Emergency Response and Recovery Office (ERRO), and the Logistical Staging Operations area(s).

The Emergency Water PRT staffing is as follows**:**

Action Officer	DFO
Mission Manager	ERRO
Mission Specialist	ERRO
Contract Specialist	ERRO
Logistics Team Member	STAGING AREA

Additional logistical support personnel would be stationed at the distribution sites.

c. Succession to Command. The Action, State, and the other ESFs to determine the total scope of the mission. The Action Officer then tasks the Mission Manager at ERRO/District to fulfill the mission requirements. Mission Manager coordinates procurement and shipment of water to the staging area and distribution sites.

d. Signal. Fly-Away Kits are provided to most members of the team. Included in the kit are: laptop with peripheral accessories, portable printer with cable, CEFMS card reader, cell phone/back up battery, pager, calculator and office supplies.

TAB A TO APPENDIX 12 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
INITIAL ACTIONS FOR A WATER MISSION (potential or actual)

1. Initial ESF #3 Alaska staff (Initial Operating Facility-IOF, at Camp Denali)

a. Coordinate with State to determine potential mission:

- Need for water (damage to systems, etc)
- Potential length of mission (time for systems to be restored)
  - Potential number of persons requiring water (will increase during the first few days, as people report to shelters and/or use up stored water)
- Condition of the two major airports in Anchorage (Elmendorf AFB and Anchorage International); condition of Merrill Field and Campbell Tract Field if neither major airport is usable.
- Condition of local routes and distribution points (for distribution of water)
- Priorities for distribution of water
  - Determined by State if multiple Boroughs/Municipalities involved
  - Determined by Borough/Municipality for localized distribution (by the State for Unorganized Borough)
- Availability of above-freezing storage
- Capability of Port of Anchorage to handle barge transport if it appears water mission will last longer than 2 weeks. Note: this includes ice conditions in Cook Inlet as well as port capabilities.
- Future availability of road/railroad access to alternative seaports-Whittier/Kenai Peninsula area and Valdez.

b. Transmit requirements and information through Federal Liaison Officer (FLO) to Region X ROC

c. Once water mission has been issued, coordinate all information with the Water PRT, ROC initial staff, POD EOC, FLO. Coordinate distribution aspects with the on-scene Federal logistics team.

2. ROC initial staff (from NWS and/or USACE cadre)

a. Advise POD EOC of situation data which impacts potential water mission

b. Coordinate with FEMA X for defining water mission, using prescripted missions

c. Once FEMA X issues water the mission

- Receive mission from FEMA X
- Prepare written mission summary if verbal mission was received
- Forward mission to POD EOC
- Coordinate technical details with designated Water PRT

3. POD EOC

a. Receive notice of mission from liaison at FEMA X ROC.

b. Contact HQ for activation and deployment of Water PRT

c. Transmit funding to appropriate district for Water PRT

4. HQUSACE UOC

a. Upon receiving notice of a major earthquake in Anchorage, place the top-priority water PRT [or the top-priority winter-equipped water PRT, when established] on alert.

b. Coordinate with FEMA HQ for possible missions issued at national level.
c. Activate PRT upon notification from POD (or FEMA HQ) that a water mission assignment has been issued.

5. PRT District
a. Upon receiving alert, insure that all members have appropriate clothing, etc. for deployment to Anchorage. If not, procure locally (if situation permits) or coordinate with NWS logistics to obtain items at Seattle.
b. Deploy PRT upon notice from HQUSACE
c. Maintain one subject matter expert (trained Action Officer or Mission Manager) and one contracting representative at EOC to temporarily manage mission while primary team is deploying.

6. Logistics in Alaska
a. Be prepared to process any shipments of water that arrive prior to the arrival of PRT logistics representative.
b. Determine whether or not we have a Federal declaration (emergency or major disaster)
    YES-prepare to distribute water
    NO-water needs to be stored on Federal property (including leased areas)
c. Identify source of water-from Federal stockpile or purchased under mission authority
    From Federal stockpile: Use spreadsheet
    Purchased under mission authority: Use the forms from mission guide
d. Coordinate with IOF/SECC to determine destination and shipping methods for water.
e. Obtain appropriate receipt for ALL water distributed.

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APPENDIX 16 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
EMERGENCY ACCESS

REFERENCES

a. **Maps and Charts**. See Annex B.

b. **Documents**
(1) See Basic Plan

1. **SITUATION**

a. **General**. Land access to the Anchorage area is limited to two major routes: the Glenn Highway along Knik Arm, and the Seward Highway along Turnagain Arm. Both access routes include some areas of soft ground (although the Seward Highway has been partially relocated since 1964), and both were damaged during the 1964 Earthquake. The Seward Highway and the Alaska Railroad along Turnagain Arm are both subject to avalanches in winter. Within the Municipality of Anchorage, many of the road intersections and railroad crossings have been converted from ground level to overpasses since 1964.In addition, some access routes are vulnerable to slope failures.

b. **Threat**. Either planning earthquake would cause major damage to local road systems. The subduction zone earthquake has the greater potential for general ground failures, due to the greater duration of shaking. However, the Border Ranges Fault (shallow crustal earthquake) runs across the Seward Highway and the Alaska Railroad near Potter Marsh, and also runs closely parallel to the Glenn Highway and the Alaska Railroad in the Eagle River/Chugiak area.

c. **Response Organizations**
(1) The Alaska Department of Transportation and Public Facilities has responsibility for maintaining the intercity highways, as well as most major roads within the Municipality of Anchorage. Anchorage is the site of the department's largest regional headquarters. However, the Department headquarters, and the other two regional headquarters, are outside of the impacted area.
(2) The Alaska Railroad Corporation has responsibility for maintaining the Alaska Railroad. This is a state-owned corporation and it is classified as a public entity under FEMA's programs. In 1964, with heavy damage throughout the Cook Inlet region, the railroad restored freight service from Anchorage to Fairbanks within 10 days, passenger service to Fairbanks within 15 days, and freight service from Whitter to Anchorage within 24 days.
(3) Within the MOA, the Street Maintenance Department is responsible for maintaining local roads within the Anchorage Roads and Drainage Service Area (ARDSA), which is primarily the Anchorage Bowl area. The Department also oversees the maintenance of roads in the rest of

Anchorage by the local road service areas. ARDSA has over 600 miles of roadway. The Chugiak/Birchwood/Eagle River Rural Road Service Area (CBERRRSA) has over 175 miles of roadway; other Limited Road Service Areas (LRSA) are spread across the hillside and Girdwood. Each Limited Road Service Area has an elected board of supervisors responsible for the supervision and direction of road services by local contractors.

(4) The Matanuska-Susitna Borough, the Kenai Peninsula Borough, incorporated cities within those two boroughs, and the City of Whittier are responsible for maintaining their own local roads. These agencies are staffed to handle routine maintenance, and could be overwhelmed by the damages from a major earthquake.

d. **Assumptions**

(1) Immediate response will be required to reestablish road and railroad access into the impacted areas, as well as to reestablish internal access within the impacted areas.

(2) The Alaska Department of Transportation and Public Facilities, the Alaska Railroad, and the Municipality of Anchorage will be able to handle a significant portion of the damage through their own organizations. Federal assistance will involve the most difficult problems and/or extensive damage.

(3) Other local governments, with smaller staffs, are more likely to require assistance.

(4) Much of the damage to transportation links will occur in wetlands, and thus will require major environmental coordination.

(5) Winter construction techniques and Arctic Engineering design considerations will be major factors.

2. **MISSION**. To support response and recovery efforts by providing emergency access for response efforts, and by providing interim access for recovery efforts.

3. **EXECUTION**

a. **Commander's Intent.** In the event of a catastrophic earthquake in the Anchorage area, the Corps of Engineers would provide temporary restoration of existing access routes and/or temporary alternate access routes.

b. **Concept of Operations.**

(1) The State of Alaska will evaluate the situation and request assistance if the requirements are beyond local and state capabilities.

(2) The Emergency Access PRT will be put on alert immediately following an earthquake, but will not be deployed until there is a probable mission.

c. **Tasks.**

4. **ADMINISTRATION AND LOGISTICS.**

a. Concept of Support.
b. Logistics.
c. Personnel.
d. Public Affairs.

5. **COMMAND AND SIGNAL.**

a. Command Relationships. See Basic Plan

b. Command Posts. See Basic Plan

c. Succession to Command. See Basic Plan

d. Signal. See Annex K for detailed communications information

INFORMATION TO BE MERGED

1. **REQUIREMENT.**

a. Emergency access will probably involve two main efforts:

(1) Temporary bridging to cross streams. In some cases, this could require temporary roads to get to a low level bridge site.

(2) Repair or replacement of roads that were damaged by soils failure.

b. Because the Alaska Department of Transportation and Public Facilities has very strong capabilities (their headquarters and two of their regional offices are outside of the impacted area), missions received by USACE will probably involve locations with severe difficulties and/or a situation of very widespread damage. Equipment availability will be a concern. While there is a very robust construction industry in the area, many of the resources will probably be committed by the time a mission assignment is issued.

2. **SPECIAL CONCERNS.**

a. Design work must consider cold weather factors that engineers from warm climates will not be familiar with. (Arctic Engineering is a special requirement for civil engineer registration in Alaska.)

b. Environmental aspects of the work must be considered. Much of the work will be in wetlands.

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APPENDIX 17 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
TEMPORARY HOUSING

REFERENCES

a. **Maps and Charts**. See basic plan.

b. **Documents**.
(1) See basic plan.
(2) USACE Temporary Housing Mission Guide

1. SITUATION.

a. **General.** See basic plan and Annex B. The most critical challenge facing emergency responders following a major earthquake during winter is providing spontaneous shelter for disaster victims from the sub-freezing temperatures. During the winter months in Anchorage, earthquake victims exposed to the weather risk hypothermia in 12 hours or less.

(1) The general consensus is that victims will be sheltered in schools. However, the HAZUS model for the 7.5 shallow crustal earthquake estimates all 168 schools will sustain moderate or greater damage and 122 of these schools will have complete damage. The model also estimates all 7 hospitals will receive moderate or greater damage and 6 will have complete damage.

(2) The HAZUS model estimates that 15,173 households will be displaced due to the earthquake. Of these, 9,718 people (out of a total population of 226,300) will seek temporary shelter in public shelters.

(3) Additionally, suitable land space is not available for a large temporary housing mission except on Elmendorf AFB, Fort Richardson and in the Campbell Airport area.

b. **Threat**. See basic plan and Appendix B. Planning in this appendix is based on the worst-case scenario, a 7.5 shallow crustal earthquake occurring during the winter months. Disaster response and recovery operations that are detailed here may be scaled back in the case of a less severe earthquake.

c. **Response Organizations.** See basic plan. U.S. Army Corps of Engineers (USACE) Temporary Housing Planning and Response Teams (PRTs) will be activated to install temporary housing. USACE Temporary Roofing PRTs will be activated to contract for repairing structurally sound buildings and residences to be re-occupied by disaster victims. The local Emergency Management Agency (EMA) will activate trained structural engineers (see section 4.c, Personnel) to staff Repair Sweep Teams, along with Temporary Roofing PRT personnel. Repair Sweep Teams are detailed in Attachment D.

d. **Assumptions.**

(1) See basic plan.

(2) Disaster victims will require immediate sheltering that may only partially be supplied by undamaged habitable building space. Large hangers at Elmendorf Air Force Base may be used for critical spontaneous shelter, however rapidly deployable air-supported structures will be necessary to meet emergency sheltering needs.

(3) Large air-supported structures may initially be used as emergency shelters. Later the same structures will be used for initial interim housing by placing smaller structures (e.g. GP Medium tents, pre-fabricated housing, travel trailers, etc.) inside the air-supported structures.

(4) FEMA will issue mission assignments to USACE Planning Response Teams to develop both emergency sheltering (60 to 90 days) and interim housing (1 to 1-1/2 years).

(5) FEMA will issue mission assignments to make temporary and permanent repairs to private homes.

(6) Motor homes and travel trailers will be used extensively to house disaster victims.

(7) Housing units constructed to meet containerized shipping specifications may be used in lieu of standard mobile homes (which are more difficult and expensive to transport by ship).

(8) Restoration of utility service by sanitary, water, and power providers will allow for re-occupation of community by areas, as repair sweeps have been completed and temporary home repairs have been made.

(9) Structurally sound parking garages will be used for stacking temporary housing when environmentally controlled with air-supported structures.

(10) The average family size is four persons.

2. **MISSION**. To provide emergency shelter (60-90 day duration) and develop interim housing (up to 1-1/2 years) to accommodate disaster victims displaced in the Anchorage area as a result of the earthquake. This will require a multi-faceted approach.

a. **Emergency Shelter.** Provide for emergency sheltering through the use of air-supported structures, tents, and other rapidly erected structures. Make temporary repairs to structurally sound buildings and homes that can be re-occupied. Install longer-term interim housing utilizing tents, pre-fabricated containerized units, travel trailers, and/or motor homes within air-supported structures and at individual home sites.

b. **Interim Housing.** During this phase, permanent repairs will be made to houses that are not structurally safe, but which are repairable. In addition, replacement-housing units will be placed on existing mobile home pads to replace destroyed units. Long-term housing will be provided for those persons assigned to emergency shelters whose domiciles are damaged to the point that they cannot be reoccupied. Based on the assumption 9,718 people will seek temporary shelter in public shelters, a total of 2,500 housing units, either mobile or modular, will be required.

3. **EXECUTION.**

a. **Commander's Intent.** See basic plan.

b. **Concept of Operations.**

(1) **Emergnecy Shelter Phase.** Occupying undamaged buildings and opening up large hanger spaces on Elmendorf Air Force Base will provide initial spontaneous shelters. Emergency shelters will be set up from a pre-positioned stock of rapidly deployable air-supported structures. Depending upon availability, engineer troop units may be used either in lieu of local emergency response staff, or as a supplementary work force.

Once emergency sheltering needs are met, additional air-supported structures will be erected and outfitted for longer-term occupancy using tents or other modular dwellings to create private quarters within. Government

furnished tents, support facilities (kitchens, showers, latrines) and selected utility components supplied by FEMA or procured by USACE will be delivered by air or sea to staging areas located near the affected area. From these points materials will be issued to the individual contractors for transporting to the emergency shelter sites and subsequent installation.

Repair Sweep Teams will be staffed and deployed to assess damage and identify homes that may be repaired temporarily and re-occupied quickly.

USACE may be tasked to renovate, and otherwise prepare for occupancy by displaced persons, vacant commercial or industrial buildings in Anchorage. USACE efforts may include: field assessments (to include earthquake damage), preparation of SOW and contracts, and supervision of contracts. The contracts will include repairs, renovations, pest control, cleaning, support facilities (kitchens, showers, latrines), power generators, selected utility components, medical clinic, and an administrative facility. Work could also include road repairs, site clearing for support facilities, security fencing, etc. As of this writing, locations of these buildings have not been provided. Definitive support requirements for each individual vacant building cannot be quantified until the buildings are inspected and assessed. Containerized support facilities will be used for kitchens, showers, latrines, medical clinics, and administrative facilities, as discussed later in this annex.

(2) **Interim Housing Phase.** During this phase, dwellings that were previously identified by Repair Sweep Teams as repairable, but requiring more extensive work will be provided necessary repairs to allow re-habitation. USACE Roofing PRTs may be tasked with contracting engineering and construction services to repair these structurally damaged homes.

Temporary Housing PRTs will contract for purchase of locally available travel trailers and/or lease of motor homes. Stateside sources of containerized modular housing, travel trailers, and/or mobile homes will be activated, and sea-shipping contracts will be set up. Individual trailer or motor home placements will be provided for interim housing on individual home sites where space and utility connections are adequate. Demolition, debris removal, and trailer re-installation will be contracted in order to replace the estimated 6000 existing mobile homes extensively or completely damaged (Table 2, page B-2-A-1-1).

Under the long-term scenario, Temporary Housing PRTs will be tasked with preparing plans for interim housing group sites to be constructed on pre-defined sites. Four, 250-unit housing areas will be developed by construction contractors. Work under these contracts would include site clearing/preparation and the installation of supporting utilities, road networks and Government furnished mobile, and/or modular homes. The physical location of these housing areas will be determined by EMA, however, because of the scarcity of developable land within the Anchorage area, this may require pre-arrangement with the two military bases for construction of interim housing facilities on Federally owned open lands. Housing units will be delivered by sea to the Port of Anchorage and then transported via commercial carrier to nearby staging areas. From the staging areas the housing units will be distributed to the construction contractors. It will be the construction contractor's responsibility for transportation of the individual units to the appropriate housing area. In the event that there are delays in reopening the Port of Anchorage, alternative ports of entry for receipt of the housing units include the Ports of Seward and Valdez. Overland transportation from these two ports will require hauling along two-lane roadways during snowy winter conditions; consequently these two ports should only be used as back up.

It is estimated that a total of four housing areas will be required to support the long-term mission. This number is for initial planning purposes only and will have to be adjusted to reflect the actual number of sites identified by the EMA and the capability of each site.

c. **Tasks.**

(1) **Land and Site Preparation Requirements**.

(a) **Pre-disaster Preparation.** In order to succeed in meeting emergency sheltering needs The City of Anchorage should make plans to develop the following:

(i) *Although not specifically addressed in this appendix, it is strongly advised that a pre-positioned stock of small, immediately erectable (less than fours hour deployment) shelters be developed to address spontaneous shelter needs in the likely event that other shelters are unusable. This stock may consist of General Purpose (GP) Medium or Modular GP Tents (Attachment A.1 and A.2), small inflatable air structures (Attachment B.3), or other similar housing units. These same units will also be invaluable to later emergency housing efforts.*

(ii) A formal Memorandum of Understanding (MOU) with the base commands at Elmendorf Air Force Base and Fort Richardson regarding the use of hangers or other large structures for spontaneous and emergency sheltering needs. This is especially critical post-9/11 since security issues may require special access procedures or restrictions on displaced victims when at the shelter facility. The MOU should address the spaces available for use, period of use, base security, transportation and other issues that would impact facility operation for emergency sheltering.

(iii) Pre-designated sites for installation of air-supported shelter structures (Air Domes) (see Attachment B.1. "ASATI Air Structures"). Sites need to be large (200' x 400' or larger) paved areas to provide a durable interior floor when the structure is set up. Likely sites include large paved areas at shopping centers, public facilities, or airport tarmac. Plans should be made to accommodate structures with total interior space of 50-100K square feet. For privately held lands a lease agreement should be signed in advance, which allows the structure to be set up in the event of a major earthquake. Potential sites that should be investigated include,

- Remote airport tarmac at Anchorage International, Merrill Field, and the Military bases.
- Campbell Airstrip (Graveled strip)
- Parking lots at shopping malls and public facilities
- Paved support areas for industrial facilities
- Public parks and school fields (marginal, requires aggregate surface placement)

(iv) To accommodate the emergency shelter needs and to allow for placement of additional Air Domes to provide for initial interim housing needs, The City of Anchorage should identify (10-15) sites, each capable of housing a 45,000 SF air-structure or larger. Sites larger than the 45K square foot minimum will allow for fewer, larger structures.

(v) Based on a total sheltering need for roughly 10,000 displaced persons (page B-2-A-1-4), and assuming 1/3 will be sheltered at undamaged building shelters and 1/3 at the military bases, about 3,500 persons will require shelter by air-dome structures. For planning purposes 60 square feet per person is assumed, to include personal living space and support facilities that will also be housed within the dome. A total of five-45,000 SF air-supported structures should be purchased and pre-positioned for use in the Anchorage area.

(vi) Relatively inexpensive augured soil anchors may be used to provide point tie-downs for the structure's cable net system. Six to eight sites should be outfitted with properly placed anchors, flush-mounted or covered to protect them from site traffic. Since it is possible that the earthquake may damage a pre-designated site, preparation of 6-8 sites should accommodate the five shelters.

(vii) Identify acceptable sites for Interim Housing group sites. Assuming 4,000 SF per housing unit (HU) lot and 250 unit sites, (4)—30 acre sites will be required. Because of the lack of large developable sites the most likely locations for group housing sites, in addition to privately held lands sites at one or more of the following may be necessary,

- Elmendorf Air Force Base—unused open areas at the perimeter of the base that could be fenced out of the active base area for use as a group site. Any use agreement would need to be formalized in an MOU with the base commander.

- Fort Richardson—unused open areas at the perimeter of the base that could be fenced out of the active base area for use as a group site. Any use agreement would need to be formalized in an MOU with the base commander.
- Campbell Airstrip—an open area of about 40 acres containing a graveled airstrip used by the US Department of the Interior (USDI) as an emergency landing site. It appears that The City of Anchorage may own the land, making it likely that an MOU could be reached with USDI for its use during a catastrophic event.

(b) **Emergency Shelter Phase**.

(i) Emergency Sheltering. Immediately after the catastrophic event pre-designated air dome installation sites should all be inspected for damage, and actual deployment sites identified based on assessment and proximity to housing needs. Sites will need to be cleared of snow prior to delivery of the air dome structures. For sites that are on otherwise restricted lands (airport tarmacs, military base lands, etc) fencing may need to be erected to separate the housing area from adjacent use areas.

(ii) Temporary Repair Sweeps. Rights-of-entry will be required from individual property owners to perform structural and repair inspections. In addition, the landowner will need to authorize temporary repairs to their dwelling if the USACE Roofing PRT or their designated Contractor will make the repairs.

(iii) Installation of travel trailers or other pre-fabricated housing units on individual properties will require similar rights-of-entry from the landowner, and release to do necessary work on the site.

(c) **Interim Housing Phase.**

(i) Construction of Interim Housing group sites. For initial planning purposes it is estimated that approximately thirty acres of land will be required for each 250 unit housing area. This includes space for the housing units, separation areas, vehicle parking and roadways.

