Chapter 7—Logistics

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Chapter 7

Logistics

INTRODUCTION

The State of Florida Unified Logistics Plan represents the collective efforts of the Florida Division of Emergency Management and the State Emergency Response Team. The Unified Logistics Plan is compliant with the National Incident Management System (NIMS) and the National Response Plan. In its design, the Unified Logistics Plan:

- Is comprised of a Base Plan, with supporting Annexes;
- Eliminates duplication of information through the use of a consistent format and structure;
- Ensures the Base Plan incorporates the Regional Domestic Security Multi-Agency Coordination Groups and the Disaster Recovery Center Plan.

The Unified Logistics Plan provides a single-source document that includes plans, procedures, and supporting documentation needed to ensure the State of Florida maintains a strong and viable logistics capability. Additional details can be found there.

Requesting Resources through the State
Requests are channeled through the County EOC to the State EOC for support of assets or personnel. Once the State has established a State Logistics Staging Area (LSA), agencies may draw from these based on how the operation has been structured. If the State has established specific Areas of Responsibility, and tasked a Team to support the incident, the County may then request resources

through the State Management Team (SMT) to the LSA. If an SMT has not been established, resource requests continue to be coordinated through the State EOC from the County EOC.

Position Checklists

Logistics Section Chief: The Logistics Section Chief, a member of the General Staff, is responsible for providing facilities, services, and material in support of the incident. The Section Chief participates in development and implementation of the Incident Action Plan, activates, and supervises the Branches and Units within the Logistics Section and is responsible to:

   a. Review Common Responsibilities (page 2-18).
   b. Plan organization of Logistics Section.
   c. Assign work locations and preliminary work tasks to Section personnel.

Service Branch Director: The Service Branch Director, when activated, is under the supervision of the Logistics Section Chief, and is responsible for the management of all service activities at the incident. The Branch Director supervises the operations of the Communications, Medical, and Food Units and shall also:

   a. Review Common Responsibilities (page 2-18).
   b. Obtain working materials.
   c. Determine level of service required to support operations.

Communications Unit Leader (COM-L): A key staff member under the direction of the Service Branch Director or Logistics Section Chief, responsible for developing plans for the effective use of incident communications equipment and facilities; installing and testing communications equipment; supervision of the Incident

Communications Center; distribution of communications equipment to incident personnel; and the maintenance and repair of communications equipment. The COM-L shall:

a. Review Common Responsibilities (page 2-18).
b. Review Unit Leader Responsibilities (page 2-20).
c. Determine unit personnel needs.
d. Prepare and implement the Incident Radio Communications Plan (ICS Form 205).
e. Ensure the Incident Communications Center and Message Center are established

Incident Dispatcher: The Incident Dispatcher (including Incident Communications Manager) is responsible for receiving and transmitting radio and telephone messages among and between personnel and to provide dispatch services at the incident, and:

a. Review Common Responsibilities (page 2-18).
b. Ensure adequate staffing (Incident Communications Manager).
c. Obtain and review Incident Action Plan to determine incident organization and Incident Radio Communications Plan.
d. Set up Incident Radio Communications Center - check out equipment.

Medical Unit Leader: The Medical Unit Leader, under the direction of the Service Branch Director or Logistics Section Chief, is primarily responsible for the development of the Medical Plan, obtaining medical aid and transportation for injured and ill incident personnel, and preparation of reports and records. Other duties include:

a. Review Common Responsibilities (page 2-18).
b. Review Unit Leader Responsibilities (page 2-20).

    c. Participate in Logistics Section/Service Branch planning activities.
    d. Establish Medical Unit.
    e. Prepare the Medical Plan (ICS Form 206).
    f. Prepare procedures for major medical emergency.
    g. Declare major medical emergency as appropriate.
    h. Respond to requests for medical aid, medical transportation, and medical supplies.

Responder Rehabilitation Manager: The Rehabilitation Manager reports to the Medical Unit Leader and is responsible for the rehabilitation of incident personnel who are suffering from the effects of strenuous work and/or extreme conditions, and:

    a. Review Common Responsibilities (page 2-18).
    b. Designate responder rehabilitation location and have location announced on radio with radio designation "Rehab."
    c. Request necessary medical personnel to evaluate medical condition of personnel being rehabilitated.

Food Unit Leader: The Food Unit Leader is responsible for supplying the food needs for the entire incident, including all remote locations (e.g., Camps, Staging Areas), as well as providing food for personnel unable to leave tactical field assignments. Duties include:

    a. Review Common Responsibilities (page 2-18).
    b. Review Unit Leader Responsibilities (page 2-20).
    c. Determine food and water requirements.
    d. Determine method of feeding to best fit each facility or situation.
    e. Obtain necessary equipment and supplies and establish cooking facilities.

Support Branch Director: The Support Branch Director, when activated, is under the direction of the Logistics Section Chief, and is responsible for development and implementation of logistics plans in support of the Incident Action Plan. The Support Branch Director supervises the operations of the Supply, Facilities, and Ground Support Units,, and shall also:

    a. Review Common Responsibilities (page 2-18).
    b. Obtain work materials.
    c. Identify Support Branch personnel dispatched to the incident.
    d. Determine initial support operations in coordination with the Logistics Section Chief and Service Branch Director.

Supply Unit Leader: The Supply Unit Leader is primarily responsible for ordering personnel, equipment, and supplies; receiving, and storing all supplies for the incident; maintaining an inventory of supplies; and servicing non-expendable supplies and equipment, as well as:

    a. Review Common Responsibilities (page 2-18).
    b. Review Unit Leader Responsibilities (page 2-20).
    c. Participate in Logistics Section/Support Branch planning activities.
    d. Determine the type and amount of supplies en route.
    e. Review Incident Action Plan for information on operations of the Supply Unit.

Ordering Manager: The Ordering Manager is responsible for placing all orders for supplies and equipment for the incident. The Ordering Manager reports to the Supply Unit Manager. Duties include:

a. Review Common Responsibilities (page 2-18).
b. Obtain necessary agency(s) order forms.
c. Establish ordering procedures.
d. Establish name and telephone numbers of agency(s) personnel receiving orders.
e. Set up filing system.
f. Get names of incident personnel who have ordering authority.
g. Check on what has already been ordered.

Receiving & Distribution Manager: The Receiving & Distribution Manager is responsible for receiving and distribution of all supplies and equipment (other than primary resources) and the service and repair of tools and equipment. The Receiving & Distribution Manager reports to the Supply Unit Leader. Duties include:

a. Review Common Responsibilities (page 2-18).
b. Order required personnel to operate supply area.
c. Organize physical layout of supply area.
d. Establish procedures for operating supply area.
e. Set up filing system for receiving and distribution of supplies and equipment.

Facilities Unit Leader: The Facilities Unit Leader is primarily responsible for the layout and activation of incident facilities, e.g., Base, Camp(s) and Incident Command Post. The Unit provides sleeping and sanitation facilities for incident personnel and manages Base and Camp(s) operations. Each facility (Base, Camp) is assigned a manager who reports to the Facilities Unit Leader and is responsible for managing the operation of the facility. The basic functions or activities of the Base and Camp Managers are to provide security service, and general maintenance. The Facility Unit Leader reports to the Support Branch Director and shall:

a. Review Common Responsibilities (page 2-18).
b. Review Unit Leader Responsibilities (page 2-20).
c. Receive a copy of the Incident Action Plan.
d. Participate in Logistics Section/Support Branch planning activities.
e. Determine requirements for each facility.
f. Prepare layouts of incident facilities.
g. Notify unit leaders of facility layout.
h. Activate incident facilities.
i. Provide Base and Camp Managers.
j. Provide sleeping facilities.
k. Provide security services.
l. Provide facility maintenance services-sanitation, lighting, clean up.