(ii) Permanent Home Repairs. If permanent home repairs are contracted by the Repair Sweep Teams on behalf of the landowner, it will require right-of-entry and a release to do the necessary work on the site.

(iii) Replacement of destroyed Mobile Homes. Installation of travel trailers, mobile homes or other pre-fabricated housing units on pads occupied by destroyed units will require similar rights-of-entry from the landowner, and release to do necessary work on their site.

(2) **Housing and Support Facilities**

(a) **Emergency Shelter Phase.**

(i) Air-Supported Emergency Shelters. Five air dome structures will be set up to accommodate persons not able to be otherwise sheltered in air base hangers or undamaged building spaces – approximately 3,500 persons. Each 45,000 SF structure will accommodate 700 persons and will include dining, latrine, shower, medical, and administrative support facilities within the air dome space. Development of each shelter should proceed in the following sequence,

- Set up structures and provide interim service utilities consisting of emergency power generators, temporary lighting, porta-johns, and a mobile medical unit. Generators may be set up outside of the structures, with power cables routed into the air dome under the perimeter fabric seal.
- Provide survival critical supplies to occupants, including bottled water, food, blankets, and beds.
- Install permanent lighting, containerized unit kitchens, latrines, showers, administrative and medical, and other support facilities. Facilities requiring power, water, and/or waste connections should be positioned at the perimeter of the air dome with utility service connections run between the back of the support units and the dome wall for separation from the rest of the space. All utilities will be run above ground. Utility connections to all support

facilities will be run to a separate utility structure (smaller dome or other building), containing package sewage treatment or holding tank, and power generation.

- Develop private quarters for families or small groups of families by installing GP Medium or modular GP medium tents, modular housing units (examples in Attachment C.), or other individual living units. Besides electricity for lighting, no utilities should be provided to the individual quarters.
- *Note: If disaster occurs late winter or early spring when exposure to weather is not a threat, and unprotected tent structures may be used safely, air domes may not be required. In this case emergency sheltering may be provided in displaced person camps utilizing tents and other support facilities as described in Attachment F. below, without a protective air dome.*

(ii) Supplemental Air Dome Structures. As need is identified by EMA, additional air domes may be ordered and installed at other pre-designated sites. Allow 3-4 weeks for delivery of first additional air dome, and one week for additional increments. Supplemental air domes should be installed with all latrines, showers, kitchens, other support facilities, utilities and private quarters in place before occupancy.

(iii) Repair Sweeps. Sweep teams activated to inspect damaged homes will progress with assignments by grid/street method. Repairable homes will be assigned to repair teams and re-occupied by homeowners as temporary repairs are completed.

- Inspections should be closely coordinated with utility restoration teams to assure that adequate utility services are available in the areas to be re-occupied.
- Sweep teams will identify the need for temporary sanitary and water needs in areas. If porta-johns and water supply stations are set up in neighborhoods, weather shelters must be provided at each site (as an example, Southern Inflatables, Attachment B.3.).
- If utilities have not been restored, repair supplies should include propane for heating/cooking, space heaters, and camp stoves for individual use.

(b) **Phase Interim Housing**.

(i) Travel Trailers, Mobile Homes, Containerized Units Placed at Individual Sites. Housing unit placement on individual site will be managed by temporary housing PRTs as a standard placement mission. USACE may be tasked by FEMA to contract for unit purchase as well as placement.

(ii) Replacement of destroyed Mobile Homes. As with the individual placement mission in (b)1, replacement of destroyed mobile homes will be managed by temporary housing PRTs as a standard placement mission. USACE may be tasked by FEMA to contract for unit purchase as well as placement.

(iii) Contracted Repairs to Individual Homes. Once temporary repairs have been made to allow re-occupation of least damaged structures, repair teams will review inspection reports on more significantly damaged homes. Structures with greater damage, but repairable, may be contracted for repair if they meet the terms of FEMA assistance. USACE Roofing PRTs may be tasked to contract repair work.

(iv) Development of Group Sites. Temporary housing PRTs will develop, or Contract the development of, Interim housing group sites.

(3) **Utilities**

(a) **Emergency Shelter Phase.**

(i) Air Dome Structures. Each site will require electrical, water, and sanitary service. If City utilities are in service connections may be made to the municipal system, otherwise services must be provided by portable power generators, water buffalos and bottled water, and either packaged sewage treatment plants or holding tanks and pumping contracts. All water and wastewater lines will be run inside the air dome structure to prevent freezing, and must be insulated when run to the utility service structure.

(ii) Repair Sweeps. If water and sanitary utilities are not restored to individual neighborhoods when re-occupied, water buffalos, bottled water, and porta-johns will be required.

(b) **Interim Housing Phase**. Contractor installed electrical power service (including distribution lines, transformers, and power poles, street lights), potable water systems (either city water or wells, pumps, storage tanks and distribution lines), and sanitary sewage collection systems will be required in each housing area. If access to city sewer is not available a packaged sewage treatment plant may be required at each housing area.

(c) **Individual Housing Unit Placements.** Any placement of travel trailers or other modular housing units on individual sites will require fully insulated and heated (heat tape) water and wastewater runs where exposed to weather. Exposed runs should be kept to a minimum and insulated skirting should be provided on all units to minimize freezing potential.

d. **Timeline**.

(1) **Emergency Shelter Phase**. It is anticipated that a 20 to 30-calendar day construction period will be required to execute this phase of the plan. This would include deployment of five air dome emergency shelters, completion of initial repair sweeps of all residential areas, delivery and deployment of additional air dome structures for longer term occupancy, and setup of supporting facilities and utilities at all air dome housing centers.

The first priority is the installation of air domes for critical emergency housing. Installation should be accomplished within two days following the start of construction, or within 72 hours of the earthquake event. While the installation of support facilities and utility services will run concurrently with the erection of additional air domes for housing, it is anticipated that the utility portion of this work could require up to 30 calendar days to complete. The potential acquisition and installation of packaged sewage treatment plants is the controlling factor in the overall timeline.

(2) **Interim Housing Phase**. Placement of housing units on individual sites and replacement of destroyed existing mobile homes will be accomplished early in the phase II execution in order to minimize occupancy at emergency shelters. Development of interim housing group sites will not be able to fully commence until winter weather breaks, likely in March or April. To complete phase II group sites it is estimated that a construction period of approximately six months will be required. Ability to obtain and ship adequate numbers of replacement mobile homes, travel trailers, or other manufactured housing units will be the controlling factor in the overall timeline.

e. **Production Required to Meet Mission Execution Need.**

(1) **Emergency Shelter Phase**. All five of the emergency shelter air domes must be set up within the first three days after the earthquake event. Assuming 24-hour operation, this may be accomplished utilizing five teams of 10-15 engineer troops or local emergency response staff. Initial set up will include set up and inflation of the shell structure. The equipment providers should be called upon to accomplish emergency power generation, temporary lighting, porta-john, and mobile medical facility set up. Once the initial structure is set up it is anticipated that 15 to 30 days will be required to obtain and install all the required support facilities and utility services. Timely procurement of the packaged waste treatment plants will be the controlling factor for successful completion of Phase I.

(2) **Interim Housing Phase**. A crew of three persons can set up one prefabricated housing module per day. Assuming a work force of five crews per contractor, and two contractors per housing area, a production rate of 20 housing units per day should be achieved. At this rate, approximately 50 calendar days will be required to erect all required long-term housing units. This assumes that a readily available supply of prefabricated units exists. To totally complete each housing area (install utility systems and road nets), it is anticipated that an additional four months will be required. Therefore, a total construction time of approximately six months will be required to finish all four housing areas. If mobile homes are used in lieu of prefabricated housing units, the production rate should double and, assuming the same contract work force is used, reduce the required set up time to 25 calendar days.

During the same period of time PRTs will contract for replacement of destroyed mobile homes, and placement of housing units on individual home sites. These two activities are not expected to take as long to complete as development of the interim housing group sites. In both cases, the critical activity on the production timeline is

procurement and delivery of necessary housing units (travel trailers, mobile homes, containerized or modular housing units).

4. **ADMINISTRATION AND LOGISTICS.**

a. **Concept of Support**. See basic plan.

b. **Logistics.**

(1) **Emergency Shelter Phase.** Severity of weather conditions during a winter earthquake event demands that air-structures and tents be immediately available in the Anchorage area. Even military air transport may not be reliable enough after a major event to prevent loss of life from exposure. Success in the earliest stages of the mission requires that supplies of air-supported structures, tents and support facilities, to include packaged sewage treatment plants, be pre-positioned in Anchorage for immediate use. Scheduling of shipments is critical to maintaining the supply. Logistics Management must closely manage material shipments throughout the mission.

(2) **Interim Housing Phase.** Lead-time for shipment of supplies from the lower forty-eight states makes supply logistics management a critical factor to the success of the mission. As with Phase I, an adequate supply of housing units and construction materials, water, electrical and sewer lines, packaged sewage treatment plants, etc., must be available in Anchorage for distribution to the individual contractors. Scheduling of shipments is critical to maintaining the supply. Logistics Management must closely manage material shipments throughout the mission.

c. **Personnel**.

(1) **Pre-Disaster Preparation**. Timely deployment of Repair Sweep Teams requires that a significant number of trained and qualified engineers be available to assess damages and recommend necessary temporary repairs. A cadre of qualified local structural engineers should be identified and trained through a program targeting interested individuals. Considering the estimated 20,000 residential buildings that would be moderately damaged (Table 1, page B-2-A-1-1) a sixty engineer cadre would allow three-shift operation of twenty sweep teams, and inspection of all 20,000 residences in twenty days, assuming 16 inspections per team-shift. Trained Structural Engineers could be supported by USACE Temporary Roofing PRTs, which may be assigned the task of contracting recommended repairs for re-habitable homes.

(2) **Emergency Shelter Phase I.** Due to the magnitude of the temporary housing mission and need to get the disaster victims housed and out of the elements in an expedited manner the PRT will consist of two action officers, two mission managers, two mission specialist, two data entry personnel and adequate field personnel to assure 24 hour operation. Personnel staffing may vary somewhat depending upon the availability of support personnel provided from other sources. A total of 20 personnel will be required to perform the QA functions associated with the temporary housing mission. This is based upon assignment of two personnel per displaced persons camp. Contract specialists will be required as part of the PRT if they are not provided from other sources.

(3) **Interim Housing Phase.** Under Phase II, the basic PRT structure will be continued from that established for Phase I. An additional twelve QA personnel will be required to execute the Phase II mission. This is based upon a requirement for three personnel per site to perform the QA functions. QA personnel assigned to the Phase I mission may be reassigned to this mission as work under Phase I is completed. As with Phase I, contract specialists may be required as part of the housing PRT if they are not provided from other sources.

d. **Public Affairs**. See basic plan.

5. **COMMAND AND SIGNAL**. See basic plan.

Tab A: LOCAL FACTORS
Tab B: MILITARY TENTAGE AND SUPPORT FACILITIES
Tab C: AIR-SUPPORTED STRUCTURES
Tab D: MODULAR/CONTAINERIZED/MANUFACTURED HOUSING
Tab E: PACKAGED/PORTABLE UTILITY SYSTEMS
Tab F: REPAIR SWEEP PROCESS
Tab G: DISPLACED PERSONS TENT CAMPS

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TAB A TO APPENDIX 17 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
LOCAL FACTORS

1. **SCOPE**.

a. This mission traditionally consists of installing mobile homes, travel trailers, or other readily fabricated buildings, primarily in group sites, but also on individual lots in existing parks or on the same property as the damaged residence. It includes provision of utilities, recovery of the temporary housing, and site restoration.

b. Because of the factors listed below, the normal procedures do not work well in the Anchorage area. The procedures described in this appendix have been designed to overcome these problems.

2. **LOCAL CONCERNS.**

a. The high cost of shipping regular and travel trailers to Anchorage. The costs below do not include the costs of moving the temporary units from FEMA's storage areas to the Puget Sound area.

(1) Travel trailer (8x30 foot) shipment by Tote: Approximately $4,900 (3,750 to Anchorage, $1,150 return). Shipping time: At port on Friday, offload Tuesday (sailings Tuesday, Wednesday, and Friday from Tacoma, WA during peak season. Service is normally twice a week during the winter, but would probably be increased to three following an earthquake.) (Tote did not offer a price for the mobile homes; they indicated that barge shipping would be more economical for a 14 foot wide unit.)

(2) Travel trailer (8x30 foot) shipment by Northland Barge: Approximately $6,150 ($3,400 to Anchorage, $2,750 return). Northland typically has two sailings a month; travel time is 7 to 10 days, and during November through February they may offload in Seward, rather than Anchorage, depending on ice conditions in Cook Inlet.

(3) Mobile home (14x60 foot) shipment by Northland Barge: Approximately $13,050 ($7,250 to Anchorage, $5,800 return). Note: a 10x60 or 12x60 mobile home would cost 12,350 ($6,850 to Anchorage, $5,500 return). Northland typically has two sailings a month; travel time is 7 to 10 days, and during November through February they may offload in Seward, rather than Anchorage, depending on ice conditions in Cook Inlet.

b. Limited availability of land for temporary trailer parks within the Municipality of Anchorage.

c. Foundation problems when land can be obtained (much undeveloped land requires excavation and backfill for a stable surface; this would be difficult when the ground and the gravel sources are frozen).

d. Problems in installing water and sewer systems during the winter. Although heavy equipment would be able to excavate utility trenches, pipe bedding and backfill would still be major problems.

e. Very limited availability of spaces in existing trailer parks and properly zoned lots; the current trend is the closing of parks as the land is converted to other uses. (The primary availability of spaces would probably be to replace existing mobile home stock that was destroyed by the event.)

f. Stockpiled mobile homes and travel trailers are of questionable suitability for local winter conditions. Alaska law has specific requirements for structural quality (snow load, etc.) and insulation of mobile homes. FEMA travel trailers are uninsulated, according to the agency's web site.

3. **MOTOR HOMES.** These are expected to play a major role in emergency housing, especially when the temperatures are above freezing. Both privately owned and rental units are very common within the Anchorage area.

a. Motor homes were used extensively by their owners for the Big Lake Fire, a Federally-declared disaster in the Matanuska-Susitna Borough. They were also used during a localized wintertime power outage in Anchorage that left several families without power for a week.

b. Advantages: widely owned; significant stock of rental units available in area; easily set up at the residence site; can provide full services down to freezing and shelter in weather well below freezing (provided propane and electricity are available); and can be driven to a central location for water resupply and sewage disposal. Some motor homes even have the ability to provide emergency electrical power for a residence.

c. Limitations: holding tanks will freeze in cold weather; thin insulation is a concern in cold weather (however, Anchorage temperatures are within the usable range for the insulation for much of the year); require an adequate supply of propane for the furnace and a moderate supply of electricity for the blower motor to maintain heat.

d. USACE involvement in supporting motor homes could include contracting for temporary utility hookups and possibly for providing group bathroom facilities.

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TAB B TO APPENDIX 17 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
MILITARY TENTAGE AND SUPPORT FACILITIES

1. GENERAL PURPOSE MEDIUM TENT

a. Data source: http://ct.dscp.dla.mil/ctinfo/basecamp/oldgp/generalpurposetents.htm

b. Description: This improved G.P. Medium has been retrofitted with heat sealed tape over the existing seams for a leak resistant roof. This 16 foot wide by 32 foot long tent has two stovepipe shields to accommodate the standard 4" heater pipe. The end wall is fitted with environmental control duct sleeves. The tent has one screened doorway at each end. The entire sidewall rolls and ties in the up position for flow through ventilation.

The complete tent includes a breathable outer skin, cotton liner, poles, pins, lines and transport/storage cover.

2. **MODULAR GENERAL PURPOSE TENT**

a. Data source: http://www.natick.army.mil/prodprog/shelters/mgpts.htm

b. Description: The Modular General Purpose Tent System (MGPTS) incorporates the latest design and manufacturing technologies to provide a multipurpose weatherproof shelter for any environment.

The MGPTS is larger, modular, pole-supported tent that is a more versatile and hospitable replacement for the current GP Small, Medium and Large tents. All configurations of the MGPTS are 18 feet wide, 7 feet high at the top of the sidewall, and 11.5 feet high at the peak. The MGPTS can be extended in 18-foot increments by adding intermediate modules. The MGPTS utilizes tensioned fabric to create a structure that distributes wind, rain and snow loads from the fabric directly to the support system. Tensioned fabric structures distribute loads more efficiently with lighter support systems than comparable non-tensioned fabric tents. The use of interchangeable components between different tents reduces logistics burdens and saves significant depot charges. The MGPTS erects/strikes in less than 30 minutes using four individuals.

Size	Dimensions	**NSNs:**
Small	18 feet length x 18 feet width	8340-01-456-3633
Medium	36 feet length x 18 feet width	8340-01-456-3628
Large	54 feet length x 18 feet width	8340-01-456-3674

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3. **CONTAINERIZED KITCHEN**

a. Data source: http://www.natick.army.mil/prodprog/food/ck.htm

b. Description: The Containerized Kitchen (CK) provides a flexible, rapidly deployable, resource efficient, and multi-food preparation capability for increased consolidated meal preparation to support individuals across the operational continuum. It will be deployed at the dispersed person camps and will be capable of supporting up to 550 individuals with three hot cook-prepared perishable, cook-prepared shelf stable or heat-and-serve ration meals per day.

The CK consists of a combination of existing military standard kitchen equipment and commercial components integrated into an expandable 8x8x20 ISO hybrid container. It will be mounted on a tactical trailer and towed by the new FMTV 5-ton cargo truck. Major features of the CK include electrical power from an on-board Tactical Quiet Generator (TQG); environmental control for heating and cooling; refrigerated storage of at least 40 cubic feet; capability to perform roasting, grilling, boiling, frying and baking; running water; a protected serving line and ventilation of exhaust and by-products of food preparations. Set-up time by a trained team is 30 minutes.

4. **CONTAINERIZED SHOWER**

a. Data source: http://www.natick.army.mil/prodprog/shelters/cs.htm

b. Description: The Containerized Shower provides a transportable facility allowing individuals to shower in a clean, comfortable environment. The shower system enables 72 individuals to shower per hour for a 10-minute shower each. The Containerized Shower is currently in production for the Force Provider system.

The Containerized Shower consists of 12 commercial fiberglass shower stalls, an on-board ejector pump, M80 water heater, and a supply pump. Each shower stall has individual controls for adjusting water temperature. This system is capable of collecting the wastewater and pumping it a distance of 500 feet to a collection point. It is housed in an 8x8x20 ISO and weighs 800 pounds. The container connects to a 32' TEMPER Tent capable of housing shave stands and a changing area. The unit has an operating temperature range of -15 to 120°F. The entire system can be powered off a 5Kw generator. Four individuals can easily accomplish setup, including the TEMPER Tent, in less than one hour.

5. **CONTAINERIZED LATRINE SYSTEM**

a. Data source: http://www.natick.army.mil/prodprog/shelters/cls.htm

b. Description: The Containerized Latrine System (CLS) provides a new capability for modern, sanitary lavatory facilities in the field. The CLS will support up to 150 individuals. The CLS is currently in production for the Force Provider system.

The CLS consists of an 8x8x20 insulated ISO container with 6 low-water flush toilets with privacy stalls; a trough urinal; two waste collection tanks; two sinks with running hot/cold water; one 6-gallon hot water heater; mirrors; and dispensers for soap, toilet paper, and paper towels. Each privacy stall has hooks and shelves. A commercial heater/AC unit is installed in the rear wall to regulate the internal temperature and a fan is mounted on the front wall to provide ventilation.

Upon arrival at a location, the CLS is leveled and connected to electricity (10Kw) and a water supply. Waste is contained in a ventilated internal storage tank. The tank must be emptied daily by a sewage truck or connected into an existing sewage system. The CLS can operate in temperatures ranging from -15 to 120°F. Two individuals can easily setup the entire system within 45 minutes.

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TAB C TO APPENDIX 17 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
AIR-SUPPORTED STRUCTURES

1. **ASATI AIR STRUCTURES**

a. Data source: www.asati.net

b. Description: Air-supported vinyl coated fabric structures featuring a bias-harness cable net system. With this system, fabric loads are transferred first to the cable net system, and then to the anchorage system. Even in winds up to 100 mph, fabric loads are reduced to about 6 psi. ASATI's cable net construction provides the most fail-safe air-supported structure in the industry—exceeding building code requirements.

Cost: $9-12/SF in place with heating and lighting systems. Larger structures have lower per square foot costs.

Availability: Structures are not stocked, but built to specification requirements. Delivery times are 3-4 weeks from placement of order in winter, 6 weeks in summer. Production capacity is approximately one per week after initial delivery, dependent on the size of the structure.

Usability**: Structures are compact when bundled for shipment to site—a 60,000 SF dome fits in the space of small car. Structure may be anchored using easily installed soil anchors, and foundation preparation is minimal using point anchors of this type. Dome can be erected quickly – on sites where anchorages are in place, dome can be erected in eight hours.**

Standard Sizes: Air Structures for bulk storage and for covering construction sites are available in a variety of standard sizes as listed in the table below. Other sizes are available on request. Air structures are also available for lease/purchase arrangements.