Facility Maintenance Specialist: The Facility Maintenance Specialist is responsible to ensure that proper sleeping and sanitation facilities are maintained; to provide shower facilities; to provide and maintain lights and other electrical equipment; and to maintain the Base, Camp and Incident Command Post facilities in a clean and orderly manner. Duties include:

a. Review Common Responsibilities (page 2-18).
b. Request required maintenance support personnel and assign duties.
c. Obtain supplies, tools, and equipment.
d. Ensure all facilities are maintained in a safe condition.

Security Manager: The Security Manager is responsible to provide safeguards needed to protect personnel and property from loss or damage. Duties include:

a. Review Common Responsibilities (page 2-18).

b. Establish contacts with local law enforcement agencies as required.
c. Contact the Resource Use Specialist for crews or Agency Representatives to discuss any special custodial requirements, which may affect operations.
d. Request required personnel support to accomplish work assignments.
e. Ensure support personnel are qualified to manage security problems.
f. Develop Security Plan for incident facilities.

Base Manager: The Base Manager is responsible to ensure that appropriate sanitation, security, and facility management services are conducted at the Base. The Base Manager duties include:

a. Review Common Responsibilities (page 2-18).
b. Determine personnel support requirements.
c. Obtain necessary equipment and supplies.
d. Ensure all facilities and equipment are set up and properly functioning.
e. Supervise the establishment of:
    •   Sanitation facilities (including showers).
    •   Sleeping facilities.
f. Make sleeping area assignments.
g. Ensure strict compliance of all applicable safety regulations.
h. Ensure all facility maintenance services are provided.

Camp Manager: On large incidents, one or more camps may be established by the General Staff to provide better support to operations. Camps may be in place for several days or may be moved depending upon the nature of the incident. Functional unit activities performed at the ICS Base may be performed at the Camp(s). These could include: Supply, Medical, Ground Support,

Food, Communications and Finance/Administration as well as the Facilities Unit functions of facility maintenance and security. Camp Managers are responsible to provide non-technical coordination for all units operating within the Camp. Units assigned to Camps will be determined by the ICS General Staff. Personnel requirements for units at Camps will be determined by the parent unit based on kind and size of incident and expected duration of Camp operations. Duties include:

   a. Review Common Responsibilities (page 2-18).
   b. Determine personnel support requirements.
   c. Obtain necessary equipment and supplies.
   d. Ensure all sanitation, shower, and sleeping facilities are set up and properly functioning.
   e. Make sleeping arrangements.
   f. Provide direct supervision for all facility maintenance and security services at Camp.
   g. Ensure strict compliance of all applicable safety regulations.

Ground Support Unit Leader: The Ground Support Unit Leader is primarily responsible for 1) support out-of-service resources 2) transportation of personnel, supplies, food, and equipment 3) fueling, service, maintenance, and repair of vehicles and other ground support equipment and 4) implementing a Traffic Plan for the incident. Other duties include:

   a. Review Common Responsibilities (page 2-18).
   b. Review Unit Leader Responsibilities (page 2-20).
   c. Participate in Support Branch/Logistics Section planning activities.
   d. Develop and implement a Traffic Plan.
   e. Support out-of-service resources.

f.   Notify Resources Unit of all status changes on support and transportation vehicles.

g.   Arrange for and activate fueling, maintenance, and repair of ground resources.

h.   Maintain inventory of support and transportation vehicles (ICS Form 218).

Equipment Manager: The Equipment Manager provides service, repair, and fuel for all apparatus and equipment; provides transportation and support vehicle services; and maintains records of equipment use and service provided. Other duties include:

a.   Review Common Responsibilities (page 2-18).

b.   Obtain Incident Action Plan to determine locations for assigned resources, Staging Area locations, and fueling and service requirements for all resources.

c.   Obtain necessary equipment and supplies.

d.   Provide maintenance and fueling according to schedule.

e.   Prepare schedules to maximize use of available transportation.

f.   Provide transportation and support vehicles for incident use.

g.   Coordinate with Agency Representatives on service and repair policies as required.

h.   Determine supplies (e.g., gasoline, diesel, oil and parts needed to maintain equipment in efficient operating condition), and place orders with Supply Unit.