Standard Air Structure Sizes

(Square Meters)/ Square Feet	**Size: Width x Length x Height (m)/ft**
(465)/5,000	(15.2 x 30.5 x 7.6 H)/50 x 100 x 25 H
(670)/7,200	(18.3 x 36.6 x 9.0 H)/60 x 120 x 30 H
(1,115)/12,000	(18.3 x 61.0 x 9.0 H)/60 x 200 x 30 H
(1,394)/15,000	(18.3 x 76.2 x 9.0 H)/60 x 250 x 30 H
(975)/10,500	(21.0 x 45.7 x 9.0 H)/70 x 150 x 30 H
(1,486)/16,000	(22.0 x 61.0 x 9.7 H)/80 x 200 x 32 H
(1,858)/20,000	(30.5 x 61.0 x 11.0 H)/100 x 200 x 36 H
(2,323)/25,000	(30.5 x 76.0 x 11.0 H)/100 x 250 x 36 H
(2,787)/30,000	(30.5 x 91.5 x 11.0 H)/100 x 300 x 36 H
(4,459)/48,000	(36.6 x 122.0 x 11.5 H)/120 x 400 x 36 H
(4,181)/45,000	(45.7 x 91.5 x 18.3 H)/150 x 300 x 60 H
(8,361)/90,000	(45.7 x 183.0 x 18.3 H)/150 x 600 x 60 H
(10,200)/110,000	(84.0 x 122.0 x 22.0 H)/275 x 400 x 75 H
(26,012)/280,000	(106.75 x 244.0 x 18.3 H)/350 x 800 x 75 H

c. Contact: ASATI Air Structures
211 South Ridge Street
Rye Brook, New York 10573
(914) 937-4500 \ 1-800-AIR-BLDG

2. **INDOOR COURTS OF AMERICA**

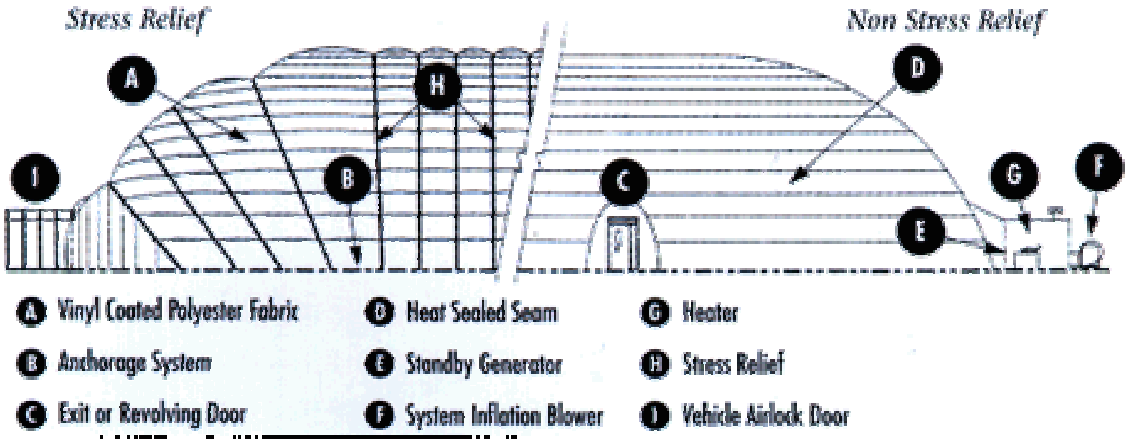
a. Data source: www.indoorcourts.com

b. Description: SportsFlex air-support structures, designed and installed by ICA, are the best solutions for affordable indoor sports. Every SportsFlex structure is custom-fabricated for any size application with state-of-the-art manufacturing techniques, the highest quality fabrics, energy efficient mechanical equipment, and the finest lighting fixtures. Although primarily used for seasonal play, ICA's SportsFlex structures are durable and flexible enough to be used throughout the year. For seasonal use, the process of setting up and taking down the SportsFlex structure only takes a day or two.

SportsFlex General Specifications

Fabric Materials

SportsFlex structures are enclosed in a high-strength vinyl coated polyester envelope that provides a long life, strength, and stability. This material is the proven cost-effective leader in resistance to weather and ultraviolet rays.



Construction Method

Totally clear span, SportsFlex structures provide an interior space free of obstructions. This design method maintains stability and resists loads.

Inflation

Because inflation pressure is a vital part of the SportsFlex support system, each structure is equipped with blowers that fully inflate the structure in minutes and sufficiently replenish the calculated air loss, plus a 100% safety factor. Stress Relief Anchor Detail N.T.S.

Stress Relief

For added stress relief and protection against heavy loads, an optional high strength steel cable can be attached to the anchoring system. This addition increases the durability and stability of the SportsFlex structure.

Heaters
With a thermostatically controlled, indirect-fired, re-circulating heating system with stainless steel heat exchangers, the environment inside a SportsFlex structure is always comfortable and perfect for indoor sports.

Lighting
By including Caindle light fixtures in the building plans, any SportsFlex structure can provide glare-free, uniform lighting at any required level.

c. Contact: Indoor Courts of America
272 Route 202
Somers, NY 10589
Phone:(914) 277-5924 Fax:(914) 277-6975
E-mail: info@indoorcourts.com

3. **SOUTHERN INFLATABLES (UK) LTD**.

a. Data source: www.inflatables.demon.co.uk/temps.htm

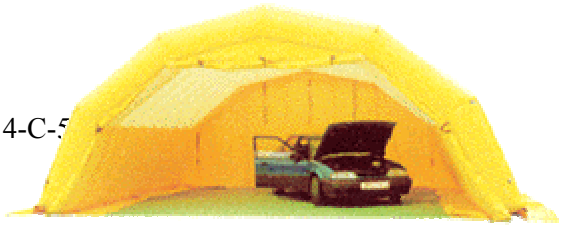
b. Description: From this Blower and Inflatable Bag...

...To one of these temporary shelters in a matter of minutes...

When you need a temporary building quickly, you'll find a Southern Inflatables Temporary Building is the ideal solution. Erected in seconds, it's light yet stable. It needs no foundations; it's comfortable, looks good and is economically priced. A Southern Inflatables Temporary Building can be used for a variety of purposes. As emergency, all-weather protection it can't be beaten.

- Erects in under 4 minutes and requires no foundation
- Easily erected by two or three people
- Units can be linked together to form larger structure
- Can be erected in any weather on any terrain
- Translucent Roof allows a high percentage of natural light inside

STANDARD DESIGN - Multiple Units (without End Walls)									
Width	Internal	10' (3m)	12' (3.6m)	15' (4.6m)	20' (6.1m)	25' (7.6m)	30' (9m)	35' (10.6m)	40' (12.2m)
	External	13'6" (4m)	16'6" (5.1m)	20' (6.1m)	25'6" (7.8m)	32'6" (10m)	37' (11.2m)	42' (12.8m)	47' (14.3m)
Length		All prices in UK Sterling - call for exchange currencies							
12' (3.6m)		1,150	1,300	1,500	1,750	2,450	2,850	3,250	3,650
15' (4.6m)		1,300	1,450	1,675	1,950	2,700	3,200	3,700	4,200
18' (5.5m)		1,450	1,600	1,850	2,350	3,150	3,650	4,150	4,650
20' (6.1m)		1,550	1,700	1,975	2,550	3,400	4,000	4,600	5,200
25' (7.6m)		1,800	1,950	2,275	3,300	4,150	4,625	5,100	5,575
30' (9m)		2,050	2,200	2,575	4,050	4,650	5,250	5,850	6,450



c. Contact: Southern Inflatables (UK) Ltd
Greenforde Farm, Stoner Hill Road
Petersfield, Hampshire GU32 1DY, UK
Tel: +44 (0) 1730 - 827 027
Fax: +44 (0) 1730 - 827 028

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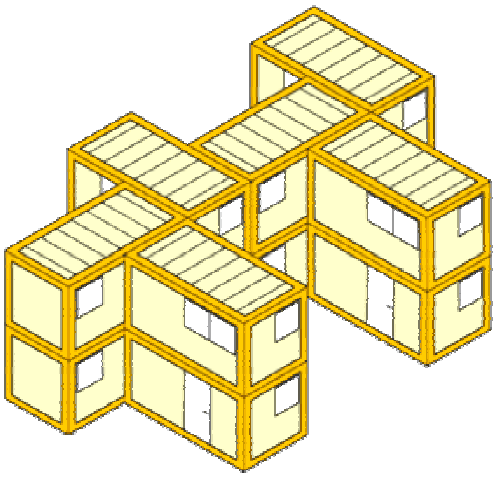
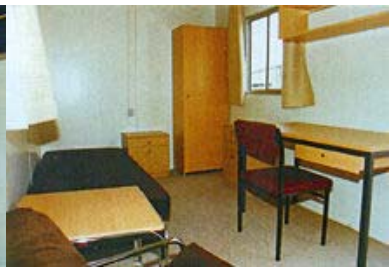
TAB D TO APPENDIX 17 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
MODULAR/CONTAINERIZED/MANUFACTURED HOUSING

1. **SMART SPACE**

a. Data source: www.smartspacemod.com/what.htm

b. Description: Smart Space is a versatile, multi-purpose mobile modular space system, utilizing the time tested and proven building block concept. Available in a base building block module size of 8.6'x8. 6'x20', the self-supporting steel framed units can be stacked and interconnected to provide an economical system solution for mobile space and temporary space needs.





- **Flexibility** - Modular units allow adaptability to current needs through easy reconfiguration.
- **Mobility** - Can be put in place with a Forklift, Crane, or Hook truck.
- **Expediency** - Ready for full use immediately.
- **Economy** - Much less expensive than permanent construction. Tax advantages through quicker depreciation schedules.
- **Quality / Durability** - Self-supporting steel frames with detachable foam core galvanized walls.
- **Modular** - All sidewalls are detachable - useful for subsequent extensions or renovations.
- **Multi-Story** - Small on-site foot print. It saves space while adding utility.
- Electrical, Sanitary and Heating installations are manufactured and assembled complete.

- **Weatherproof** – The Smart Space modules are durable and weatherproof. There is a thick polyurethane foam core between steel sheets that have been galvanized and painted on both sides.

- **Transport Friendly** – As Compact units, they are completely mobile and can be transported easily.

c. Contact: Smart Space Corporate Headquarters
5920 East County Line Road
Highlands Ranch, Colorado 80126
Phone: 303-771-2603 Fax: 720-482-0994

2. **HANDY HOME PRODUCTS**

a. Data source: http://www.handyhome.com/shelter/features.html

b. Description:

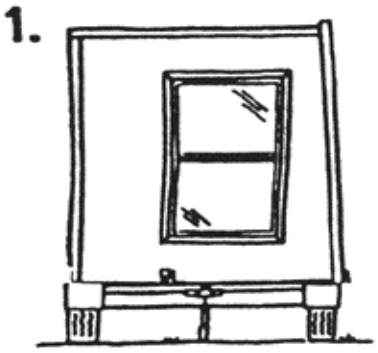
- Emergency Shelter and basic housing
- Everything is precut, nothing to saw
- Easy to assemble; requires no special tools or carpentry skills
- Quick to construct; can rapidly assemble large volume of units
- All nails, screws and hardware included
- Simple, illustrated instructions included
- Withstands heavy wind loads of up to 100 mph, and roof loads of up to 54 lbs./sq. ft.

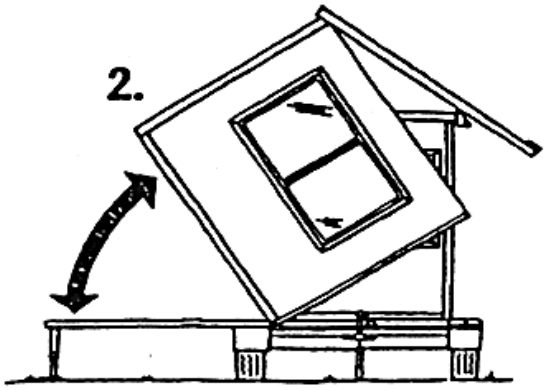
3. **REDI-BUILT EXPANDABLE STRUCTURES, INC.**

a. Data source: http://www.redi-bilt-structures.com/

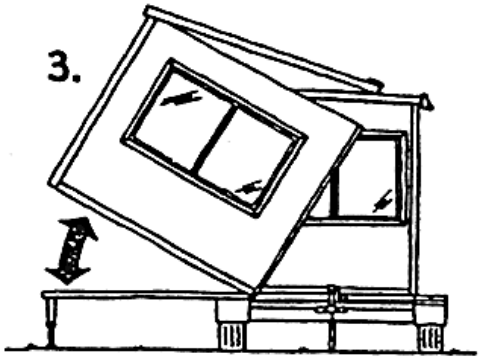
b. Description: Tow-able Trailer Model

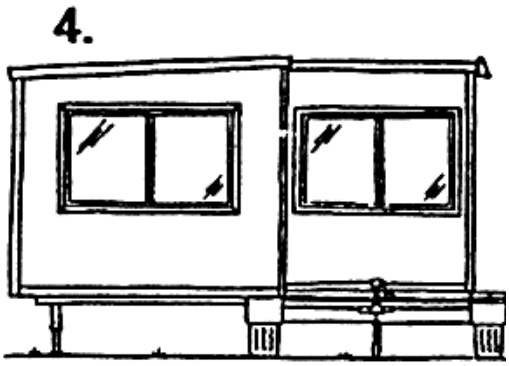
- Available as a fully self-contained or as a park model
- No outside electrical or sewer systems required.
- Lightweight for easy transportation by truck, train, or boat. Tow-able with a 3/4 ton pick-up truck, heavy-duty van, or suburban.
- Can be airlifted to remote areas.
- No special permits or licenses required for transportation on Federal or State Highways.
- Fully insulated floors, walls, ceiling, and windows. Dow's extruded Polystyrene between aluminum framing. Structurally Insulated Panel (S.I.P.)





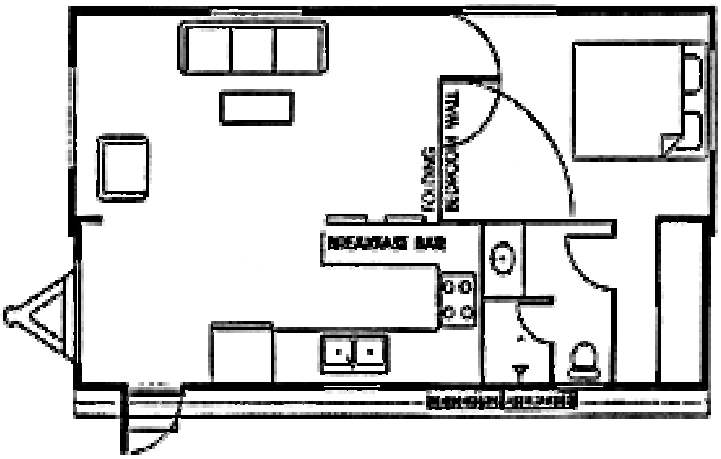
When the unit is closed, the Redi-Bilt Homes provides a secure, vandal resistant trailer that can be easily transported from location to location. To open the unit, extend the steel support beams and jack stands from the stationary side of the chassis. A hydraulically operated ram lowers the convertible sidewalls, floor and roof onto the support beams.





The hinged roof and floor design is guided through the extension phase by an innovative tracking system that assures the proper fit. Once seated in place, hinges and the wall and roof joints form tight weatherproof seals. The unit can be expanded in less than 30 seconds.

25 Foot Model Floor Plan



4. **WORLD HOMES MOBILE MODULAR HOUSING**

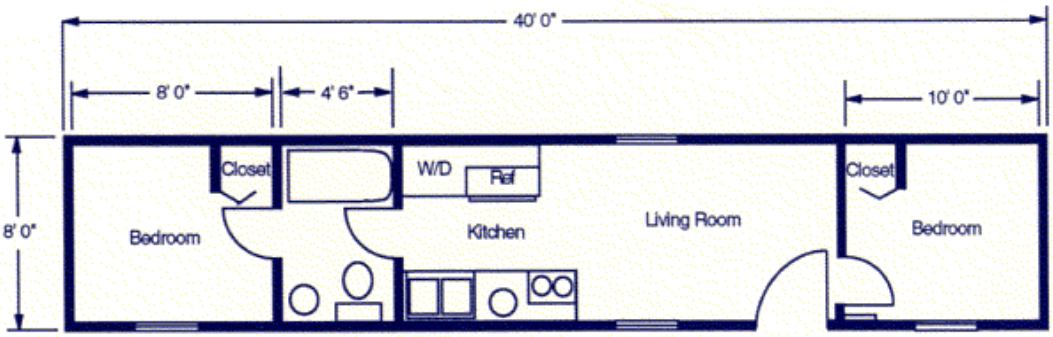
a. Data source:
http://www.net-magic.net/worldhomes/index.htm

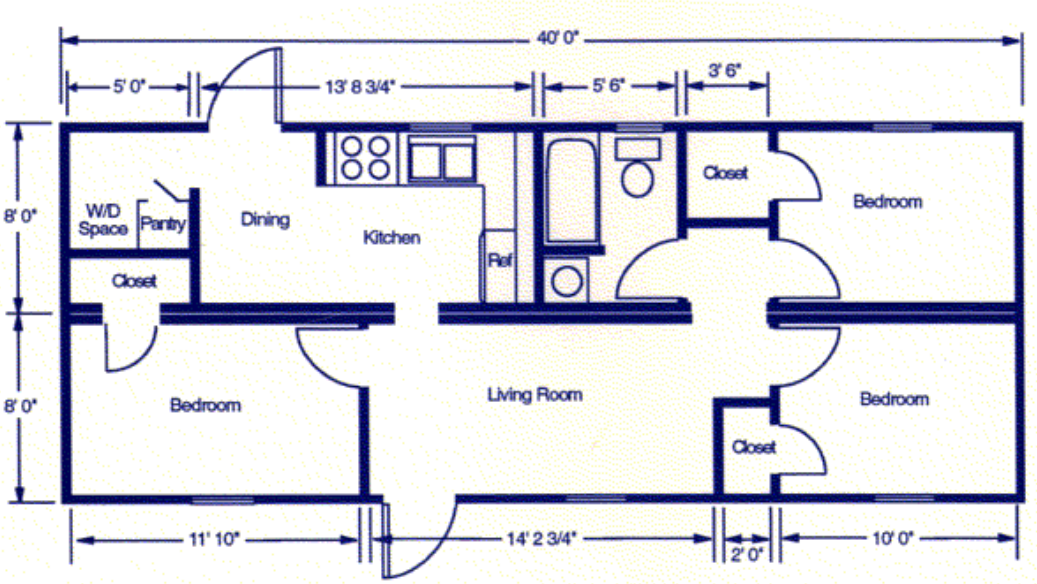
b. Description: This mobile modular housing is typically custom manufactured to meet local climate, culture and utility conditions. All housing and building modules are built to meet all applicable building codes and to withstand earthquake and severe wind loads. Most construction is glued wood frame with metal roof systems, masonry exterior siding, finished wood or gyprock interior finishes and fully adjustable steel foundations.

Mobile modular housing is available in singlewide units with 27 square meters of living space, doublewide units with 55 square meters and triple wide configurations with 82 square meters.

Mobile modular housing can be stacked while held in pre-positioned storage inventories. By stacking units five high over 680 singlewide modules can be stored on a single acre of land. 1680 units can be stored on a single hectare. Mobile modular units possess the identical handling and shipping characteristics as overseas containers. They are shipped overseas for less than the cost of shipping an container.

Dimensions: 16' X 40' Bedrooms: 3
Bathrooms: 1





Dimensions: 8' X 40' Bedrooms: 2 Bathrooms: 1

5. **DURA-KIT SHELTERS**

a. Data source: http://www.durakit.com/

b. Description: The "Instant House"

- **Low Cost:** At a base price of approximately US$15. per sf. (US$150 per sq. m) ,DuraKit offers high-quality, low cost, prefabricated shelters which are one third or less than the cost of conventional and prefab housing. In fact the only other quality shelters in this price range are tent or fabric type. Typical DuraKit shelters begin at about 100 sf. and go to virtually any size.

- **Durable:** DuraKit provides a sturdy and attractive building that is suitable for long-term occupation. Whether supporting industrial development, for emergency or other relief housing, or simply as a convenient utility building, DuraKit provides flexible sizes and other options in a modest but pleasant bungalow style. The buildings can be either permanently mounted on a concrete base or built on an optional floor kit that allows easy relocation. Fire and weather resistant treatments, durable coatings and a patent-pending joining system are part of a structural design that can withstand high winds, rain and heavy snow.

- **Lightweight:** Using high-strength, corrugated fiberboard, with over 50% recycled fibers, the DuraKit weight/space ratio is unmatched by any other fixed wall building system. This feature, along with the compact kit design, provides exceptionally low cost shipping as well as quick setup by two or three people in as little as one day. It also affords air shipment when timing is critical, or to remote areas where trucking is impractical.

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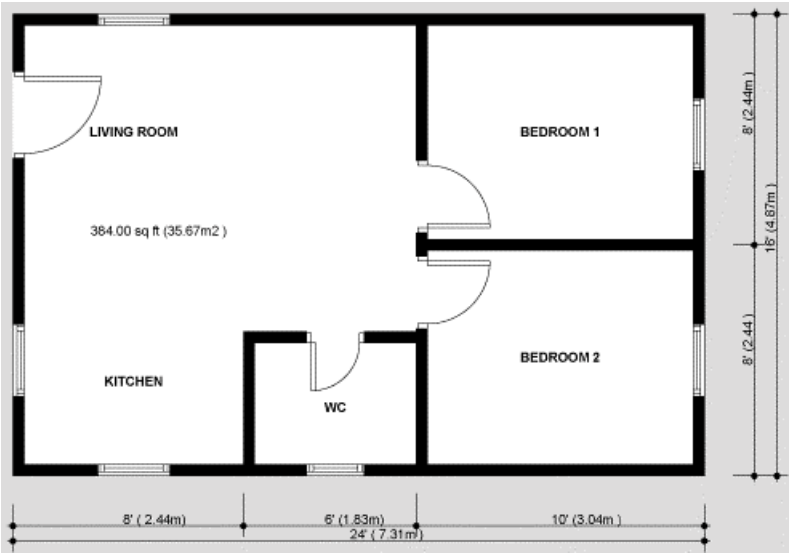
LIVING ROOM
384.00 sq ft (35.67m2)
KITCHEN
WC
BEDROOM 1
BEDROOM 2
8' (2.44m)
16' (4.87m)
8' (2.44)
8' (2.44m)
6' (1.83m)
10' (3.04m)
24' (7.31m)

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TAB E TO APPENDIX 17 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
PACKAGED/PORTABLE UTILITY SYSTEMS

1. **GENERAC PORTABLE ELECTRICAL GENERATORS**

a. Data source: http://www.generac.com/

b. Description: Trailer mounted generator sets from 8 - 210 kW allow for the back-up power of multiple sites with a single generator. These road ready trailers are equipped with all appropriate safety features including lights and jack stands. The generator can be up fitted with an extended power cord and customer specified plug for fast and easy installation during a power emergency.