State Unified Logistics Section
(State Emergency Operations Center and
State Logistics Response Center)

The purpose of the Unified Logistics Section is to work collectively to address critical logistics issues and actions that require multi-agency efforts and response. The Unified Logistics Section is responsible for the coordination and collaboration of all levels of logistics support to an event. It includes local, state, federal, and non-profit agencies as well as the commercial sector. Unified Logistics is managed at two levels; the State Emergency Operations Center (EOC) in Tallahassee, Florida and the State Logistics Response Center (SLRC) in Orlando, Florida. Logistics at the State EOC is responsible for major purchasing, mission management and policy issues. The SLRC in Orlando is responsible for the management of all field operations sites, fulfillment of all missions, multi-modal transportation management and total asset visibility tracking, and field support and maintenance.

The composition of the State Unified Logistics Section is staffed by multiple agencies working together to address the entire event and all aspects of logistics support at all levels. This has been reflected in updates to the *State Comprehensive Emergency Management Plan* (CEMP), under the State Logistics Plan.

At the State EOC Level, there are four Branches – Service Branch, Support Branch, Emergency Management Assistance Compact (EMAC) and In-state Mutual Aid, and Information Technology and Communications.

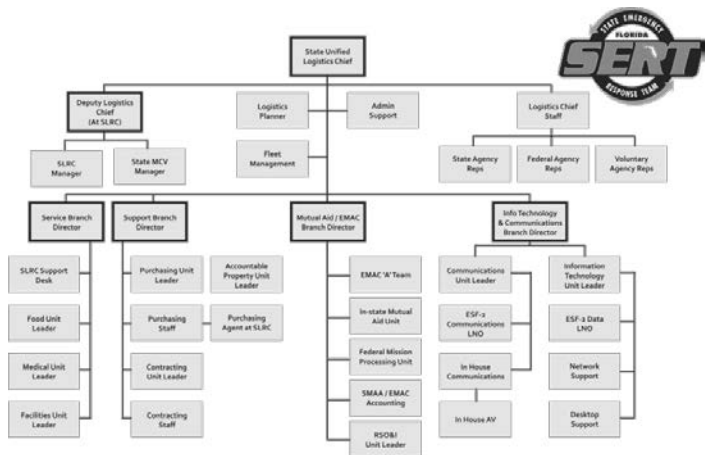**Figure 10 – State EOC Logistics Section
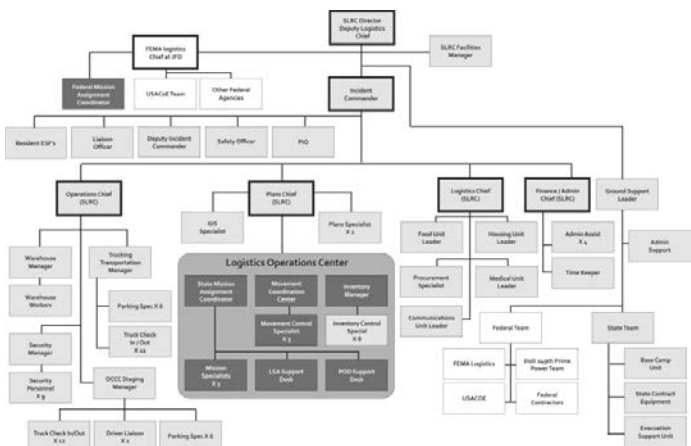Organizational Structure Overview**

**Figure 9 – State Logistics Response Center
Organizational Structure Overview**

Refer to the State Unified Logistics plan for individual charts depicting each Branch organized under the State Logistics Section

Field Logistics Organization and Sites

The State Unified Logistics Section establishes and supports the following sites during emergencies. All field sites are under the management and support of the State Logistics Response Center (SLRC) in Orlando, Florida

State Mobilization Areas

One or more assembly sites are established out of the potential impact area(s), typically prior to an event, such as a hurricane or other advance warning event, for the purpose of receiving resources from various sources such as water, ice, food, generators, pumps, forklifts and other Material Handling Equipment (MHE), light trailers and cranes. In addition, resources such as personnel, structured teams, and task forces such as Urban Search and Rescue (USAR), firefighting, Disaster Medical Assistance Team (DMAT), National Guard and others may also be staged at these sites.

These sites are typically open areas such as farmers markets, fair grounds or other large parking areas. Staffing is minimal, typically tasked by the State with a Type III Incident Management Team (IMT). Resources are checked in and staged. Convoys are formed and readied for deployment post event.

Once the event has occurred, such as a hurricane making landfall, these resources are then forwarded under a State law enforcement escorted convoy plan to forward sites such as State Logistics

Staging Areas, Forward Operations Bases, and Base Camps or directly to affected/impacted counties and locations. Joint Reception Staging & Onward Integration Centers (JROSI) Operations may be incorporated into State Mobilization Areas.

Joint Reception, Staging and Onward Integration (JRSOI) Sites
The JRSOI Operational Plan (OPLAN) establishes and provides the concept of operations and responsibilities for the Florida National Guard (FLNG) and other support agencies to JOINTLY RECEIVE, STAGE, ONWARD MOVE, and INTEGRATE (JRSOI) military and civilian support from inside or outside the State in order to rapidly and properly integrate them into the State's emergency response operation. State Mobilization Areas will be used to run JROSI operations.

The Florida National Guard (FLNG) JRSOI OPLAN is a supporting document to the Florida Division of Emergency Management's (FDEM) overall JRSOI plan and defines either how the FLNG will execute the JRSOI mission unilaterally or if tasked by FDEM to run a combined operation for the State.

State Logistics Staging Areas (LSA)
Three types of State and one County Logistics Staging Areas exist. Cross-docking is no longer conducted at State LSA's since the opening of the SLRC in Orlando. The SLRC, with 27 loading docks will cross-dock any shipments requiring immediate off-loading and reload the resource onto state contracted trailers. In addition, many commodities such as bottled water, ice, meals etc. will be dropped and swapped from the SLRC at LSA's. Each LSA will have a fleet of 25 – 50 tractors to then drop and swap trailers to field locations as required.

Type I State LSA: The largest site located on a facility that supports both fixed and rotor wing aviation assets. The site must support 300–400 semi tractor-trailer units, and at least 20,000 square feet of office space. Each LSA operates within an established Area of Responsibility (AOR) as designated by the State EOC to support the overall response for all agencies. Shipments from LSA's are typically direct to the points of end use such as county Points of Distribution (POD), shelters, critical facilities, Base Camps etc.

These sites include civil or military airports or fields, and are mission tasked by the State by a combination of Florida Forest Service, FL National Guard, and ESF's from 2, 4, 6, 8, and 11. Multiple sites will be established based on the required AOR's for the event. *(Refer to Helicopter Landing Zone specifications below – LSA's require at least two Landing Zones)*

Type I-A: Mission specific site that supports the Center for Disease Control, Strategic National Stockpile program. The site supports both fixed (Cargo 747), and rotor wing aviation assets. The site must have 20,000 square feet of office space that includes 10,000 square feet of air-conditioned warehouse space established as a high security inner perimeter, within an overall secure Logistics Staging Area. The site also supports the overall operation to include typical LSA resources, and shares common resources such as multi-modal transportation, mission tracking, MHE, communications and life safety and support.