2. **PORTATREAT PACKAGED WATER TREATMENT PLANTS**

a. Data source: http://members.tripod.com/phoenixengineering

b. Description:

100 Type: Self-Contain Portable Container type water treatment plant **Size:** 4' x 6' x 4' HT **Max Performance:** 100 m^3 Potable water / 24 hours/day **Application:** For Rural Work Sites, Settlements without portable water, where an immediate economical set-up is required

200 Type: Self-Contain Portable Container type water treatment plant **Size:** 4' x 10' x 4' HT **Max Performance:** 200 m^3 Potable water / 24 hours/day **Application:** For Rural Work Sites, Settlements without portable water, where an immediate economical set-up is required

300 Type: Self-Contain Portable Container type water treatment plant **Size:** 5' x 12' x 4' HT **Max Performance:** 330 m^3 Potable water / 24 hours/day **Application:** For Rural Work Sites, Settlements without portable water, where an immediate economical set-up is required.

3. **NOSSITER PACKAGED WATER TREATMENT PLANT**

a. Data source: http://www.nossiterpumps.com.au/

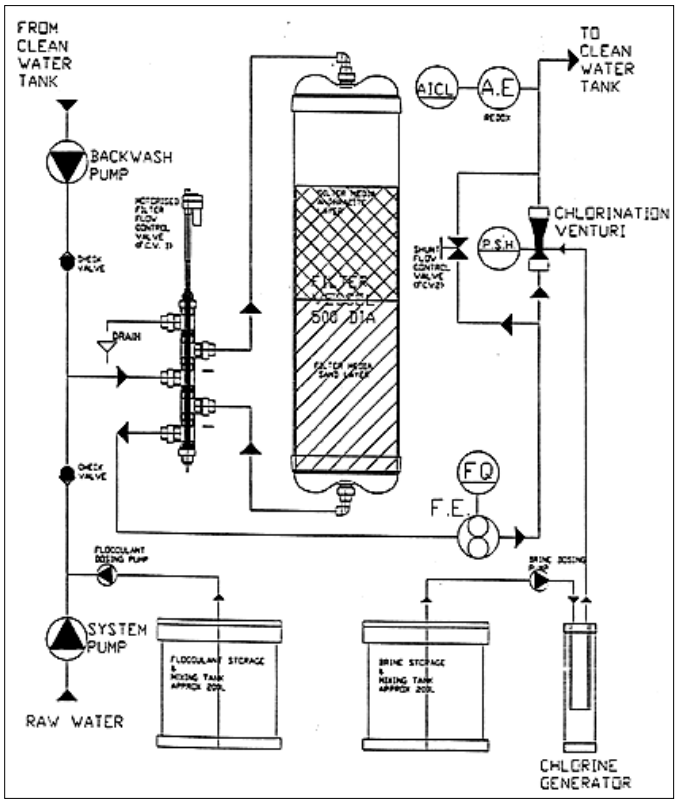
a. Description: **COMPAK 500**

Package water treatment plant for small communities

- Australian designed and manufactured
- Automatic operation with integrated alarms
- Generates its own chlorine disinfectant from salt
- Robust and easily serviced
- Low operating costs

The Compak 500 is an automatic self-contained water treatment plant capable of treating up to 85kl per day of raw water to drinking quality.

The process steps employed are based on the requirements of the demanding DIN 2000 standard for the treatment of municipal drinking water supplies.



4. **HYDROXYL SYSTEMS PACKAGED SEWAGE TREATMENT PLANT**

a. Data source: http://www.hydroxyl.com/

b. Description:

PRETREATMENT AND EQUALIZATION

- Wastewater enters an equalization tank sufficiently large to accommodate daily peak flow contributions.
- Heavier solids and lighter scum separate from the wastewater in the equalization tank, and represent the first stage of Total Suspended Solids (TSS) reduction.
- Hydroxyl's Positive Flotation Mechanism (PFM) reduces TSS further; a process that uses electrostatically charged air bubbles to float particulate matter to the surface. Solids removed by the PFM are partly self-digesting; deposits are periodically removed.
- Screened wastewater is transferred from the equalization tank to the aeration section of the ***Hydroxyl*** plant under pressure. During transfer, fine particulate organic matter is macerated to expose a greater surface area for accelerated aerobic digestion.

AERATION

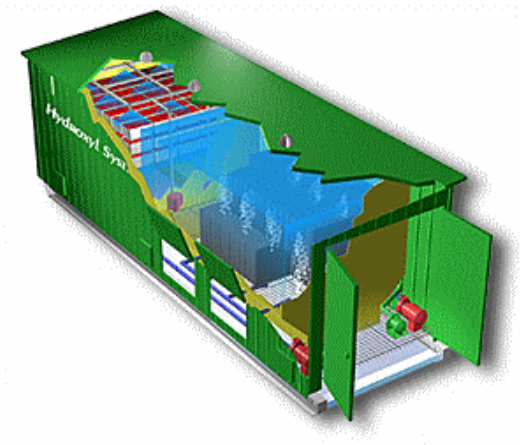
- Wastewater is transferred to the aeration chamber, where an oxygen-rich environment stimulates biological growth to reduce the Biochemical Oxygen Demand (BOD).
- High-efficiency aeration maintains very high oxygen levels and promotes mixing, ensuring high oxygen transfer rates.
- Specially designed plastic media immersed in the aeration chamber harbors attached microorganisms that feed on the organic matter in the wastewater.
- Attached biological growth is self-regulating and capable of withstanding shock loading.
- Processed wastewater is transferred through a secondary PFM for further TSS and BOD removal, and then to the bio-filter for additional treatment.

BIOFILTRATION

- Treated wastewater is circulated through an aerated, porous foam-like bio-filter.
- The bio-filter provides a large surface area for microorganisms to thrive, further reduce the BOD and convert ammonia to nitrate. The bio-filter also acts as a physical barrier to trap fine solids.
- The bio-filter is constructed in sections for easy inspection and servicing.

ADVANCED OXIDATION

- Effluent from the bio-filter is disinfected using ozone and hydroxyl free radicals to oxidize all remaining organic matter - including bacteria, viruses, and other pathogenic organisms.
- A multi-layered automatic back-washing depth filter acts as an absolute barrier prior to oxidation assuring very low TSS at all times.
- The final product is "hydroxylized" effluent: clear, odorless and disinfected water that can be safely used for irrigation, stream enhancement, or other beneficial re-use.



Hydroxyl Systems HS-C* Series Modular Treatment Plants

Model Number	*Number of Homes*	*Flow Rate (USgpd)*	*Flow Rate (m^3/day)*	*Module Dimensions (ft)*	*Module Dimensions (m)*
***HS-C* –50**	**37**	**13000**	**50**	**8 x 26 x 8**	**2.4 x 7.9 x 2.4**
***HS-C* -100**	**73**	**26000**	**100**	**8 x 40 x 8**	**2.4 x 12.2 x 2.4**

**Permitting, engineering, shipping, handling, installation, commissioning, taxes and equalization tanks are added to base price of plant*

POTENTIAL LAND SAVINGS. For ground disposal applications, ***Hydroxyl*** bases their land requirements on the hydraulic capacity of the soil. ***Hydroxyl*** effluent is "rainwater" quality -- therefore no additional purification by soil is required. As a result, land requirements are much smaller than for conventional treatment and ground discharge systems. Final designs for ground discharge are subject to regulatory approval.

5. **BIOPAK PACKAGED SEWAGE TREATMENT PLANT**

a. Data source: http://www.hydroklear-services.co.uk/

b. Description:

ADVANTAGES

- Fully automatic system.
- Minimal operator requirements.
- Able to withstand flow and loading variations.
- Above or below ground installation.
- Automatically controlled sludge re-circulation to assist process and produce a better quality or effluent.
- The unique biological process minimizes the risk of odor nuisance.
- Variable influent and effluent invert levels to suit requirements between 300 and 1300mm.
- Unlike other systems there is soil for at least 400mm around access hatch to grow grass or plants (below ground only)

OPTIONS

- Temporary or permanent installation.
- Mobile units available for overload or emergency situation.
- Duty or duty/standby compressors.
- Balance tanks to spread loads over greater period for transient populations.
- Unit can be supplied as two vessels if required to suit site space.
- Thickening/storage tank requiring fewer tanker collections.
- Packaged pumping stations.
- Integral de-sludging systems.
- Maintenance and/or full management contract available.

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TAB F TO APPENDIX 17 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
REPAIR SWEEP PROCESS

1. Repair Sweep Concept. In a major disaster the number of displaced persons will quickly overwhelm emergency response capabilities, unless aggressive steps are taken to reduce the demand for alternative shelters. The purpose of Repair Sweeps through damaged areas is to identify damaged but habitable homes, and specify emergency repairs necessary to keep people in their own residence. Repair Sweep Teams would be responsible for assessment of:

a. Structural integrity for purposes of habitation.
b. Utility condition for habitation.
c. Repairs necessary to allow re-occupancy by resident.

Types of repairs would be focused on making the structure habitable, and would not be equivalent to the traditional Home Repair program. Sweep Team reports would be fed to separate repair teams for execution of work. Repair Sweep Teams would also serve to identify water and sanitary needs in areas. The public would be informed that if they have a house where emergency repairs could be made, assistance would be provided to execute the repairs, but they are expected to live there.

2. Boundary/Repair Identification. Methods to define damage areas where emergency repairs would be applicable are similar to the methods used for initial impact assessment.

a. Local/State coordination required
b. Still initiate Worst Hurt First concept-start inside and work to outside
c. Establish grid system for team assignments

3. Team Management. Multiple options exist for managing and executing a repair sweep mission. Depending on the scope of the disaster and the availability of manpower resources. Potential management arrangements for repair sweeps include,

a. FEMA Project Managers and ISC serve as project oversight.
b. Straight mission assignment to the USACE. USACE does it all (possible source of labor may be voluntary agencies or citizen corps)
c. Tasking to USACE for repair squads only, and squad management.
d. Straight to a contractor who does complete project, including project management. Use GSA to let contract and GSA Real Estate Division source to monitor contract.
e. Possible use of TACs or private contracting to FEMA for repair squads and squad management.
f. Possible use of voluntary agencies/personnel in repair sweep or execution role (Mennonites/Civilian Corp, etc.) with FEMA, USACE or private contract management.

4. Repair Sweep Execution.

a. Repair Sweep Team staff serves as scouts to Repair Squads to identify houses to be repaired and scope of repairs. Damage reports are fed back to project oversight for assignment to repair squads.
b. Repair squads assigned by grid/street method.
c. Progress reporting.
    (1) By address vs. by applicant.
    (2) Reports to include not repairable cases also.
    (3) Informational reports to be fed back to shelters/camps to advise residents regarding status of their home.
d. Repairs by Damage Type—Earthquake
    (1) Remove hazards and dangerous debris.
    (2) Blank-in windows/walls

(3) Basic extant of possible repairs is that which tarp/strapping/plywood can fix

e. Lack of electricity not sufficient to make residence uninhabitable.

f. Scouts to identify areas in need of water buffalos and porta-johns to address water and sanitation needs.

g. Promote self-help by affected individuals- provide materials necessary to make emergency repairs similar to sweep teams.

h. Material Procurement Process.

(1) Direct contracts with manufacturer through ESF #7—may need to federalize supply.

(2) Transportation of materials through ESF #1.

(3) Possible pre-placed contracts for plywood/furring strips/tarp/etc through USACE similar to ice and water standby contracts.

(4) Evaluate expanded mission of ATC-20 USACE trained Structural Safety Assessment Teams. If USACE is doing tagging, use them to complete punch cards for Repair Teams (combine efforts).

(5) In lieu of centralized distribution points, use the repair sweep team concept for both distribution of materials and for self-help of victims. Team can assess materials needed and leave it with homeowner.

5. Final Repairs. Repairs made under the Repair Sweep process are intended to provide a habitable space for residents, and is not intended as final repair to the structure. Final repairs to structures will be left with insurance agencies, for final inspection and direct issuance of checks.

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TAB G TO APPENDIX 17 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
DISPLACED PERSONS TENT CAMPS

When weather permits, General-purpose medium tents may be used for emergency sheltering without the protection of an air dome structure. An alternative method for temporary housing is the U.S. Army's new Force Provider. Using a modular concept, this system provides a complete "city" in one package and is designed and engineered to provide climate-controlled billeting, dining facilities, showers, latrines, laundry, and morale, welfare and recreation facilities in modules. Each Force Provide module would serve approximately 1,000 displaced persons, or one module per displaced persons camp. A total of 36 modules will be built by FY 05. Available Force Provider modules may be obtained from the DCSLOG, HQDA, in accordance with AR 710-1.

Government furnished, contractor installed containerized showers, latrines, and kitchens would be provided at each campsite. Additional information on these components is provided in Attachment A. For the shave stand/changing area, administrative and medical treatment uses, general purpose, medium tents will be provided. Installation of all support facilities will be accomplished through construction contracts, or by engineer troop units if available. The following table summarizes the total facility requirement for temporary housing and supporting facilities required to accommodate 3,500 displaced persons in five camps.

TABLE 1
TOTAL FACILITY REQUIREMENTS

Proposed Utilization	*Total Requirement*	*Remarks*
Housing	200/30 EA	GP Medium/Assembly Tent
Dining	10 EA	Containerized Kitchen
Shower	15 EA	Containerized Shower
Latrine	20 EA	Containerized Latrine
Shave Stand/Changing Area	15 EA	GP Medium Tent
Medical Clinic	5 EA	GP Medium Tent
Administrative	5 EA	GP Medium Tent

Information in the following table presents the 'per camp' requirements for support facilities. Data contained therein was used as the basis for developing the total facility requirement.

TABLE 2
STRUCTURE REQUIREMENTS PER 700 PN CAMP[1]

General Area	*Housing (GP Medium or Assembly Tents)*	*Facilities*					
		Dining	*Shower*	*Latrine*	*Shave Stand Changing Area*	*Medical Clinic*	*Admin*
1 Camp	40/6	2	3	4	3	1	1

[1] Totals Per Area.

*Requirements are based upon the following criteria:
Housing - Five, four person families per GP Medium tent (20 PN) or 31 four-person families per Assembly tent,
Dining Facility - One per 550 PN,
Shower Facility - One per 250 PN,
Latrine Facility - One per 150 PN,
Shave Stand/Changing Area - One per containerized shower,
Medical Clinic - One per camp,
Administrative Facility - One per camp.

As a plan alternative the Force Provider System, a self-contained modular "city", could be used in this mission. Each basic module would accommodate approximately 1,000 displaced persons. This system is based upon using the Tent Extendable Modular Personnel (TEMPER) with external forced air heating and cooling, similar to home heating ventilation air conditioning systems. Approximately 10 acres of land is required for each module. A module can be set up in less than two weeks, to include site preparation. The following table delineates components of Force Provider.

TABLE 3
FORCE PROVIDER
(Basic Module)

Item	*Remarks*
Housing	44 modular general-purpose tents.
Containerized Latrine	4 with 6 toilets, 4 urinals & 8 sinks each.
Containerized Shower	2 with 24 stalls & 4 shave stands each.
Electric Kitchen	1 with 1800 meal per day capacity.
Containerized Batch Laundry	1 with 200 pounds per day capacity.
MWR Support	Modular general-purpose tents for religious support, satellite television, sports & free-weight equipment, board & card games.
Waste Water Vacuum Tank/Trailer	2 with 40k gallon/day collection & storage capacity.
Water Trailers	4-400 gallon trailers w/80k gal capacity (3 days).
Flood Lights	10 EA.
Generators	27 EA 60 kw, 1.1-mw continuous power.
Fuel Storage	40k gallons.
Personal Support	TEMPER tents for medical care, finance, mail, telephone and AAFES.

Utilities. Electrical power (including generators, underground distribution lines, and exterior lighting), potable water systems (including wells, pumps, storage tanks and distribution lines), sanitary sewage collection systems, and packaged sewage treatment plants will be required at each camp. Electrical service will be provided for overhead exterior lighting, service to the dining facilities, showers, latrines, packaged treatment plants and to the tents for interior lighting. Water and sanitary sewer service will be required for each dining facility, shower and latrine. With the exception of electricity for interior lighting, no utility services will be provided to the individual tents used for housing. More detailed support requirements will depend upon the individual housing sites selected by the EMA Office. See Attachment D for additional information on utility support.

TABLE 4
UTILITY SUPPORT REQUIREMENTS FOR 1,000 PN CAMP*

Item	*Requirement*	*Remarks*
Electrical Generators	2 EA	For exterior lighting, tents, latrines, showers, kitchens, water source, sewage treatment plant.
Electrical Distribution Lines	1,650 LF	Direct burial.
Light Sets	14 EA	Powered by individual generators.
Potable Water Supply	75 KGD	Well, pump, treatment, 500-gallon storage tank.
Water Distribution Lines	1400 LF	From well to kitchens, latrines/showers.
Packaged Sewage Treatment Plant	50 KGD	Site outside fenced area.
Sewage Collection Lines	3,000 LF	From kitchens, latrines, showers.

*Quantities tabulated above are based upon a generic camp layout and will require adjustments to suit the specific site.

INFORMATION TO BE MERGED

1. **SCOPE**.

a. This mission traditionally consists of installing mobile homes, travel trailers, or other readily fabricated buildings, primarily in group sites, but also on individual lots in existing parks or on the same property as the damaged residence. It includes provision of utilities, recovery of the temporary housing, and site restoration.

b. For the Anchorage area earthquake, innovation and flexibility will be required to meet the temporary housing needs. There are many special factors that make the traditional approach difficult.

2. **LOCAL CONCERNS.**

a. The high cost of shipping regular and travel trailers to Anchorage. The costs below do not include the costs of moving the temporary units from FEMA's storage areas to the Puget Sound area.

(1) Travel trailer (8x30 foot) shipment by Tote: Approximately $4,900 (3,750 to Anchorage, $1,150 return). Shipping time: At port on Friday, offload Tuesday (sailings Tuesday, Wednesday, and Friday from Tacoma, WA during peak season. Service is normally twice a week during the winter, but would probably be increased to three following an earthquake.) (Tote did not offer a price for the mobile homes; they indicated that barge shipping would be more economical for a 14 foot wide unit.)

(2) Travel trailer (8x30 foot) shipment by Northland Barge: Approximately $6,150 ($3,400 to Anchorage, $2,750 return). Northland typically has two sailings a month; travel time is 7 to 10 days, and during November through February they may offload in Seward, rather than Anchorage, depending on ice conditions in Cook Inlet.

(3) Mobile home (14x60 foot) shipment by Northland Barge: Approximately $13,050 ($7,250 to Anchorage, $5,800 return). Note: a 10x60 or 12x60 mobile home would cost 12,350 ($6,850 to Anchorage, $5,500 return). Northland typically has two sailings a month; travel time is 7 to 10 days, and during November through February they may offload in Seward, rather than Anchorage, depending on ice conditions in Cook Inlet.

b. Limited availability of land for temporary trailer parks within the Municipality of Anchorage.

c. Foundation problems when land can be obtained (much undeveloped land requires excavation and backfill for a stable surface; this would be difficult when the ground and the gravel sources are frozen).

d. Problems in installing water and sewer systems during the winter. Although heavy equipment would be able to excavate utility trenches, pipe bedding and backfill would still be major problems.

e. Very limited availability of spaces in existing trailer parks and properly zoned lots; the current trend is the closing of parks as the land is converted to other uses. (The primary availability of spaces would probably be to replace existing mobile home stock that was destroyed by the event.)

f. Stockpiled mobile homes and travel trailers are of questionable suitability for local winter conditions. Alaska law has specific requirements for structural quality (snow load, etc.) and insulation of mobile homes. FEMA travel trailers are uninsulated, according to the agency's web site.

3. **MOTOR HOMES.** These are expected to play a major role in emergency housing, especially when the temperatures are above freezing.

a. These were used extensively by their owners for the Big Lake Fire, a Federally-declared disaster in the Matanuska-Susitna Borough. They were also used during a localized wintertime power outage in Anchorage that left several families without power for a week.

b. Advantages: widely owned; significant stock of rental units available in area; easily set up at the residence site; can provide full services down to freezing and shelter in weather well below freezing, as long as fuel is available (propane is critical) and power can be provided for the heater blower; and can be driven to a central location for water resupply and sewage disposal.

c. Limitations: holding tanks will freeze in cold weather; thin insulation is a concern in cold weather (however, Anchorage wintertime temperatures are usually within the usable range for the insulation).

d. USACE involvement in supporting motor homes could include contracting for temporary utility hookups and possibly for providing group bathroom facilities.

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APPENDIX 18 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
DEBRIS REMOVAL

REFERENCES

a. **Maps and Charts**. See Annex B.

b. **Documents**
(1) See Basic Plan
(2) See Tabs B through E, below, for Anchorage Municipal Landfill regulations. The Mananuska-Susitna and Kenai Peninsula Boroughs have similar requirements.
(3) USACE Debris Removal Mission Guide

1. **SITUATION**

a. **General**. Each Borough/Municipality operates one or more central landfills, plus transfer stations. Refuse, including construction debris, is brought to the landfill or transfer station by private collection service, by the Municipality of Anchorage (former City of Anchorage area), or by individual residents and businesses. Transfer stations consolidate normal commercial and residential refuse and load the refuse into trailers or trucks for disposal at the central landfill. See Tab A for additional information.

b. **Threat**. As noted in Tab A, HAZUS predicts 3.63 million tons of debris generated in Anchorage for a 7.5 shallow crustal earthquake. The 8.0 deep subduction earthquake would produce 1.38 million tons of debris, throughout the three Cook Inlet area boroughs.

c. **Response Organizations**
(1) The Debris Removal mission team will work with each borough/municipality to support debris removal operations within the boundaries of that local government.
(2)

d. **Assumptions**
(1) Debris will be per HAZUS predictions.
(2) Environmental regulations will be enforced for disposal of debris.
(3) Due to the extreme amount of debris, and to the impact on local capabilities, a debris removal mission will be required.
(4) The MOA sewage treatment plant will be functional, to process leachate from the municipal landfill.

2. **MISSION**. Debris Removal consists of removing debris from public property (including that placed in the right of way by private owners/renters for the purpose of such removal); demolition and removal of damaged structures under the authority of the local government; temporary storage of material while awaiting disposal; segregating the material according to required method of disposal; transport and final disposal of the material; and the necessary actions to turn over the process to local interests once the workload is within their capabilities.

3. **EXECUTION**

a. **Commander's Intent.** POD will assist local governments in the collection, processing, and disposal of debris generated by the earthquake. The mission will be completed when the local governments and private refuse and recycling companies are capable of handling the remaining debris operations.

b. **Concept of Operations.**

(1) USACE Response. Debris management operations associated with the shallow crustal, or deep subduction events will be executed by the Pacific Ocean Division and the Honolulu District until such time as the Alaska District is reconstituted and capable of mission execution. External support is provided by other USACE Divisions through the USACE Operations Center (UOC). Debris management operations include demolition, collection, transport, reduction, and ultimate disposal. Initial clearance of debris from public roads will be accomplished by state, borough, or local governments utilizing organic or force accounts.

(2) Planning and Response Team. A Debris Planning and Response Team (PRT) and debris subject matter expert (SME) will be deployed by HQUSACE UOC to Anchorage, AK to initiate debris project management in support of the POH. A management element consisting of an Action Officer, Mission Manager, Resident Engineer, Contract Specialist, and Mission Specialist will be deployed first, and followed as quickly as practical by additional PRT support elements. The PRT, or a subsequently deployed PRT(s) will remain engaged until operations become routine at which time the POH or POA will assume full responsibility for mission execution. End state is reached when all operations can be transitioned to state and local authorities.

(3) Debris Management Contract. A pre-awarded debris contract is projected to be in place not later than December 2002. The contract consists of a requirements portion in the amount of $100K, and an indefinite delivery / indefinite quantity portion in the amount of $29.9 M. Additional contracts may be advertised, bid, and awarded as required. In the absence of a valid ACI contract, a standard debris contract solicitation including scope of work is available on ENGLink, and on CD as part of the Debris Management Field Guide.

(4) Staging Operations and Debris Segregation. Intermediate staging areas are required for temporary storage of debris prior to placement in disposal sites because loading and haul capabilities will exceed placement rates. In addition, the debris will need to be sorted to remove materials that can not be placed in the landfill, and preferably to remove appropriate materials for recycling. Potential staging sites include approximately 90 acres formerly utilized as a landfill at the Merrill Field Airport (C&D and woody debris only), the Anchorage Regional Landfill

(ARL), and the Mat-Su Central Landfill. Approximately 20 acres for staging is currently available at the ARL with additional area becoming available as disposal cells are filled and capped. If needed, the Mat-Su Landfill has substantial additional area for staging, but would require site preparation. Segregation of the woody debris at loading, followed by chipping at the current site where cell fill material is stored at ARL will reduce both the size of the Merrill Field staging requirement and the length of time required for staging. See site maps at Tab _____.

(5) Disposal Sites. Existing landfills will be utilized for both potential seismic events. These sites include the ARL, Mat-Su Landfill, and the Central Peninsula Baling/Landfill Facility on the Kenai Peninsula. Based upon HAZUS modeling results, of the approximate total of 3.8M tons generated by the shallow crustal event, 3.6M tons will generate in the Municipality of Anchorage Borough and 200K tons will generate in the Mat-Su Borough. The Kenai Peninsula Borough should experience only minimal effects. For the deep subduction event, an approximate total of 1.3M tons of debris would be generated of which approximately 1.05M tons, 0.2M tons, and 0.125M tons would be generated in the Municipality of Anchorage, Mat-Su Borough, and Kenai Peninsula Borough, respectively.

(6) Environmental Baseline Development. Environmental baselines exist for the three landfills currently in operation. Therefore, no additional soil or groundwater sampling is required at these locations. For temporary staging areas such as the Merrill Field, or any other future disposal site developments, a detailed environmental baseline will be developed prior to any utilization. Requirements for establishing environmental baselines will be coordinated with the Alaska Department of Environmental Conservation.

(7) Hazardous/Toxic/Radiological Wastes (HTRW) and Household Hazardous Wastes (HHW). HTRW and HHW will be segregated to the extent possible before loading. Additional segregation will be accomplished at the disposal site and disposed of through utilization of a certified HTRW contractor. Common HHW such as cleaning fluids, solvents, oil and gasoline etc. will be staged with the HTRW at the landfill and disposed of with the HTRW.

(8) Debris Task Force. A Debris Task Force (DTF) will be established for the purpose of ensuring participation by all entities with stakeholder interest in successful debris management execution. FEMA Region X through the Federal Coordinating Officer's representative will chair the task force, organize the participants, schedule meetings, and set meeting agendas. The Vice Chair of the DTF will be the USACE Action Officer from the Debris PRT. The primary objective of the DTF will be to arrive at consensus regarding a debris removal plan of action. Team membership shall consist of the following:

(a) FEMA
(b) AK State Coordinating Officer (SCO)
(c) USACE
(d) EPA
(e) Natural Resources Conservation Service
(f) Solid Waste Services, City of Anchorage
(g) AK State Fire Marshall
(h) AK Dept. of Environmental Conservation
(i) Solid Waste Dept., Kenai Peninsula Borough

(j) Solid Waste Dept., Mat-Su Borough

(9) Debris Management Plan of Action. Upon receipt of a debris mission assignment from FEMA, the USACE Action Officer will lead the development of a Debris Management Plan of Action (POA) which will define specific required actions and responsibilities of the major, debris mission participants i.e. DTF. The POA should address the following:

(a) Mission - to include definition of end state defined as the point at which mission execution is transitioned to state and local governments.

(b) Concept of Operation – clearance, staging, reduction, recycling, disposal, collection scheduling.

(c) Real Estate Requirements – rights of entry (ROE), hold/save harmless assurances, etc.

(d) Environmental / Regulatory Compliance.

(e) Identification of temporary debris storage and reduction sites (TDSR) and disposal sites.

(f) HTRW and HHW handling procedures.

(g) Contracting.

(10) Debris Execution / Operations Plan.

(a) When the responding district is tasked with a Direct Federal Assistance mission for debris, the Debris PRT Mission Manager will be responsible for developing a Debris Operations Plan. This may also be called a Debris Execution Plan. This plan will detail the Corps' operations from beginning to end. It will address a detailed explanation of the debris process from the time the Corps takes possession to the time the debris is handed off to another entity. It will address how the area will be sectored, estimated execution time line, location of staging areas, location of landfills, haul distances, contractors and their work areas, method of reduction, estimated quantities, handling of HHW, handling of HTW, environmental baseline testing, coordination with state and locals, process for working on private property, definition of when mission is complete, and how the mission will be physically closed out. This document may take 3 - 4 weeks to complete due to the amount of information required. Debris operations will likely be initiated prior to completion of the plan. The MM will work closely with the Action Officer and Resident Engineer(s) to accomplish this.

(b) Tab _____ provides a description of key personnel required to successfully execute a debris mission, a description of key, functional locations and associated activities, and an organizational diagram showing numbers and types of personnel required for mission execution for both seismic events.

(11) Termination of mission. Due to the limitations on the placement rate at the landfill, the debris operation could last up to two years. Local authorities should be capable of handling the workload long before the mission is completed. All operations should be planned under the assumption that work will be completed by local authorities.

c. **Tasks.**

(1) UOC.

(a) Identify and deploy assets external to POD.
(b) Identify and deploy Debris PRT and SME.
(c) Provide supporting communications assets—VHF and/or cell phones—from nationwide assets.

(2) POD.
(a) Provide personnel as required by POH/POA. Elevate to UOC when external assets are required.
(b) Request UOC deploy Debris PRT Management Cell and SME.

(3) POH acting for POA.
(a) Execute debris management mission.
(b) Provide MIPRs for deploying personnel.
(c) Staff ERRO.
(d) Provide facility, equipment and supplies for ERRO/EFO.
(e) ID personnel assets for debris mission support.
(f) Provide logistical support to responders – rental cars, lodging, winter clothing, PCs, printers, etc.
(g) Transition debris execution mission to POA.

(4) POA.
(a) Transition to full debris mission execution from PRT.
(b) Debris mission closeout – physical and fiscal., including transfer of ongoing activities to MOA and other local governments.

(5) Supporting Divisions / Districts.
(a) Provide personnel and other assets for debris mission execution.

4. **ADMINISTRATION AND LOGISTICS.**

a. Administration: The debris team will require special support from the following district functions:
(1) Information Management – Computer and communications support. See paragraph 5, Command and Signal for communications needs.
(2) Contracting – Advertise and award contracts and/or issue task orders.
(3) Real Estate – Assist with leases, rights of entry, hold harmless, and other private property issues.
(4) Public Affairs –Ensure that debris pick-up schedules are communicated to the public, as well as progress or problems encountered.
(5) Resource Management – tracking mission costs/available funds.
(6) Office of Council – Legal, contract, and private property issues.
(7) Safety – Oversee the safety of the debris contract operations.
(8) Security – Personal safety and security of response personnel and equipment.
(9) Engineering – Technical support for issues that may arise.

b. Logistics. The deploying Debris PRT will require support for lodging, transportation, property accountability, and possibly cold weather gear. The nature of the debris mission requires that most individuals have vehicles and other equipment, as well as requiring personnel to be exposed to the elements on a regular basis.

c. Personnel. The Debris PRT will need quality assurance personnel from throughout USACE.

(1) Each loading operation will require a QA to provide oversight. It is estimated that there will be about 30 loading operations.

(2)Each disposal site and/or staging area will require 6 QAs and it is anticipated that under the 7.5 magnitude shallow earthquake, there will be 2 landfills (Anchorage Regional Landfill and Mat-Su Regional Landfill) and at least 1 separate staging area at Merrill Field Airport in Anchorage. This would require 18 QAs. In the 8.0 magnitude deep earthquake, there will be 3 landfills (same two as above plus the Central Peninsula Baling/Landfill facility) and 1 separate staging area (same as above). The QA requirement would then be 24.

d. Public Affairs.

5. **COMMAND AND SIGNAL.**

a. Command Relationships.

(1)The Division Forward Commander (DFC) is the ERRO commander for mission execution. He/she will receive tasks from the DFO and ensure that resources are provided to accomplish the mission.

(2) The Deputy for Civil Works (DCW) appoints an ESF #3 Team Leader (TL) to be OPCON to the FCO. The debris AO and SME will be part of the TL's staff.

(3)The FCO tasks the DFC through FEMA's Operations Chief and the ESF #3 TL.

B. Signal: POA has VHF handhelds, base stations, and a portable repeater. However, additional handhelds and possibly repeaters would be needed if VHF radios are used for the mission. If cell phone service is available and reliable, that is also an option. Once again, additional equipment will be required. This section will explain the communication requirements for mission execution. Tab ____ provides the plan of operation for Information Management support.

(1) Each loading operation will require a QA to provide oversight. Each of these QAs will require the ability to communicate with the QA supervisor and the EFO. It is estimated that there will be about 30 loading operations.

(2) Each disposal site and/or staging area will require 6 QAs and it is anticipated that under the 7.5 magnitude shallow earthquake, there will be 2 landfills (Anchorage Regional Landfill and Mat-Su Regional Landfill) and at least 1 separate staging area at the Merrill Airport in Anchorage. This would require 18 QAs. In the 8.0 magnitude deep earthquake, there will be 3

landfills (same two as above plus the Central Peninsula Baling/Landfill facility) and 1 separate staging area (same as above). The QA requirement would then be 24.

(3) Each QA supervisor will require mobile communications capability. Under the 7.5 scenario, 3 QA supervisors would be required and under the 8.0 scenario, 4 QA supervisors would be required.

(4) It is anticipated that 1 resident engineer could handle the entire operation from a field perspective requiring one mobile unit or cell phone. For VHF communications, the EFO would also need to have either a mobile or base unit.

(5) If the ERRO and EFO are not co-located, and if VHF communications are used, a base or mobile unit will be required for the ERRO, as well as a mobile unit for the MM/MS to allow them to contact the EFO, as needed, for production information.

(6) The AO should also have a mobile unit or cell phone in order to maintain communications with the MM/MS team.

(7) In Summary, under the 7.5 scenario, the debris team would require 56 units and under the 8.0 scenario, the debris team would require 63 units (VHF or cell phone).

(8) With either VHF or cell phone communications, there will be some "dead areas" where these devices can not communicate.

c. Succession to Command.

d. Signal.

See Annex K for detailed communications information.

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TAB A TO APPENDIX 18 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
DEBRIS REMOVAL

1. **SCOPE:**

a. The Direct Federal Assistance mission normally includes all necessary actions associated with debris clearance, removal, and disposal site management from public property in the affected area as directed by FEMA. This may include debris clearance and removal from critical access routes, roads, bridges, harbors, waterways (normally non-navigable) and rights-of-way for emergency vehicles and public access. It may include any or all of the following: pick-up, hauling, and dumping of debris; segregating and reducing debris at a landfill or a temporary disposal and reduction site (TDSR); hauling from a TDSR to a final disposal site; or managing a TDSR.

B. Debris could also be issued as a Technical Assistance mission, to provide FEMA with technical capabilities to assist State and/or local entities in debris operations. This would involve providing information on technical requirements for debris operations increasing the efficiency of such operations, efficient monitoring techniques, documentation requirements, etc. This would aid the FEMA Public Assistance Officer in determining appropriate reimbursement entitlement to State and/or local governments.

2. **GENERAL CONSIDERATIONS.**

a. The USACE model for debris is based on hurricanes, not earthquakes. It is not usable for this event.

b. HAZUS does provide an estimate for earthquake debris.

(1) The 7.5 shallow crustal earthquake would generate 3.63 million tons of debris, or 145,000 truck loads. The estimated breakdown is 30% wood, 70% concrete and steel.

(2) The 8.0 deep subduction earthquake would produce 1.38 million tons of debris, or 55,000 truck loads. The estimated breakdown is 28% wood, 72% concrete and steel. Based on population, this would amount to 42,000 truckloads in Anchorage, 8,000 in the Matanuska-Susitna Borough, and 5,000 in the Kenai Peninsula Borough.

c. In wintertime, the limited hours of daylight will restrict operations. Lighting could be used for unloading trucks, but adequate lighting for field pickup areas may not be practical (except for locations with large concentrations of debris). Average daylight: 7.3 hours in November, 5.5 hours in December, 6.4 hours in January, and 9.1 hours in February, with at least an additional hour of usable twilight each day.

d. Debris will require intermediate sorting/temporary storage sites. While the amount of burnable/chippable debris is much less than with a hurricane, the debris will need to be processed to remove both hazardous materials and items that could be recycled rather than placed in the landfill.

(1) Trees and large pieces of clean lumber will be a very small portion of the debris. Normally, wood stove owners salvage such materials very quickly.

(2) For remaining wood debris, small plants, etc., chipping and mulching capability is available in Anchorage (at Point Woronzof, west of Anchorage International Airport).

(3) Metal recycling is available in Anchorage, from several firms.

(4) Glass recycling is also available in Anchorage, with significant available capacity. (The glass is crushed for use in asphalt pavement fill, and for sandblasting material.)

(5) There is some recycling of asphalt/concrete debris, but this will be insignificant considering the amount of concrete debris generated by either event.

e. Reduction/storage space will be a major concern. Assuming 3 cy/ton for wood debris and 1 cy/ton for concrete and steel, the storage requirement would be 5.8 million cubic yards. Per the USACE debris mission guide, the net storage capacity of 8,067 cy/acre results in a requirement for 719 acres, or 1.12 square miles. (As noted below, cycling of sites will not provide a significant impact on the requirement.)

f. Total landfill capacity is not a current limitation; the 7.5 shallow crustal earthquake would move the anticipated landfill closure date from 2043 to no earlier than 2033. However, the landfill area is being developed in a series of cells, each of which is used for a five-year period.

(1) The normal schedule for constructing a new cell is to begin excavation in September, install the liner in May, then finish the sand lining and leachate system by September. Design adds 6 to 12 months to the front end of the process. This schedule avoids having freezing weather during construction of the impermeable liner and the leachate system, which are key elements in avoiding pollution.

(2) Even with reduction, earthquake debris from the 7.5 shallow crustal earthquake would probably fill a complete cell, while the 8.0 subduction earthquake would require a half cell or more.

g. Placement rate for the landfill is also a concern, as this is a restricted working area.. The maximum placement rate for a 10-hour shift has been about 2,467 tons, and this is not a sustainable rate. Additional equipment would give only moderate improvement, due to operating space considerations, but the landfill could go to 24 hour operations. (They currently have to work during nighttime in December.) However, at 5,000 tons per day, 365 days a year, the gross capacity is 1,825,000 tons per year, minus the 350,000 tons routine annual disposal. Their

capability is greater in the winter; summer input runs about 1500 tons per day, while winter input is around 750 tons per day.

h. The net result is that debris storage could be required for two years or more.

i. Another special concern in Alaska would be snow mixed with the debris. The landfill must collect the liquid from the refuse through a drain system at the bottom of the cells and transport the liquid to the sewage treatment plant. Their present system is designed for direct snow and rain, plus a limited quantity of liquid from the incoming refuse. (Commercial sources are strictly limited as to the liquid content of the refuse.) Snowfall mixing with the debris would introduce more water than the landfill is designed to handle. (The landfill operators would make some allowance for water contained in organic debris, but construction debris would have to be kept fairly dry.)

(1) If the debris became mixed with snow before it could be picked up, construction debris would have to be stockpiled until the next spring.

(2) Because the final disposal could take two or three years, the stockpiles would have to be designed to keep snow from mixing with the debris. This is particularly important because much of the disposal would be handled during the winter. Keeping snow out of the debris would probably require covering stockpiles with plastic.

(3) Additional sorting would be necessary to segregate debris according to the urgency of disposal (e.g., damaged foodstuffs require fast disposal for health reasons). This may require special provisions in demolition contracts.

j. The problem of the snow/debris mixture has not been encountered in past disasters in the United States. Past missions have involved hurricanes, or California Earthquakes. When snow has been removed during winter storm emergencies, it was stockpiled and allowed to melt—it was not put into landfills. The 1964 earthquake occurred at the end of the winter; also, in 1964 there was not the current concern about seepage from landfills.

k. The 8.0 subduction earthquake would also require coordination with the Matanuska-Susitna Borough and Kenai Peninsula Borough central landfill operations. However, the amount of debris would be less for that earthquake, and those two boroughs have more land available for debris reduction and temporary storage.

l. Because of the prevalance of subsistence and recreational hunting in Alaska, debris removal operations will encounter a significant amount of live ammunition.

3.

[**USACE REQUIREMENT**. The Debris PRT will need to adjust their procedures to meet the above concerns, and must coordinate closely with the Municipality of Anchorage. Due to the long-term effort involved in the final disposal, the mission will need to be turned over to the

local authorites. This will require coordination as to how the stockpiles will be set up. The Real Estate member of the PRT will particularly need to be aware of the long-term requirements.]

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TAB B TO APPENDIX 16 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
ANCHORAGE HAZARDOUS MATERIALS DISPOSAL POLICY

In general, only wastes generated within the Municipality of Anchorage are accepted. The list below is informational and is not considered complete. Additional information can be obtained from Solid Waste Services at (907) 343-6262 if a particular waste product is not listed.

Ammunition and Explosives
These materials are not accepted at any of the facilities. Contact the Anchorage Police Department for disposal assistance at (907) 786-8900 (911 for emergencies).

Animal Carcasses
This waste is accepted on a case by case basis at the ARL. Please contact SWS at (907) 343-6262 for more information.

Animal Feces
Large animal fecal waste will only be accepted at the ARL. Large animal fecal waste or large quantities from small animals require prior notification. Please contact (907) 343-6262 for scheduling assistance. Small quantities from small animals are accepted at CTS but must be double-bagged.

Anti-freeze
Anti-freeze can be taken to the Hazardous Waste Collection Center at either ARL or CTS (residential only).

Appliances
Non-CFC containing appliances are accepted at all facilities. Refer to Municipal Code 26.80.030 (.pdf 27.8 Kb) for CFC containing appliances. (Refrigerators, freezers and air conditioners contain CFC's.) Unusually bulky items should be brought to the ARL. Also refer to recycling.

Asbestos Waste
Asbestos waste is regulated and has detailed handling and disposal requirements. Materials are only accepted at the ARL. Refer to the SWS policy for Asbestos Waste Disposal (Tab C, below) for additional information or contact SWS at (907) 343-6262.