These sites include civil or military airports or fields. Primary responsibility for the management for the SNS Package is that of ESF-8, State Health Department, supported by a typical LSA staffing by Florida Forest Service, Florida National Guard, and ESF's

from 2, 4, 6, 8, and 11 as required. *(Refer to Helicopter Landing Zone specifications below – LSA's require at least two Landing Zones)*

Type II: Similar to a Type I site except supports only rotor wing aviation assets; must be able to support 200-300 semi tractor-trailer units, and at least 80,000 square feet of warehouse space. Staffing and function remain the same as a Type I LSA. *(Refer to Helicopter Landing Zone specifications below – LSA's require at least two Landing Zones)*

Type III: This is referred to as a County Staging Area, or CSA. Counties may opt to establish these for purposes of supporting local operations such as County Point of Distribution, local shelters etc. or for smaller disaster operations. *(Refer to Helicopter Landing Zone specifications below – County LSA's require at least 1 Landing Zone)*

Forward Operations Bases (FOB)
FOB's may be established by the State to stage specialty teams preparing to deploy into an impact area. These can include USaR, RMAT/DMAT, RECON, FEMORS/DEMORS. Teams must be self-sufficient, and the site requires minimal support requirements outside of possibly a Type III IMT for check-in. *(Refer to Helicopter Landing Zone specifications below – LSA's require at least 2 Landing Zones)*

Helicopter Landing Zone (LZ) Planning:
Site Selection And Landing Points – The site incident commander or facility managers, in coordination with the Air Operations Branch Director and supporting aviation unit, selects the location of helicopter LZs that support the ground tactical plan.

Requirements – Minimum landing space requirements and minimum distance between helicopters on the ground depends upon a number of variables. These requirements are covered by aviation unit SOPs or they are prearranged by the aviation unit commander in coordination with the pathfinder leader. The final decision concerning minimum landing requirements rests with the Air Operations Branch Director. In selecting helicopter-landing sites from maps, aerial photographs, and actual ground or aerial reconnaissance, the Incident Commander considers the following factors.

a. **Number of Helicopters.** An important factor is the number of helicopters required to land at one time at one site to accomplish the mission. It may be necessary to provide another landing site(s) nearby or to land helicopters in successive lifts at the same site.

b. **Landing Formations.** When they can, helicopters should land in the same formation in which they are flying. However, planned formations may require modification for helicopters to land in restrictive areas.

c. **Surface Conditions.** Surfaces must be firm enough to prevent helicopters from bogging down, creating excessive dust, or blowing snow. Rotor wash on dirt, sand, or snow-covered surfaces may obscure the ground and should be avoided, especially at night. Remove from landing points debris that could damage the rotor blades or turbine engine(s).

d. **Ground Slope.** The ground should be relatively level and the slope should not exceed 7 degrees if the helicopter is to land safely. However, observation and utility helicopters can terminate at a hover over ground slopes exceeding 7 degrees to load or to off-load personnel or supplies. Large

utility and cargo helicopters can also land on terrain with a slope ranging from 0 degrees to 7 degrees. From a 7- to 15-degree slope, direct pilots to hover, as appropriate. Make landings upslope whenever possible and avoid landing down slope.

NOTE: To determine slope in percentage or degrees, all measurements may be expressed in feet or meters. If the elevation on the map sheet is expressed in meters, convert meters into feet by multiplying by three. If in feet, convert to meters by dividing by three.

e. **Approach and Departure Directions.** The direction of landing should be over the lowest obstacles and generally into the wind, especially at night. However, if there is only one satisfactory approach direction, or if it is desired to make maximum use of the available landing area, most helicopters can land with a crosswind of 6 to 9 knots or a tailwind of 0 to 5 knots. For wind stronger than 9 knots, the pilot lands into the wind. The same considerations apply to departures from landing sites.

f. **Prevailing Wind.** Consideration of approach and or departure routes is more important than that of prevailing wind unless a crosswind velocity exceeds 9 knots. The ability to land crosswind or downwind depends on the type of helicopter. Small helicopters can accept less crosswind or tailwind than larger, more powerful helicopters.