Asphalt
Asphalt is generally considered construction and demolition debris and is only accepted at the ARL.

Automobiles
Automobiles are not accepted. Refer to the metals recycling or scrap/junk yards.

Automobile Parts/Motors
Automobile motors are accepted at ARL only. Other automotive parts are accepted at all facilities. In both cases all fluids must have been drained. Also refer to recycling.

Barbed Wire
Barbed wire is only accepted at the ARL and must be cut into 1 foot or shorter segments prior to disposal.

Batteries - Large and Small
Recycling bins are maintained at ARL, CTS and Girdwood Transfer Station for collection of batteries. Several recycling companies also collect batteries. Also refer to recycling.

Brush and Land Clearing Waste
Pickup size loads of brush are accepted at the CTS. Larger loads of brush and land clearing waste are accepted at ARL. Brush must be cut into eight feet lengths. (The Anchorage Compost Facility should be considered for brush disposal.)

Butchering Waste
Residential non-commercial butchering waste is accepted at all facilities as long as it is a pickup truck load or smaller and does not contain liquid waste. Larger quantities should be coordinated with ARL staff for disposal. Please call (907) 343-6262 for scheduling information.

Commercial Solid Waste
Wastes generated at a place of business is considered commercial waste. Typical commercial wastes include packing materials, office paper, lunchroom waste, etc. Chemicals and other similar items should be determined whether they are considered hazardous prior to disposal. If hazardous, the items may be handled through the Hazardous Waste Collection Center at the ARL. Some materials, such as toner cartridges, can be recycled through area vendors.

Compressed Gas Cylinders/Fire Extinguishers/Propane Bottles
Compressed Gas Cylinders must be nonpressurized and the valve stem must be removed prior to disposal. Cylinders containing hazardous residues or liquids are prohibited for disposal, but will be accepted at the Hazardous Waste Collection Facility.

Computers and Accessories
Computers are accepted at all facilities.

Construction/Demolition Debris (C & D)
C & D is waste material generated during the construction or demolition of a structure. This typically includes wood, bricks, rubble, dry wall, roofing materials tiles, and concrete. This material is accepted at ARL. (Only wood and roofing materials are accepted at CTS.) In addition, residential loads at CTS and Girdwood must not exceed a pickup load size and be less than eight feet in any direction. Larger sized loads must be taken to ARL. Depending on the age of the facility being demolished, care must be taken to determine if any of the materials contains asbestos. If so, the materials must be handled in accordance with SWS Asbestos Handling Policy (Tab C, below).

Contaminated Soils
This material is only accepted at the ARL and is subject to the SWS Contaminated Soils Policy (.pdf 28.6 Kb). Contact (907) 343-6262 for additional information.

Cooking Oil and Grease
Wastes generated from households are accepted at all facilities. Wastes generated from non-household sources must be in containers less than one gallon and must pass the EPA' s Paint Filter test for liquids at room temperature. Quantities larger than one gallon must be coordinated with ARL staff. Please contact (907) 343-6262 for scheduling.

Copiers
Copiers are accepted at all locations. SWS recommends that toner and toner cartridges be recycled prior to disposal.

Drums
Drums are only accepted at the ARL. The drums must be crushed and have the ends removed prior to disposal and must contain no residue of any hazardous or liquid waste.

Exit Signs
Exit signs may contain small amounts of radioactive materials. Please contact the manufacturer for proper handling and disposal.

Fish Processing Waste
Residential, non-commercial fish waste will be accepted at all facilities. Liquid waste will not be accepted at any of the facilities. Large quantities of waste in excess of a pick-up load should be coordinated with ARL staff for disposal. Please contact (907) 343-6262 for scheduling information.

Fluorescent Lights/Ballast
These materials are regulated by EPA as a "Universal Waste" and have special handling and disposal requirements. Fluorescent lights may contain mercury and the light ballast may contain PCBs. If the lights are labeled as not containing PCBs, SWS can accept up to 220 pounds per month, or approximately 350 bulbs, from any one customer or company. Contact SWS at (907) 343-6262 for additional information. Also refer to recycling.

Hazardous Waste
Hazardous wastes are strictly prohibited from disposal. These include any waste that is toxic, reactive (oxidizers), flammable or corrosive (acids/alkalines). This also includes any EPA listed wastes. Refer to the Household Hazardous Waste Center or contact SWS at (907) 343-6262 for additional information.

Household Solid Waste
Wastes generated from a household except hazardous waste are generally acceptable for disposal at all locations.

Industrial Process Waste
Wastes generated from industrial or manufacturing processes must be first determined to be non-hazardous and must not be a liquid prior to evaluating the ability for disposal. Contact SWS at (907) 343-6262 for additional information.

Lawn Mowers
Lawn mowers are accepted at all facilities. All gas and oil must be drained from the engine prior to disposal.

Liquid Waste
Liquid waste is any waste material that does not pass the EPA's Paint Filter Test. Liquid waste is prohibited in accordance with the Liquid Restriction Policy (Tab E) and Federal and State Regulations.

Medical Waste
Treated medical waste is only accepted at the ARL in accordance with the Medical Waste Disposal Policy (Tab F). Untreated medical waste is strictly prohibited for disposal. Contact SWS at (907) 343-6262 for additional information.

Neon Signs
Please contact the manufacturer for proper handling and disposal. Older lights may contain PCBs within the transformer.

Paint
Paint can be water based, latex or oil based. In all cases, paint will likely be considered a Liquid Waste and disposal is restricted. Oil based paints are a regulated hazardous waste and are prohibited from being disposed of at any facility. Paints are accepted at the Hazardous Waste Collection facilities. Contact SWS at (907) 343-6262 for additional information.

Product Piping
These materials are handled in accordance with the SWS Contaminated Soils Policy (.pdf 28.6 Kb).

Radioactive Waste
Radioactive/Nuclear waste is strictly prohibited for disposal. Additional questions regarding the proper handling and disposal should be forwarded to the US Nuclear Regulatory Commission at (800) 952-9677.

Railroad Ties
These materials may be subject to testing to determine if they are non-hazardous under the EPA TCLP test. Household generated quantities will not require testing. All materials must be no longer that eight feet in any direction. Contact SWS at (907) 343-6262 for additional information.

Refrigerators/Freezers/Air Conditioners

Refrigerators, freezers, and air-conditioning units may contain chlorofluorocarbons (CFCs) and their disposal is strictly prohibited. The units may be disposed of if a qualified, licensed technician has removed the CFCs, and documentation, of such removal, can be presented to SWS. Refrigerators and freezers are accepted at CTS and ARL for an additional $20.00 charge, per each unit, which covers removal of the CFCs.

Septage & Honey Buckets
Septage is not accepted at any of the facilities. For information on disposal of Septage, contact AWWU at (907) 564-2700.

Smoke Alarms
Some smoke alarms can contain small amounts of radioactive material. Contact the manufacturer for proper disposal instructions.

Snow Machines
Snow machines are accepted for disposal at all facilities and must have all fluids drained and batteries must be removed.

Storage Tanks
Storage tanks are handled similarly to drums. No residues of hazardous or liquid wastes may be present and the ends of the tank must be removed and the tank must be crushed. Disposal of large tanks that require additional handling should be coordinated with ARL staff. Call (907) 428-0864 for scheduling information.

Tires
Tires are accepted at all the facilities. If the quantity exceeds ten tires, the tires must be disposed at the ARL. Also refer to recycling.

Trailers/Mobile Homes
These are only accepted at the ARL. For rate and handling information contact SWS at (907) 343-6262.

Treated Timbers
Treated timbers, similar to railroad ties, must demonstrate that they are non-hazardous by passing the EPA's TCLP test. Size is limited to eight feet in any direction. Acceptance is on a case by case basis. Contact SWS at (907) 343-6262 for additional information.

Used Oil and Grease
All facilities maintain a collection point for recycling of used engine oil. Households are limited to disposal of less than 5 gallons per visit free of charge. Up to 10 gallons will be accepted at CTS with an additional charge of $1.00 per gallon for quantities over the initial 5 gallons.

HEADQUARTERS, USAED PACIFIC OCEAN
FORT SHAFTER, HAWAII 96858-5440
■■ 2004

TAB C TO APPENDIX 18 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
ASBESTOS DISPOSAL POLICY

MUNICIPALITY OF ANCHORAGE, SOLID WASTE SERVICES DEPARTMENT
ASBESTOS AND ASBESTOS CONTAINING MATERIALS DISPOSAL POLICY
EFFECTIVE DATE: January 31, 1990
REVISED DATE: January 31, 2001

I. AUTHORITY TO ESTABLISH DISPOSAL POLICY:

The authority by which the Solid Waste Services Department establishes disposal policies and procedures and conducts disposal operations is contained within the Anchorage Municipal Code and the State of Alaska Department of Environmental Conservation's Solid Waste Management Regulation, 18 AAC 60.

The Alaska Department of Environmental Conservation Landfill Operating Permit 9621 BA001 authorizes the Anchorage Regional Landfill to accept asbestos waste materials for disposal.

II. PURPOSE:

The policy's purposes are to:

A. Assist in the prevention of emission of particulate asbestos material to the outside air when asbestos and or asbestos containing waste materials is disposed at the Anchorage Regional Landfill.

B. Comply with State and Federal regulations concerning the disposal of asbestos containing materials.

C. Insure proper record keeping.

III. APPLICABILITY:

This policy applies to any facility owner/operator, contractor of demolition, maintenance or renovation operation and transporter of asbestos and or asbestos containing waste materials and who is intending to dispose of these materials at the Anchorage Regional Landfill.

Ordinarily, waste material that is generated ONLY within the Municipality of Anchorage is accepted for disposal at the Anchorage Regional Landfill. Asbestos containing waste material that has been generated outside of the Municipality of Anchorage may, on a case by case basis, and as determined by the Asbestos Project Administrator (Tele. 907-343-6278, Fax 561-1357), be accepted at the Anchorage Regional Landfill.

IV. DEFINITIONS APPLICABLE FOR THIS POLICY:

Municipality of Anchorage Solid Waste Services
1111 East 56 th Avenue, 99518 P.O. Box 196650, Anchorage, AK 99519-6650
Telephone: (907) 343-6262
Fax: (907) 561-1357
Email: wwsws@ci.anchorage.ak.us

A. ASBESTOS CONTAINING MATERIALS (ACM) -- Commercially processed asbestos containing more than 1 percent asbestos, determined using the method in 40CFR 763, Subpart E, Appendix *E,* Polarized Light Microscopy (PLM), revised as of July 1. 1997. ACM may include the asbestos waste materials and materials contaminated with asbestos including disposable equipment, clothing and control device filters generated from renovation or demolition activities.

B. CATEGORY I NONFRIABLE ASBESTOS -- ACM in the form of asphalt roofing products, gaskets, packings and resilient floor covering which contains more than 1 percent asbestos, determined using the method in 40CFR 763, Subpart E, Appendix E, Polarized Light Microscopy (PLM), revised as of July 1. 1997.

C. CATEGORY II NONFRIABLE ASBESTOS -- NONFRIABLE ACM, excluding CATEGORY I NONFRIABLE ACM, such as asbestos cementitious shingles, wallboard and pipe that contain more than one percent asbestos, determined using the method in 40CFR 763, Subpart E, Appendix *E,* Polarized Light Microscopy (PLM), revised as of July 1, 1997, and when dry cannot be crumbled, pulverized or reduced to powder by hand pressure.

D. FACILITY -- Any institutional, commercial, public, industrial, or residential structure, installation, or building (including any structure, installation, or building containing condominiums or individual dwelling units operated as residential cooperative, but excluding residential buildings having four (4) or fewer dwelling units); any ship; and any active or inactive waste disposal site.

E. FRIABLE ASBESTOS MATERIAL -- ACM that contains more than one percent asbesto**s,** determined using the method in 40CFR 763, Subpart E, Appendix *E,* Polarized Light Microscopy (PLM), revised as of July 1. 1997, and when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

F. NONFRIABLE ASBESTOS CONTAINING MATERIAL -- ACM that when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.

G. REGULATED ASBESTOS CONTAINING MATERIAL (RACM) -- RACM means:

1. Friable ACM;
2. Category I Nonfriable ACM which has become friable, or which will be, or has been, subject to sanding, grinding, cutting or abrading; and
3. Category II Nonfriable ACM which has a high probability of becoming, or has become, crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of a demolition or renovation operation regulated by 40 CFR 61.145, revised as of July 1, 1997, or in the course of disposal operations. For the purpose of this disposal policy, Solid Waste Services considers ALL Category II Nonfriable ACM to be RACM.

H. OWNER OR OPERATOR OF A DEMOLITION OR RENOVATION ACTIVITY – Any person who owns, leases, operates, controls or supervises the facility being demolished or renovated and which contains ACM; or any person who owns, leases, operates, controls or supervises the demolition or renovation operation activities which involve ACM; or both.

I. ASBESTOS WASTE GENERATOR -- Any owner or operator whose act or process produces asbestos containing waste material.

J. ASBESTOS WASTE SHIPMENT RECORD -- The shipping document to be originated and signed by the waste generator, used to track and substantiate the disposition of asbestos containing waste material. Solid Waste Services Department requires ALL commercially generated ACM wastes, regardless of quantity or type, to be accompanied with a Solid Waste Services letter authorizing the ACM to be disposed at the Anchorage Regional Landfill and an Asbestos Waste Shipment Record when brought to the Landfill for disposal.

V. GUIDELINES:

A. Written notification by the asbestos waste generator or disposer is to be made to the Solid Waste Services (SWS) Asbestos Project Administrator (907-343-6262/343-6278, fax: 907-561-1357, e-mail: blairmi@ci.anchorage.ak.us *)* on all projects entailing disposal of asbestos containing material (ACM) at the Anchorage Regional Landfill. Notification can be in the form of the project notification provided to the EPA. SWS receipt of the notification will result in a letter for each asbestos project authorizing the disposal of the ACM at the Landfill and the assigning of a SWS asbestos authorization tracking number for the specific project. SWS will provide an Asbestos Waste Shipment Record (AWSR) form numbered with the assigned asbestos authorization tracking number as an attachment to each Asbestos Disposal Authorization Letter. An example AWSR is attached for informational purposes only. Both the SWS authorization letter and the AWSR are to be presented to the Landfill Scalehouse Attendant at the time the ACM is brought for disposal.

B. All ACM will be received for disposal at **only** the Anchorage Regional Landfill (ARL) at Hiland Road and Glenn Highway. No ACM of any type will be accepted at the Central Transfer Station or the Girdwood Transfer Station.

C. ALL commercially generated ACM wastes must be scheduled for disposal at the ARL to allow coordinating the ARL disposal activities for the ACM delivery. This will be accomplished by notifying the ARL General Foreman by facsimile transmission (428-1697) with the following information: ACM generating company's name; assigned SWS asbestos tracking AS number; and desired time and date the ACM waste will be arriving at the ARL. This information will be transmitted to the ARL General Foreman not later than 24 hours prior to the desired disposal time. If multiple disposals are being scheduled for a single day, notification is to be made not later than 24 hours prior to the first desired disposal time. If a transporter misses the estimated time of arrival at the ARL the load may be refused at the Scalehouse and not allowed to dump that day. The generator will need to reschedule for the next ACM accepting day. Because of operational constraints at the ARL, there will be no non-scheduled ACM loads accepted at the ARL.

D. All Regulated and Non-regulated (nonfriable) ACM is accepted at the ARL only on Wednesday and Thursday, 09:00 A.M. - 12:00 M. and 13:00 - 16:00 P.M. Regardless of the type, no ACM will be accepted for disposal during the lunch hour, 12:00 M. to 13:00 P.M.. No asbestos will be accepted after 16:00 P.M.; the ACM transporter must remove his vehicle from

the working face no later than 16:00 P.M. If the ACM transporter is not finished off loading the ACM load by 16:00 P.M., he must leave the working face and reschedule another disposal date to finish the ACM off loading. No ACM transport vehicle or trailer will be left at the working face unattended or without a means of being moved by the ACM transporter.

E. All asbestos waste generators (except the individual homeowner) are required to provide SWS a completed and signed Asbestos Waste Shipment Record (AWSR) for each asbestos project at the time the ACM is brought to the ARL for disposal.

F. It is the responsibility of the generator of the asbestos wastes to control his/her transporter while operating on the Anchorage Regional Landfill and to ensure the transporter adheres to the Landfill's rules, posted speed limits and traffic directions. Failure of the generator to exercise adequate control over the transporter(s) will result in the immediate cancellation and retraction of the Asbestos Containing Waste Disposal Authorization Letter and refusal at the Scalehouse of any subsequent loads associated with Asbestos Containing Waste Disposal Authorization.

G. All asbestos waste disposers (including individual homeowners) are required to weigh in and weigh out at the ARL Scalehouse. If a disposer has ACM waste from multiple asbestos projects loaded on one vehicle, the disposer will weigh in and weigh out for each individual project. The disposers will provide an Asbestos Waste Shipment Record for each individual asbestos project at the time of weigh in at the ARL Scalehouse.
H. Federal and State of Alaska *Municipal Solid Waste Management Regulations* and the ADEC Landfill Operating Permit prohibit the disposal of "free liquids in quantities greater than commonly found in the average household" at the Anchorage Regional Landfill. As such, all commercial ACM generators will dewater their ACM wastes to the extent that free liquid is not evident in the ACM waste container. If free liquid is evident in an ACM waste container, that container will be refused for disposal.

I. REGULATED ACM must be marked, packaged and transported in accordance with all Federal, State and Municipality of Anchorage regulations. Any ACM waste containers determined by SWS to be inadequate will be immediately removed from the Landfill by the disposer. SWS does not consider "burrito bags/rolls" to be adequate containers for disposing either regulated or nonregulated ACM at the ARL

J. NON-REGULATED (CATEGORY I NONFRIABLE) ACM does not have to be specially treated or packaged for disposal in the ARL unless it is required to be by specific criteria contained within the applicable Federal, State or MOA regulations. NON-REGULATED ACM will, however, require both a SWS asbestos disposal authorization letter and an AWSR in order to be accepted at the ARL. If, for whatever reason, NON-REGULATED ACM is bagged, wrapped or packaged for disposal, SWS requires it to scheduled, treated and disposed as if it is actually REGULATED ACM. SWS does not consider "burrito bags/rolls" to be adequate containers for disposing either regulated or nonregulated ACM at the ARL

K. SWS requires CATEGORY II NONFRIABLE ACM to be bagged, wrapped and/or packaged the same as if it was REGULATED ACM.

L. All REGULATED ACM waste will be hand placed in a specially designated Asbestos Disposal Area of the Landfill. REGULATED ACM containers will be hand placed in the designated Asbestos Area. If the container is too large or bulky (such as a CONEX box or large steam boiler) to be safely hand placed in the designated area, a mechanical means of placement may be used. It is the owner/operator/generator/disposer's responsibility to provide the mechanical device for the placement. Dumping off of, or out of the bed of the transport vehicle is not an acceptable "mechanical means" of placement for REGULATED ACM.

M. EPA requires the landfill operator to inspect the disposal of ACM at the waste disposal site and to note any discrepancies on the AWSR. SWS Landfill personnel will inspect the following items:

1. Current Asbestos Disposal Authorization Letter;
2. Properly filled out AWSR;
3. Proper Warning Labels on the transport vehicle during unloading;
4. The ACM waste is properly enclosed or covered, wrapped or sealed in leak-tight containers;
5. There is NO free water evident in the leak-tight ACM waste container;
6. The ACM waste is properly labeled with the name of the waste generator and the location at which the waste was generated;
7. The ACM waste quantity delivered matches the quantity described on the AWSR; and
8. The ACM waste is properly placed by the disposer in the designated area.

The ARL person performing the delivery inspection will annotate the arrival and departure times of the ACM transporter and sign the AWSR for receipt of the ACM waste at the Landfill. The transporter of the ACM will provide a signed copy of the AWSR to the Scalehouse Attendant at the time of the weigh out.

N. All ACM will be covered at the end of each operating day with at least six inches of non asbestos containing material.

O. The cost of disposing of ACM waste is based on weight plus a special waste-handling fee. The special waste-handling fee will include but not be limited to time and materials for equipment cost, equipment operator's time, administrative time and cover material cost. Current charge is $45.00 per ton disposal fee plus $40.00 per one-half hour special waste-handling fee. The disposal fee will be double, $90.00 per ton, for ACM wastes generated from outside the Municipality of Anchorage and determined to be accepted for disposal at the ARL. The special handling fee will be charged in one-half hour increments based on the time the ACM disposer arrives at and departs from the designated ACM disposal area. There is no disposal fee for ACM generated from facilities on Fort Richardson which are in direct support of the Active Duty Army's mission within Alaska. **If it is determined that a facility is NOT in direct support of the Active Duty Army's mission in Alaska, the disposal fee and special waste-handling fees will be charged for the disposal of ACM waste generated from that facility.**

P. The ARL Scalehouse Attendant will receive the signed AWSR from the disposer at the time of weigh out. The Scalehouse Attendant will attach a copy of the weigh ticket to the AWSR.

These will be submitted to the Project Administrator at the beginning of the next business day after the ACM is accepted at the ARL.

Q. Scrounging at the ARL is in violation of SWS regulations and the ADEC Operating Permit. Should any individual be observed scrounging at the ARL working face, that individual will be subject to being barred from the landfill.

R. Individual private homeowners are excluded from the applicable Federal and State asbestos regulations. The Solid Waste Services Department does not advocate that private homeowners perform their own asbestos removal projects. The following procedures will apply to the disposal of small quantities of ACM by individual private homeowners only:

1. For the purpose of this policy, a small quantity of ACM is defined as no more than three bags or cartons of asbestos waste material, not to exceed one cubic yard in total volume. The bags or cartons must be of a size that is easily handled by the individual homeowner.