g. **Density Altitude.** Density altitude is determined by altitude, temperature, and humidity. For planning, as density altitude increases, the size of the LZ must also be increased because high, hot, and humid conditions decrease the lift capabilities of helicopters using that site.

h. **Loads.** Most helicopters cannot climb or descend vertically when fully loaded. Therefore, a large area and better approach/departure routes are required for fully loaded helicopters than for empty or lightly loaded ones.

i. **Obstacles.** Landing zones should be free of tall trees, power lines, and similar obstructions on the approach/departure ends of the landing site. Obstacles within the landing site, such as rocks, stumps, holes, and thick grass or brush (over 0.45 meter or 18 inches), must be removed. For planning, an obstacle ratio of 10 to 1 should be used; that is, a landing point requires 100 feet of horizontal clearance from a 10-foot tree if helicopters must approach or depart directly over the tree.

NOTE: The Air Operations Branch Director makes the final decision on minimum landing requirements based on the effects of air density, slope, and surface conditions. These requirements should be available in oral instructions during early mission planning.

Emergency Worker Base Camps

The State will establish one or more Emergency Worker Base Camps contiguous to an event site in support of emergency responders when there are inadequate hotel and food service establishments in the immediate area to support a large force. The other condition would be if sending in a large number of responders would displace disaster clients from available hotel space, resulting in a prolonged mass sheltering requirement. Base Camps are established for ALL emergency responders on the incident. These include local, state, and voluntary agencies. Federal Base Camps would be established for federal workers.

Camps are established for a minimum of 30-days due to the high cost and can take from 73 – 120 hours to establish. Base Camps are not established by the State for profit-based corporations such as utility companies, debris contractors, or roofing contractors who have the ability to contract for services on their own.

Base Camps require 25 – 60 acres of open land and are typed as:

- Type I = 1000 persons
- Type II = 750 persons
- Type III = 500 persons
- Type IV = 250 persons.

Services provided include billeting, food services, laundry, showers and restrooms, and morale and welfare services. The United States Forest Service (USFS) menu plan is used for food services. Camps are configured either as CONEX (Container Express) living and support units, or floored air conditioned long span structures with privacy curtains. Once ordered, 96-hours are required to establish a camp for 500 or more persons. *(Refer to Helicopter Landing Zone specifications above. – Base Camps require at least one Landing Zone)*

Figure 11 – Sample Base Camp Layout
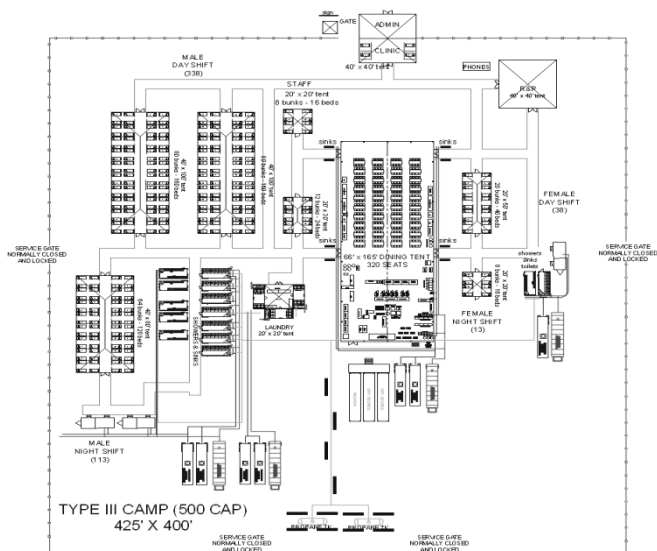
Catastrophic Client Shelter Encampments

The State, working with affected counties, may decide to establish Catastrophic Client Shelter Encampments (CCSE) for the general public in cases where inadequate public shelter space is available, clients cannot be evacuated out of the area to areas with shelters, and long term sheltering of at least 6 months or longer is anticipated.