2. The individual home owner need not have a letter of authorization, a waste shipment record or provide the 24 hour prior notification to the ARL General Foreman to dispose of ACM. The individual homeowner will be required to weigh in and out at the Scalehouse for each visit to the Landfill. The Scalehouse Attendant will issue the individual home owner an SWS "SPECIAL HANDLING LOG" annotated with the asbestos authorization number of "AS0X999" ("X" will denote the year of the transaction) at the time the home owner weighs in at the Scalehouse. The individual homeowner will annotate his home address and residential telephone number on the "SPECIAL HANDLING LOG" when he receives the form from the Scalehouse Attendant. The individual home owner will present the "SPECIAL HANDLING LOG" to the ARL person performing the delivery inspection for receipt of the ACM waste at the Landfill. The ARL person performing the delivery inspection will annotate the arrival and departure times of the ACM, ensure the individual home owner has annotated his home address and residential telephone number, and then sign the "SPECIAL HANDLING LOG" for receipt of the ACM waste at the Landfill. The individual homeowner will present the completed "SPECIAL HANDING LOG" to the Scalehouse Attendant at the time of weigh out. The Scalehouse Attendant will use the SWS ASBESTOS AUTHORIZATION NUMBER OF "AS0X999" to log individual homeowners into the computer. The Scalehouse Attendant will attach a copy of the weigh ticket to the "SPECIAL HANDLING LOG". These will be submitted to the Project Administrator at the beginning of the next business day after the ACM is accepted at the ARL.

3. All previously identified procedures regarding the packaging of the ACM and the days and hours it will be accepted will apply to the individual homeowner.

4. The individual home owner will be charged a minimum fee of ten dollars ($10.00) to dispose up to three bags or cartons of ACM not exceeding 440 pounds in total weight. If the individual home owner has more than three bags or cartons of ACM, or more than 440 pounds in total weight, the disposal fee will be charged at the commercial rate of $45.00 per ton and $40.00 per one-half hour for special waste handling.

5. Individual homeowners with small quantities of ACM will be allowed to go to the designated asbestos area in the Landfill in their own private car or pickup to dispose of the ACM. The Scalehouse Attendant will notify a Landfill equipment operator that an individual homeowner is arriving to dispose of ACM and the number of bags or cartons to expect. The individual homeowner will then be directed to the designated asbestos disposal area. The

Landfill equipment operator will insure the individual homeowner finds the designated asbestos disposal area and disposes of the expected number of bag or cartons. The individual homeowner will place the bags or cartons himself. All bags or cartons must be properly sealed to prevent release of any materials. Broken or leaking bags or containers will be refused and the individual homeowner will be advised the ACM will not be accepted until it is properly packaged and sealed.

VI. OTHER REQUIREMENTS:

A. Solid Waste Services Department points of contact are:

1. Asbestos Containing Waste Project Administrator, Tele: 343-6278 or 343-6262, Fax: 561-1357, e-mail: blairmi@ci.anchorage.ak.us .
2. Disposal fees and billing procedure questions are to be referred to Customer Service, Tele: 343-6251, Fax: 561-1357.
3. Anchorage Regional Landfill General Foreman, Tele: 428-0864(voice mail) or 428-1027, Fax: 428-1697.

B. Failure to comply with these requirements will result in refusing the load. Solid Waste Services scalehouse attendants and operators have the authority to refuse any loads at the Anchorage Regional Landfill and the Central and Girdwood Transfer Stations.

C. All other requirements applicable for solid waste disposal - covered loads, hours, fees etc. shall apply.

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TAB D TO APPENDIX 18 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
CONTAMINATED SOIL DISPOSAL POLICY

CONTAMINATED SOIL, SPILL RESIDUE, DRUMS, TANKS AND ASSOCIATED PRODUCT PIPING DISPOSAL POLICY

EFFECTIVE DATE: September 1, 1988
REVISED DATE: January 31, 2001

I. AUTHORITY TO ESTABLISH DISPOSAL POLICY:

The authority by which the Solid Waste Services (SWS) Department establishes disposal policies and procedures and conducts disposal operations is contained within the Anchorage Municipal Code and the State of Alaska Department of Environmental Conservation's Solid Waste Management Regulations, 18 AAC 60, as amended through July 11, 1999.

II. APPLICABILITY:

This policy applies to the disposal of soils, residues and other solid waste associated with the release or spill of petroleum products or other chemicals. This policy is to be used as a guideline to determine the acceptability of these materials for disposal at the Anchorage Regional Landfill (ARL). Due to the potential of encountering a wide variety of petroleum products and chemicals, it will often be necessary to make a case by case determination on the acceptability of specific soils and residues.

III. PROHIBITED MATERIALS:

Under **NO** circumstances will the following be accepted for disposal at the ARL, Central Transfer Station, or Girdwood Transfer Station:

A. Contaminated soil, spill residue or other solid waste generated outside the boundaries of the Municipality of Anchorage.

B. Contaminated soil, spill residue or other solid waste in any quantity which exhibits hazardous waste characteristics for ignitability, corrosively, reactivity or toxicity, or contains listed hazardous waste, or substances which could be classified as a hazardous waste, at levels which exceed prohibitions as defined by the US Environmental Protection Agency (USEPA) or the Alaska Department of Environmental Conservation (ADEC).

C. Contaminated soil, spill residue or other solid waste which contains concentrations of Polychlorinated Biphenyls (PCB) greater than 1 mg/Kg.

D. Contaminated soil, spill residue or other solid waste, which contains free liquids as defined by the USEPA Paint Filter Test, including petroleum products, chemicals or water.

E. Contaminated soil, spill residue, or other solid waste associated with contaminated soils or spill residues in drums with a capacity greater than 10 gallons. If contaminated soil, spill residue, or other solid waste associated with contaminated soils or spill residues is brought to the landfill in drums larger than 10 gallons, the material must meet the acceptance criteria contained in this policy document, the material will be emptied from the drums at the landfill by the person(s) who brought the drums to the landfill and the drums will then either be removed from the landfill or, if they are to be disposed, must meet the criteria contained in Section VI.

F. Sludges from any tank, floor drain, sand-grit separator or catch basin pumping or cleaning operations.

IV. LIMITATIONS FOR ACCEPTANCE OF SPECIFIC POLLUTANTS: ALL LIMITATION MEASUREMENTS ARE DRY-WEIGHT MEASUREMENTS REFERENCED TO A SOIL MATRIX.

A. Contaminated soil, spill residue, or other solid waste associated with underground storage tanks and systems having contained or containing only petroleum products, other than used oil or an unknown petroleum product, will be acceptable for disposal at the ARL provided the material is not prohibited as in Section III above and all of the following limitation are not exceeded:

1. GASOLINE
   RANGE ORGANICS (GRO) LIMIT - < 500 mg/Kg
   ALASKA TEST METHOD – AK101.
2. DIESEL
   RANGE ORGANICS (DRO) LIMIT - < 1000 mg/Kg
   ALASKA TEST METHOD – AK102.
3. TOTAL BENZENE, TOLUENE, ETHYLBENZENE AND XYLENE (BTEX)
   LIMIT - < 50 mg/Kg
   TEST METHOD – EPA 8020.
4. LEAD (leaded gasoline spills only)
   LIMIT - < 5.0 mg/L
   TEST METHOD – TCLP, OR MAXIMUM THEORETICAL LEACHATE CONCENTRATION IN ACCORDANCE WITH USEPA MEMORANDUM #36, “TOTAL ANALYSIS VS. TCLP”, DATED January 12, 1993.

B. Contaminated soil, spill residue, or other solid waste associated with underground storage tanks and systems having contained or containing used oil products, will be acceptable for disposal at the ARL provided the material is not prohibited as in Section II above and each of the following limitations are not exceeded:

1. RESIDUAL-RANGE ORGANICS (RRO)
   LIMIT - < 1000 mg/Kg
   ALASKA TEST METHOD – AK103.
2. TOTAL BENZENE, TOLUENE, ETHYLBENZENE AND XYLENE (BTEX)
   LIMIT - < 50 mg/Kg
   TEST METHOD – EPA 8020.

3. LEAD
   LIMIT - < 5.0 mg/L
   TEST METHOD – TCLP, OR MAXIMUM THEORETICAL LEACHATE CONCENTRATION IN ACCORDANCE WITH USEPA MEMORANDUM #36, "TOTAL ANALYSIS VS. TCLP", DATED January 12, 1993.
4. ARSENIC
   LIMIT - < 5.0 mg/L
   TEST METHOD – TCLP, OR MAXIMUM THEORETICAL LEACHATE CONCENTRATION IN ACCORDANCE WITH USEPA MEMORANDUM #36, "TOTAL ANALYSIS VS. TCLP", DATED January 12, 1993.
5. CHROMIUM
   LIMIT - < 5.0 mg/L
   TEST METHOD – TCLP, OR MAXIMUM THEORETICAL LEACHATE CONCENTRATION IN ACCORDANCE WITH USEPA MEMORANDUM #36, "TOTAL ANALYSIS VS. TCLP", DATED January 12, 1993.
6. TOTAL COMPOSITE OF HALOGENATED VOLIATILE ORGANIC COMPOUNDS
   LIMIT - < 100 mg/Kg
   TEST METHOD – EPA 8021H.
7. POLYCHLORINATED BIPHENYLS
   LIMIT - < 1 mg/Kg
   TEST METHOD - EPA 8081.

C. Contaminated soil, spill residue, or other solid waste associated with underground storage tanks and systems having contained or containing an unknown petroleum product, will be acceptable for disposal at the ARL provided the material is not prohibited as in Section II above and each of the following limitations are not exceeded:

1. RESIDUAL-RANGE ORGANICS (RRO)
   LIMIT - < 1000 mg/Kg
   BY A COMPOSITE ANALYSIS OF ALASKA TEST METHODS AK 101, 102 AND 103.
2. TOTAL BENZENE, TOLUENE, ETHYLBENZENE AND XYLENE (BTEX)
   LIMIT - < 50 mg/Kg
   TEST METHOD – EPA 8020.
3. LEAD
   LIMIT - < 5.0 mg/L
   TEST METHOD – TCLP, OR MAXIMUM THEORETICAL LEACHATE CONCENTRATION IN ACCORDANCE WITH USEPA MEMORANDUM #36, "TOTAL ANALYSIS VS. TCLP", DATED January 12, 1993.
4. ARSENIC
   LIMIT - < 5.0 mg/L
   TEST METHOD – TCLP, OR MAXIMUM THEORETICAL LEACHATE CONCENTRATION IN ACCORDANCE WITH USEPA MEMORANDUM #36, "TOTAL ANALYSIS VS. TCLP", DATED January 12, 1993.
5. CHROMIUM
   LIMIT - < 5.0 mg/L

TEST METHOD – TCLP, OR MAXIMUM THEORETICAL LEACHATE CONCENTRATION IN ACCORDANCE WITH USEPA MEMORANDUM #36, "TOTAL ANALYSIS VS. TCLP", DATED January 12, 1993.

6. TOTAL COMPOSITE OF HALOGENATED VOLIATILE ORGANICS
   LIMIT - < 100 mg/Kg
   TEST METHOD – EPA 8021H.
7. POLYCHLORINATED BIPHENYLS
   LIMIT - < 1 mg/Kg
   TEST METHOD - EPA 8081.

D. The acceptability for disposal at the ARL of any contaminated soil, spill residue, or other solid waste associated with underground storage tanks and systems containing NON-PETROLEUM products will be on a case by case basis as determined by SWS, Tele. 907-343-6262, fax 907-561-1357, e-mail wwsws@ci.anchorage.ak.us.

E. The acceptability for disposal at the ARL of any contaminated soil, spill residue, or other solid waste NOT associated with underground storage tanks and systems, such as, but not limited to, industrial processes; chemical processes; biological, thermal or chemical processes to remediate contaminated soils or products; screenings from sand-grit separators or catch basins; or filtration processes will be on a case by case basis as determined by SWS, tel.: 907-343-6262, fax: 561-1357, e-mail: wwsws@ci.anchorage.ak.us .

V. INFORMATION REQUIREMENTS TO DETERMINE ACCEPTABILITY:

A. It is the responsibility of the person(s) seeking disposal of the contaminated soil, spill residue, or other solid waste addressed above, to provide sufficient documentation to demonstrate that the material meets the requirements of this policy.

B. For contaminated soil, spill residue, or other solid waste associated with petroleum products, the following must be submitted in writing prior to SWS acceptance:

1. A site work plan showing the site location, the specific source of the contaminated soil or spill residue, the estimate of the total quantity of materials to be disposed, the type of soil involved, the screening procedures used, the location of samples collected, procedures used for taking and handling samples and quality assurance/quality control measures used. The site work plan must be in sufficient detail to demonstrate that samples were taken in accordance with the ADEC 18 AAC 78, *UST PROCEDURES AND STANDARD SAMPLING PROCEDURES MANUA*L, as amended through March 1, 1999.
2. Results of laboratory analysis conducted for each representative sample taken. All laboratory analyses must be in accordance with specified USEPA Test Methods for all relevant contaminants. The quality assurance/quality control procedures must be in accordance with the requirements of USEPA Publication SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods and the ADEC regulations and guidelines contained in 18 AAC 75, as amended through October 1, 1999 and 18 AAC 78, as amended through March 1, 1999. There may, however, be case by case situations which SWS would request taking additional samples.
3. Type, quantity and major components of the contaminant products involved.

4. Material Safety Data Sheets (MSDS) on all suspected chemical products for contaminated soil or spill residue associated with chemicals other than petroleum products.

5. The proposed method and location of remediation treatment, if required, to meet SWS disposal criteria. Sample results from both untreated and remediated soil or spill residue must be reviewed by SWS before acceptance approval will be considered.

6. The proposed/desired date for disposal of the materials.

C. The SWS may, on the basis of the above information, request more specific laboratory analyses for specific contaminants of the contaminated soil or spill residue prior to making a decision on the acceptance of the material. The SWS will provide written authorization for disposal of any contaminated soils or spill residues that are determined to be acceptable. An information copy of this authorization letter will also be provided to the ADEC STP/Polluted Sites Manager. The letter of authorization will include a SWS tracking number unique to each approved project and will explain any specialized requirements for disposal. A copy of the authorization letter must be presented to the ARL Scalehouse Attendant at the time each load of material is delivered for disposal by the contracted hauler. Failure to have a current letter of authorization will result in the load being refused at the Scalehouse. When the soil is transported to the ARL, a copy of the ADEC letter authorizing off-site transport of the contaminated soil is to be provided to the Scalehouse Attendant so that it may be included in the SWS file for this disposal authorization.

D. The following procedures apply to the hauling of the contaminated soil, spill residue, or other solid waste associated with contaminated soils or spill residue to the ARL:

1. It is the responsibility of the generator of the contaminated soils to control his/her contracted hauler while operating on the ARL and to ensure the contracted hauler adheres to the Landfill's rules, posted speed limits and traffic directions. Failure of the generator to exercise adequate control over the contracted hauler(s) will result in the immediate cancellation and retraction of the Contaminated Soils Disposal Authorization Letter and refusal at the Scalehouse of any subsequent loads associated with that Contaminated Soils Disposal Authorization.

2. The contracted hauler must make specific disposal arrangements, via facsimile transmission with the Solid Waste Disposal General Foreman, Tele. 428-0864, or 428-1027, fax 428-1697, at least 24 hours prior to bringing the contaminated soils to the ARL. The contracted hauler shall include the approximate delivery time by specifying the hour of the day. If the haul of contaminated soil or spill residue is expected to extend over several days, the contracted hauler must also coordinate daily with the Solid Waste Disposal General Foreman for directions on where to deposit the soil. Failure to accomplish either coordination or follow the directions given will result in refusing the load.

3. The haul will be made only with end dumps or end dumps with pups; belly dumps will not be allowed.

4. The trucks hauling the loads will weigh-in and out at the ARL Scalehouse.

VI. DISPOSAL OF DRUMS, TANKS AND ASSOCIATED PIPING:

A. Drums, tanks, and associated piping, which contained or were used in the storage or transport of petroleum products or other chemicals, will be accepted for disposal **ONLY** at the ARL. No drums, tanks, or associated piping segments, which contained or were used in the storage or

transport of petroleum products or other chemicals, regardless of size or condition, will be disposed of, or accepted at the Central or Girdwood Transfer Stations.

B. Any drums, tanks, and associated piping, which contained or were used in the storage or transport of petroleum products or other chemicals, **MUST** be cleaned of all residual products prior to disposal in order to be accepted at the ARL.

C. All drums and tanks greater than 10 gallons in volume, **MUST** have both ends cut out and be crushed, or, if the volume is greater than 100 gallons, be cut into pieces with no single dimension greater than four (4) feet. Associated piping **MUST** be cut into pieces less than eight (8) feet in length.

VII. OTHER REQUIREMENTS:

A. Solid Waste Services Department points of contact are:

1. Contaminated Soils and Spill Residue questions, Tele - 343-6262, Fax 561-1357, e-mail wwsws@ci.anchorage.ak.us.
2. Disposal fees and billing procedure questions are to be referred to Customer Service, Tele - 343-6251, Fax 561-1357.
3. Anchorage Regional Landfill: Solid Waste Disposal General Foreman, Tele - 428-0864 or 428-1027, Fax 428-1697.

B. Failure to comply with these requirements will result in refusing the load. Solid Waste Services scalehouse attendants and operators have the authority to refuse loads at the ARL and the Central and Girdwood Transfer Stations.

C. All other requirements applicable for solid waste disposal - covered loads, hours, fees etc. – shall apply.

Municipality of Anchorage

Solid Waste Services

1111 East 56 th Avenue, 99518
P.O. Box 196650, Anchorage, AK 99519-6650
Telephone: (907) 343-6262
Fax: (907) 561-1357
Email: wwsws@ci.anchorage.ak.us

ARL Liquids Restriction Policy

The EPA Final Rule (10/09/91) on 40 CFR Part 258.28 on Liquid Restrictions reads:
§ 258.28 Liquids Restrictions.
(a) Bulk or noncontainerized liquid waste may not be placed in MSWLF units unless:
(1) The waste is household waste other than septic waste; or
(2) The waste is leachate or gas condensate derived from the MSWLF unit and the MSWLF unit, whether it is a new or existing MSWLF, or lateral expansion, is designed with a composite liner and leachate collection system as described in § 258.40(a)(2) of this part. The owner or operator must place the demonstration in the operating record and notify the State Director that it has been placed in the operating record.
(b) Containers holding liquid waste may not be placed in a MSWLF unit unless:
(1) The container is a small container similar in size to that normally found in household waste;
(2) The container is designed to hold liquids for use other than storage; or
(3) The waste is household waste.
(c) For purposes of this section:
(1) *Liquid waste* means any waste material that is determined to contain “free liquids” as defined by Method 9095 (Paint Filter Liquids Test), as described in “Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods” EPA Pub. No. SW-846).
(2) *Gas condensate* means the liquid generated as a result of gas recovery process(es) at the MSWLF unit.

The State of Alaska’s existing regulations 18 ACC 60.360 and 18 ACC 60.365 read:
18 AAC 60.360. Liquids Restrictions.
(a) Bulk or noncontainerized liquid waste may not be placed in an MSWLF unless the waste is:
(1) household waste other than septage; or
(2) leachate or gas condensate derived from the MSWLF, and the MSWLF is designed with a bottom liner that meets the standard set in 18 AAC 60.330(c).
(b) A container holding liquid waste may not be placed in an MSWLF unless the container holds one galllon of liquid or less.
18 AAC 60.365. Co-Disposal of Sewage Solids.
This regulation pertains to sewage. Check with Solid Waste Services.

SWS is often asked what liquids can and cannot be placed in ARL. The following is SWS’ policy.

- No liquid hazardous wastes will be accepted.
- No bulk liquids will be accepted.
- Liquids contained in small containers (one gallon or less) normally found in a household can be accepted.

For clarification check with SWS at (907) 343-6262
(Revised 03/05/98)

TAB F TO APPENDIX 18 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
MEDICAL WASTE DISPOSAL POLICY

Municipality of Anchorage

Solid Waste Services

1111 East 56 th Avenue, 99518
P.O. Box 196650, Anchorage, AK 99519-6650
Telephone: (907) 343-6262
Fax: (907) 561-1357
Email: wwsws@ci.anchorage.ak.us

MEDICAL WASTE DISPOSAL POLICY
EFFECTIVE DATE: January 31, 1991
REVISED DATE: January 31, 2001

I. AUTHORITY TO ESTABLISH DISPOSAL POLICY:
The authority by which the Solid Waste Services (SWS) Department establishes disposal policies and procedures and conducts disposal operations is contained within the Anchorage Municipal Code and the State of Alaska Department of Environmental Conservation's Solid Waste Management Regulations, 18 AAC 60, as amended through July 11, 1999.

II. PURPOSE:
The purpose of the **MEDICAL WASTE DISPOSAL POLICY** is to protect SWS' workers, the public and the environment from exposure to pathogens which could cause diseases. Indiscriminate disposal of infectious wastes in garbage may potentially expose refuse workers to diseases. Since package integrity cannot be ensured during collection and land filling, loss of containment may result in releasing infectious wastes into the environment, endangering the SWS' workers, the public and the environment itself.

III. APPLICABILITY:
This policy applies to any private or public medical, dental or veterinary clinic, office, facility, laboratory, hospital or service within the Municipality of Anchorage which generates, collects or processes medical waste with the intent of disposing the waste at the Anchorage Regional Landfill (ARL). Specific medical wastes generated from within the private home environment by the individual homeowner or by a commercial in-home health care service is addressed separately in Section VII of this policy. Ordinarily, waste material that is generated ONLY within the Municipality of Anchorage is accepted for disposal at the ARL. Medical waste material that has been generated outside of the Municipality of Anchorage, and processed within the Municipality, may on a case by case basis, and as determined by the Medical Waste Project Administrator (907-343-6262, Fax 907-561-1357, e-mail wwsws@ci.anhcorage.ak.us), be accepted at the ARL. It is requested that a processor who desires to process medical waste generated outside the Municipality of Anchorage with the intent to dispose of the processed waste in the ARL, contact SWS at the above number before proceeding.

IV. GENERAL POLICY:

Medical wastes shall not be disposed of at the ARL until they have been **EFFECTIVELY TREATE**D, that is, rendered biologically harmless in accordance with acceptable treatment practices as described in this policy or current industry standards and methods and the wastes do not pose other hazards subject to Municipal, State or Federal laws or regulations. Effectively treated medical wastes will be disposed of only at the ARL,
located at the Glenn Highway and Hiland Road. No medical waste, except that which is generated by the individual homeowner within the private home environment, will be accepted at the SWS' Central Transfer Station, located at 1111 East 56th Avenue in Anchorage, or the Girdwood Transfer Station, located on Ruane Road in Girdwood.

V. DEFINITION OF MEDICAL WASTE:

For the purpose of this policy, SWS embraces the definition of MEDICAL WASTE as defined in ADEC Solid Waste Management, 18 AAC 60, as amended through July 11,1999, page 111, definition number (78): " 'medical waste' means laboratory waste consisting of discarded cultures and stocks of infectious agents and associated microbiologicals; pathological wastes; selected isolation wastes; used and unused discarded sharps; animal waste; human blood, or blood products; and other wastes defined as 'regulated waste' in 29 C.F.R. 1910.1030(b), revised as of July 1, 1997."

A. ANIMAL WASTES: Discarded material originating from an animal inoculated with an infectious agent during research, production of biologicals, or pharmaceutical testing; includes the carcass, body parts, blood, and bedding of any animal known to have been in contact with an infectious agent [ADEC Solid Waste Management, 18 AAC 60, as amended through July 11, 1999, page 105, definition number (10)].

B. BLOOD AND BLOOD PRODUCTS: Discarded waste human blood and blood components, including serum and plasma, and materials containing free-flowing blood and blood components [ADEC Solid Waste Management, 18 AAC 60, as amended through July 11, 1999, page 106, definition number (23)].

C. CULTURES AND STOCKS: Discarded cultures and stocks of infectious agents and associated microbiologicals, including human and animal cell cultures from medical and pathological laboratories, cultures and stocks of infectious agents from research and industrial laboratories, waste from the production of biologicals, discarded live and attenuated vaccines, and culture dishes and devices used to transfer, inoculate, or mix cultures of infectious agents [ADEC Solid Waste Management, 18 AAC 60, as amended through July 11,1999, page 107, definition number (35)].

D. PATHOLOGICAL WASTES: Discarded pathological waste, including human tissues, organs, and body parts removed during surgery, autopsy, or other medical procedures [ADEC Solid Waste Management, 18 AAC 60, as amended through July 11,1999, page 112, definition number (93)].

E. SELECTED ISOLATION WASTE: Discarded waste material that is contaminated with excretions, exudates, and secretions from patients with highly communicable diseases, and that is treated in isolation, includes blood and blood components, and sharps [ADEC Solid Waste Management, 18 AAC 60, as amended through July 11,1999, page 115, definition number (123)].

F. SHARPS: Discarded implements or parts of equipment used in animal or human patient care, medical research, or industrial laboratories, including hypodermic needles; syringes, Pasteur pipettes, scalpel blades, blood vials, needles with attached tubing, broken or unbroken glassware that has been in contact with an infectious agent, slides, cover slips, and unused, discarded implements or parts of equipment [ADEC Solid Waste Management, 18 AAC 60, as amended through July 11,1999, page 116, definition number (127)].

VI. ACCEPTABLE TREATMENT METHODS OF MEDICAL WASTE:

An acceptable treatment method is any technique or process designed to change the biological character or composition of medical waste so that it is no longer infectious or otherwise biologically hazardous. The most commonly accepted treatment methods are incineration and active steam sterilization. Use of other treatment methods, including chemical disinfection, microwave radiation sterilization and thermal inactivation, are either quite specific or unique in their applications and as such will require case-by-case prior review and written approval by the SWS before such treated waste will be accepted for disposal at the ARL. Regardless of the method of sterilizing used, it is important for the treatment operator to be fully aware that successful sterilizing treatment requires a thorough understanding that conditions for sterilization vary with load type and operating conditions.

A. INCINERATION is the process of burning the medical waste at high temperatures in a controlled environment to convert the combustible materials to noncombustible residue or ash. Incinerators which are properly designed, constructed, maintained and operated can be used for processing all medical waste categories.

B. ACTIVE STEAM STERILIZATION is the process of subjecting medical wastes to the pressures and temperatures of saturated steam inside a pressure vessel (autoclave, retort or steam sterilizer). Temperatures are maintained at the manufacturer's designed levels and time, normally at 250 degrees F (121 degrees C) for a minimum of 90 minutes, in order to kill infectious pathogens in the waste. It is the generator's responsibility to ensure the sterilization process is operated according to accepted or manufacturer's procedures. The generator shall perform appropriate testing and records keeping to fully document effective sterilization has occurred. Solid Waste Services will **not** accept the use of active steam sterilization as a means of treating the following waste categories:

1. Pathological waste;
2. Blood, feces, urine and/or other body fluids in the free liquid state;
3. Chemical waste, including chemotherapeutic wastes; or
4. Hazardous wastes.

Active steam sterilization is an acceptable means of treating sharps, sharps containers, laboratory cultures and specimens and their containers, tubes, dishes and slides, **provided these items are rendered non- recognizable either through the process such as melt down of the item, or after being treated such as grinding of the item, but before disposal at the Anchorage Regional Landfill.** The methods of rendering these items non recognizable after having been sterilized can vary. For example, crushing and breaking the sterilized items in a compactor system, encasing the sterilized items within a hardened plaster or polymer resin mixture, processing the sterilized items through a grinding system or incineration are all acceptable methods of making these items non recognizable for disposal at the ARL. If the waste generator has other means of achieving this objective, SWS requests the generator submit documentation of the methodology for SWS review and approval prior to use for disposal.

C. APPROVED ALTERNATIVE TREATMENT METHOD FOR LIQUID BIOMEDICAL WASTE: PREMICIDE™ TREATMENT SYSTEM (PTS)

The use of the Premicide™ Treatment System (PTS) is approved for the treatment of liquid biomedical wastes only prior to disposal at the Anchorage Regional Landfill. This approval for use is contingent on the following:

1. Generators of liquid biomedical waste who intend to use the PTS for treatment of this particular waste will advise the Solid Waste Services Department in writing of their proposed use of the PTS.
2. This system is to be used for the on-site treatment of liquid biomedical wastes. It is not to be used to treat any non-liquid wastes, pathological wastes (recognizable human tissues), chemotherapy wastes, or radioactive wastes.

3. Free liquids must not be present in waste treated with the PTS. If free liquids are present after processing, the waste is considered to be untreated waste.
4. The liquid biomedical wastes treated with the PTS must be kept on-site for a minimum of 12 hours after treatment to achieve the appropriate Log-Kill prior to disposal at the Anchorage Regional Landfill.
5. The users of PTS for the treatment of will be prepared to produce, at the written request of the Solid Waste Services Department, Toxicity Characteristic Leaching Procedure (TCLP) analyses for primary metals, organics, acid extractables, base neutrals, pesticides, and herbicides. The costs for these analyses shall be borne by the PTS user. Liquid biomedical waste once treated with PTS become a solid and will be considered as solid waste. It should not be contained in “red” or “orange” bio-hazard bags and should not bear the bio-hazard symbol or otherwise be identified as bio-hazardous waste. It will, however, be disposed of ONLY at the ARL.

VI. PACKAGING OF TREATED MEDICAL WASTES FOR DISPOSAL:
A. The Alaska Department of Environmental Conservation Regulation, 18 AAC 60.030. MEDICAL WASTE., as amended through July 11, 1999, states "a person who disposes of a medical waste shall before disposal, (1) disinfect or sterilize, and then package it to prevent a health hazard;". No medical waste may be disposed of in the ARL unless the waste has been effectively treated, rendered noninfectious and properly packaged for disposal.
B. The residue or ash from incinerated medical waste shall be contained in leakproof, fully enclosed and tightly lidded or sealed containers. Loose residue and ash will not be accepted or disposed in the ARL. This restriction is to prevent ash from being blown about the landfill and to reduce the fire potential of disposing "hot" residue and ash.
C. The medical waste to be sterilized by active steam autoclaving shall be processed in opaque polyethylene disposable autoclave bags of a minimum 3 mil thickness. The bags shall have heat sensitive markings that change color when exposed to a sterilization temperature for a given time period. The markings will be easily and clearly discernible. Unless specifically approved for such use by the sterilization unit's manufacturer, compactors, grinders or similar devices may not be used to reduce the volume of medical waste before the waste is to be rendered noninfectious by steam sterilization. The use of these devices to reduce the volume of effectively treated waste is acceptable.
D. Effectively treated medical waste will be disposed of only at the ARL. No medical waste, except that which is generated from within the private home by the individual home owner, will be accepted at the Central or Girdwood Transfer Stations. The generator of the effectively treated medical waste is ultimately responsible for ensuring it will be disposed of at the ARL. The waste will be transported in a leak proof, tightly sealed, fully enclosed container; the container will **not** be taken to the Central or Girdwood Transfer Stations for off loading.

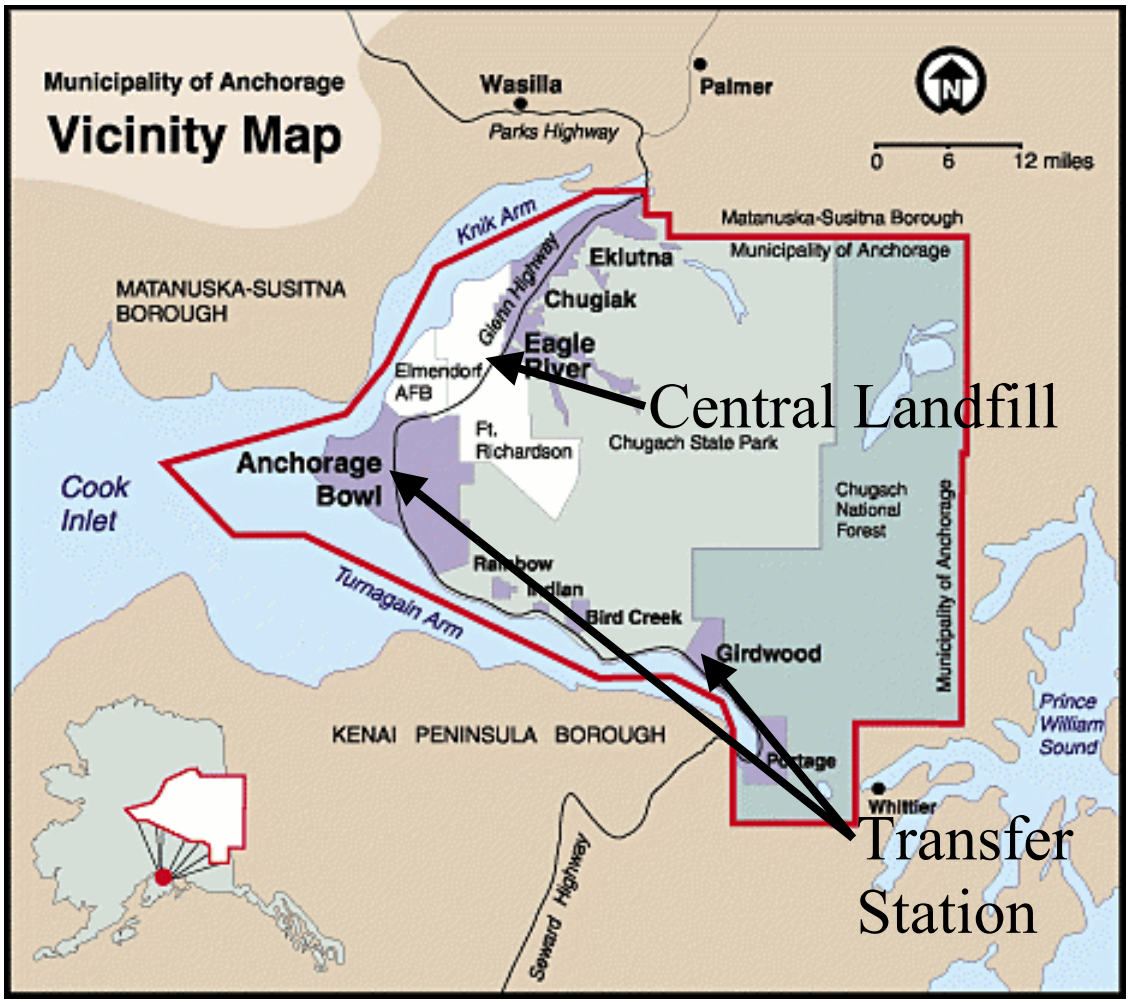
VII. MEDICAL WASTES GENERATED WITHIN THE PRIVATE HOME:
A. Medical wastes generated within the private home are not specifically addressed by the applicable regulatory agencies. It is not the intent of this policy to attempt to regulate **ALL** medical wastes generated from within the private home environment. The individual home owner or the assisted living support provider who generates in the home environment certain medical wastes is, however, responsible to ensure that waste is properly handled, containerized and, if required, effectively treated prior to disposal. The wastes of primary interest are sharps, such as lancets, syringes and needles used in the home to control diabetes, allergies or any other medical conditions; home care medical wastes associated with infectious diseases; and medical wastes generated from in-home health care which is provided by a commercial service.
B. Used and unused sharps discarded by the individual home owner should be disposed in an appropriate sharps container that is puncture resistant, leak proof and able to be tightly sealed

to prevent the sharps from spilling. Sharps collector containers suitable for home use are available from most medical supplies outlets in Anchorage. No sharps should be thrown directly into the household's garbage, they should first be properly containerized or effectively treated. Incineration services for this purpose are available to the Anchorage home owner. Information about these services is available from the person's private physician, the local telephone book, as well as the local and state health departments.
C. Medical wastes generated as a result of providing home care of persons with infectious diseases such as hepatitis B, hepatitis C or positive HIV should not be discarded into the household garbage. These wastes should be sealed in leak proof plastic containers and transported to an incineration service to be effectively treated. As with household generated sharps, incineration services for this purpose are also available to the Anchorage home owner.
D. Medical wastes generated through a commercial in-home health care service should not be discarded into the household garbage. The entity providing the in-home health care service is responsible for the effective treatment and proper disposal of any medical wastes generated from that service.

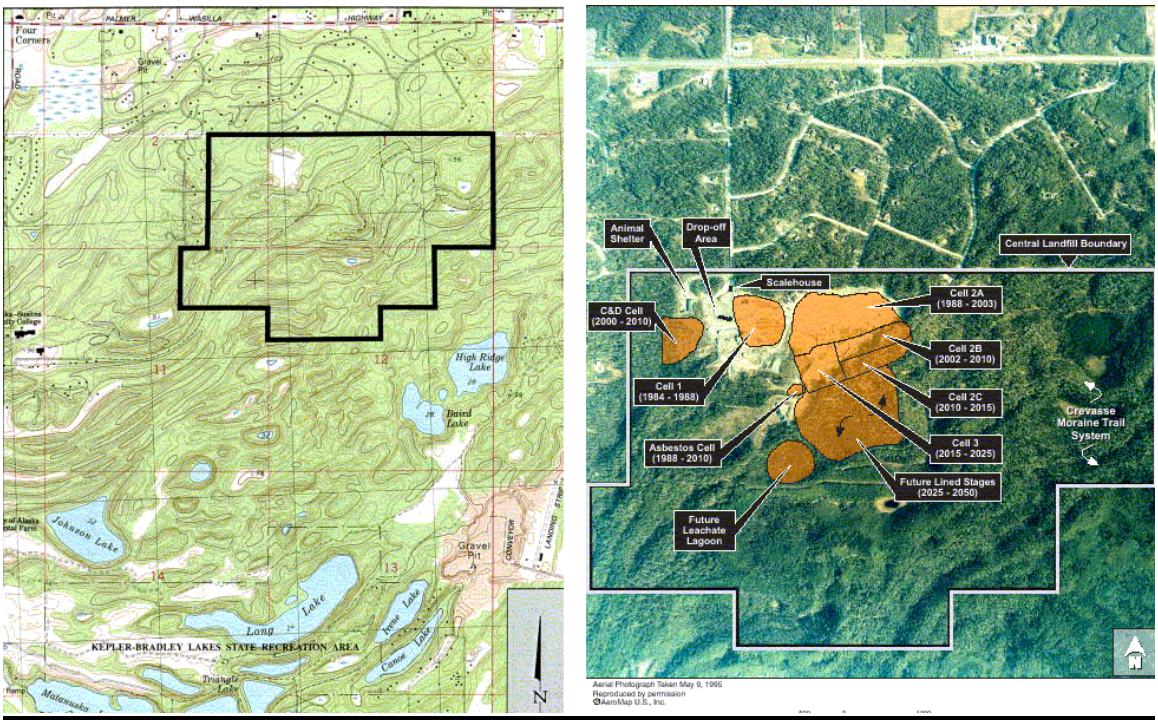
VIII. OTHER REQUIREMENTS:
A. Solid Waste Services Department points of contact are:
1. Solid Waste Services Administration Tel.:343-6262, FAX:561-1357, e-mail – wwsws@ci.anchorage.ak.us .
2. Disposal fees and billing procedures questions are to be referred to Customer Service - 343-6251.
3. Anchorage Regional Landfill General Foreman - 428-0864 or 428-1027, FAX 428-1697.
B. All other requirements applicable for solid waste disposal - covered loads, hours, fees, etc. – shall apply.

HEADQUARTERS, USAED PACIFIC OCEAN
FORT SHAFTER, HAWAII 96858-5440
■■ 2004

TAB G TO APPENDIX 18 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
MAPS



Municipality of Anchorage landfill and transfer station location map.



Matanuska-Susitna Borough landfill location map.

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FORT SHAFTER, HAWAII 96858-5440
■■ 2004

APPENDIX 19 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
OTHER CIVIL EMERGENCY MISSIONS

1. Scope: This appendix covers other missions that USACE might perform following a catastrophic earthquake in the Anchorage area. It includes

2. Federal Response Plan Missions

a. Ice: This is anticipated to be a minor mission, and would probably not require activation of a PRT. In the winter, there would be a small requirement for ice for medical supplies. In the summer, there would be a moderate demand for food preservation. However, due to the small population and the moderate temperatures (record high in Anchorage is 86 degrees F), demand is expected to be moderate. Storage is a consideration. In summer, cold storage facilities may not be available due to the loss of the electrical power. During the winter, occasional "Chinook Winds" will occur, with above-freezing temperatures.

b. Roofing: no anticipated need; this mission was designed for hurricane damages rather than earthquake damages.

c. PL 84-99 Missions.
PL 84-99 will be used primarily to support EOC operations. There are no flood control or coastal storm protection projects within the Municipality of Anchorage that would qualify for rehabilitation. Locally maintained: Flood control projects at Seward and Talkeetna, and a shore protection project at Homer, are not expected to have significant damage. A few small dams might qualify for Advance Measures; however, this must be based on the potential for flooding damage resulting from failure of the dam. (For example, Campbell Lake Dam is not eligible, as the downstream area consists of the tidal zone.)

d.

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■■ 2004

APPENDIX 20 TO ANNEX C TO ANCHORAGE EARTHQUAKE CDRP
SUPPORT TO REGULAR ALASKA DISTRICT CUSTOMERS

1. Civil Works/Operations & Maintenance

The Federally-maintained civil works projects in the Municipality of Anchorage are Anchorage Harbor and Cook Inlet Navigation Channel. Both are subject to impacts from either of the planning earthquakes. (Both are deep-draft projects that support the main ocean supply route to Anchorage.)

Ninilchik and Seward Small Boat Harbors could receive some damage from the projected 8.0 subduction earthquake; Homer is farther away and is not expected to have significant damage.

Projects under construction (both O&M, General and Construction General) outside the disaster area will normally continue, but have the potential for changed conditions claims. Administration will initially transfer from Southern Area Office to Northern Area Office.

2. Regulatory: see Appendix L Annex 3

3. Military Construction:

(a) Support to military customers will be accomplished through the basic district structure (e.g., PPMD will have the responsibility for coordination with customers and management through the project cycle. However, POF will provide these services while POA is in the reconstitution mode.

(b) Generally, only customer coordination and construction quality assurance need to actually be accomplished within Alaska. Other functions should be accomplished under reachback, whenever practical, to reduce costs and to minimize the Federal force that will need to be supported within the impacted area.

(c) Activities will be under the oversight of the ERRO, and will need to be coordinated with the overall Federal effort. Because of the resource and transportation limitations, the PFO may require that certain activites be postponed to allow for higher priority activities.

4. Work for Others

(a) Support to customers outside of DoD will be accomplished through the basic district structure (e.g., PPMD will have the responsibility for coordination with customers and management through the project cycle. However, POH will provide these services while POA is in the reconstitution mode.

(b) Generally, only customer coordination and construction quality assurance need to actually be accomplished within Alaska. Other functions should be accomplished under reachback, whenever practical, to reduce costs and to minimize the Federal force that will need to be supported within the impacted area.

(c) Activities will be under the oversight of the ERRO, and will need to be coordinated with the overall Federal effort. Because of the resource and transportation limitations, the PFO may require that certain activites be postponed to allow for higher priority activities.