The requirements for these encampments are very similar to an Emergency Worker base Camp, except housing is redesigned to accommodate privacy for family units. CCSE's also have additional services for case work, social services, religious services, sundries

stores and general meeting areas that are typically not provided on an Emergency Worker Base Camp.

CCSE's can also be constructed by retrofitting existing vacant warehouse buildings into individual apartment style units.

County Points of Distribution

County Points of Distribution or POD's are locations where the general public may access government resources after an event. POD's are referred to in two plans. The first is in a typical major disaster where the public requires essential resources such as water, ice, food and other items in bulk quantities. In these cases, vehicles drive through without persons getting out of their vehicles, while workers load bulk commodities in the trunks of their vehicles.

The second reference to POD's is in the Strategic National Stockpile Plan. POD's in these cases remain points where the public may receive event specific antidotes due to the potential exposure to a chemical or biological event, or in cases of pandemic events where inoculations may be required.

Figure 12 – Type I Distribution Point

TYPE I - DISTRIBUTION POINT
Serves 20,000 persons per day
560 vehicles per hour

Note: Individual vehicles drive through and Ice & water is loaded into their trunks. Recommend One case water, 2 or 3 bags of ice per vehicle and 6 MRE's.

Supply trucks for Ice, Water, MRE's and Tarps are to be off-loaded promptly and returned for re-supply.
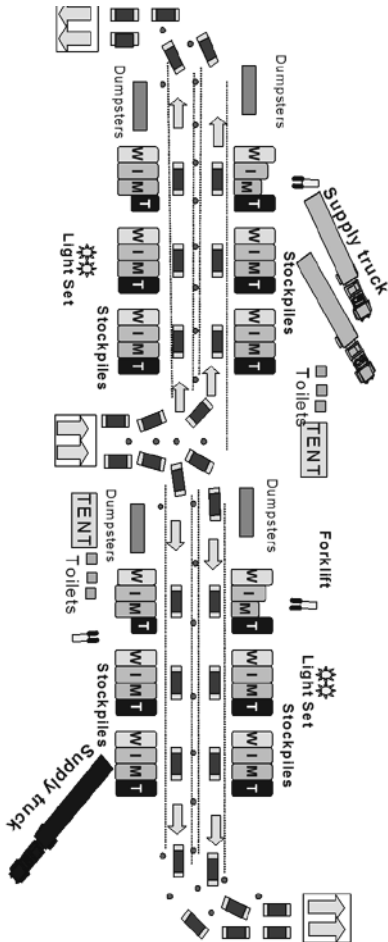
Figure 3

Maximum Loads per Day – Type I

Water	4
Ice	4
MRE	2
Tarp	2

7-101
LOGISTICS

600,000 Person Projection Models

Water:
- 4 liters or 1 gal per person (3.79 liters per gal)
- 18,000 liters or 4,750 gal per truck
- 20 Pallets per Truck, 900 liters per Pallet, 237 gal per Pallet, 1900 # per pallet
- 212 Trucks = 1 Million Gal (1 Million persons) (1½ Day Supply)

Ice:
- 8# (1bag) per person per day
- 40,000 # per Truck Load
- 20 Pallets per Truck, 2000# per Pallet, 250 - 8# bags per pallet, 5,000 Bags per Truck
- 25 Trucks = 1 million #
- 200 Trucks = 1 Million Persons (1½ Day Supply)

Shelf Stable Foods:
- 2 MRE's per person per day
- 21,744 MRE's per truck load
- 20 Pallets per truck
- 12 MRE's per case, 1812 cases per truck
- 92 truckloads = 2 million MRE's = 1 Million Persons (1½ Day Supply)

Tarps:
- 4,400 tarps per truck load
- Tarp size is generally 20' x 25' or 20' X 40'

Distribution Sites
Based on experience, a well-planned and operated distribution point with one lane of traffic and three loading points can service 145 cars per hour. Based on a 12-hour workday, about 1,700 vehicles or 1,700 x 3 = 5,100 people can be served.