

Emergency Support Function #3 – Public Works & Engineering

ESF Coordinators:

Tucson Department of Transportation
Environmental Services Department

Support Agencies:

Finance Department
Central Safety/Risk Management
Planning & Development Services Dept.
Tucson Fire Department
General Services Department
Parks & Recreation Department
Tucson Police Department
Procurement Department
City Attorney's Office
Southwest Gas
Tucson Electric Power
Pima County Dept. of Transportation
Pima County Wastewater Management

Primary Agencies:

Tucson Department of Transportation
Environmental Services Department
Tucson Water

Purpose

The purpose of ESF #3 - is to coordinate public works activities necessary to support an emergency response or recovery effort or other disaster assistance initiative. This ESF is responsible for coordinating the collection and disposal of debris after an Incident of Local or Regional Significance. Additionally, ESF #3 articulates the roles and responsibilities relating to restoration and continuity of water services, wastewater treatment, and solid waste management.

Scope

ESF #3 is designed to provide public works and engineering support to assist in incident management. This support may include providing engineering, construction management, and building inspection services; providing contracting services; and performing real estate services.

Situation

Emergency/Disaster Conditions and Hazards

The City of Tucson may experience emergency and disaster situations that will require restoration of essential public services. Potential emergencies and disasters include both natural and technological events. See the Pima County Hazard Mitigation Plan (HMP) – draft version submitted on October 31, 2005 - for a description of potential disaster conditions.

Disasters may cause unprecedented property damage. Structures may be destroyed or severely weakened. Homes, public buildings, bridges and other facilities may have to be reinforced or demolished to ensure safety. Debris may make streets and highways impassable. Public utilities may be damaged and may be partially or fully inoperable. Equipment in the immediate disaster area may be damaged or inaccessible. Sufficient local resources may not be available to meet emergency requirements.

Assistance may be needed to clear debris, do damage assessment and structural evaluations, make emergency repairs to essential public facilities, reduce hazards by stabilizing or demolishing structures, and provide water for human health needs and firefighting.

Planning Assumptions

- Local public infrastructure will sustain damage. Disaster response and recovery activities may be difficult to coordinate.
- Access to the event area will be dependent upon the establishment of ground and air routes. In some locations, debris clearance and emergency road repairs may be given top priority to support immediate life saving emergency response activities. Activities related to emergency road repairs and closures caused by debris, are addressed in ESF #1 - Transportation.
- Rapid assessment of the event area will be made to determine critical response issues and emergency response priorities.
- Response will be coordinated from the City and/or Pima County Emergency Operations Center (EOC). Information will be gathered and compiled, and strategic emergency assistance will be coordinated at the EOC.
- Previously inspected structures may require re-evaluation if subsequent events occur after the initial event, or if the results of the initial inspection are inconclusive.
- Normal means of communication may not be available and repairs to communication networks could take days, weeks, or months. In those situations, non-traditional means of communication must be established and utilized. See ESF #2 - Communications.
- Because government agencies may be overwhelmed by a disaster, on duty employees may be on their own for the first hours or even days after an event. Individual Departments will support the efforts of employees to communicate with their families and return home as needed.
- The extent of damage to the public infrastructure of the affected area, in addition to the condition of the transportation network in the area, will influence the strategy for assessment, restoration operations, and will influence the strategy developed by the debris management team.

- Debris may include trees, rocks, dirt and sand, building materials, metal, garbage and sewage, damaged vehicles, various hazardous materials, tires, and personal property.
- Following disasters that result in significant debris, pre-existing disposal sites likely will not represent effective debris management solutions because of capacity limitations and continuous, regular solid waste management operations.
- Unattended and long-standing debris may pose safety and health threats to the public.
- Emergency environmental waivers and legal clearances will be needed for disposal of materials from debris clearance and demolition activities.
- Personnel with engineering and construction skills, and construction equipment and materials will be required from outside the disaster area.

Concept of Operations

General

- ESF #3 provides a structure for managing and coordinating the complex operations involved in damaged structures and infrastructure, solid waste disposal, and debris management. This includes deployment of resources into and out of the incident area and the coordination of public works recovery, restoration, and safety/security.
- Communications are established and maintained with ESF #5 – Emergency Management (to report and receive assessments and status information), and with ESF #7 – Logistics Management & Resource Support.
- Department resources may be utilized to provide support for incidents occurring outside the City limits, when directed by the City Manager or Mayor.

Comprehensive Emergency Management

Preparedness

ESF #3 primary and support agencies are responsible for ensuring that the following preparedness items are fully addressed:

- Review and revise their Standard Operating Procedures (SOPs)/Standard Operating Guidelines (SOGs) annually
- Establish procedures for alerting their own personnel and other key employees in an Incident of Local or Regional Significance
- Update equipment and resource listings on an annual or more frequent basis, and distribute them appropriately
- Revise mutual aid agreements as needed
- Train employees on specific ESF functions
- Develop interests and partnerships with businesses and other private sector support agencies
- Regularly attend scheduled tabletop exercises and all other applicable training events
- Review and analyze lessons learned in emergency/disaster incidents that have occurred elsewhere, and make appropriate corrections/additions to their respective SOPs/SOGs and this ESF.

Response

ESF #3 primary and support agencies are responsible for ensuring that the following response items are fully addressed:

- Establish and maintain contact with the Incident Commander and/or appropriate Emergency Operations Center (EOC) for instructions
- Determine operational capacity of the City's critical infrastructure, including the water system and the transportation system
- Initiate debris clearance operations
- Maintain ongoing information exchange with ESF #5
- Maintain complete and accurate documentation of all related costs, actions, and communications

Recovery

ESF #3 primary and support agencies are responsible for ensuring that the following recovery items are fully addressed:

- Consult with ESF #5 and ESF #14 (Long-term Community Recovery & Mitigation) regarding needed recovery strategy
- Restore and temporarily repair City of Tucson critical infrastructure facilities and systems
- Assess losses of equipment and personnel, develop estimates of monetary loss, and identify possible funding sources
- Assess the need for critical incident stress management for personnel

Mitigation/Prevention

- Conduct threat, risk and vulnerability assessments of key ESF infrastructure
- Review and analyze lessons learned in emergency/disaster incidents that have occurred elsewhere, and make changes where applicable
- Reconstruct damaged or destroyed facilities and mitigate deficiencies where appropriate
- Replace equipment, vehicles and/or personnel

Responsibilities

Coordinating Agencies: Tucson Department of Transportation, Environmental Services Department, and Tucson Water Department

The Tucson Department of Transportation, Environmental Services Department, and Tucson Water are responsible for coordinating the Public Works ESF in an Incident of Local or Regional Significance. As such, their duties/responsibilities include:

- Pre-incident planning and coordination
- Maintain ongoing contact with ESF primary and support agencies

- Conduct periodic ESF meetings and/or conference calls
- Coordinate ESF activities relating to Incidents of Local or Regional Significance, catastrophic incident planning, and critical infrastructure preparedness, as appropriate
- Coordinate training and strategies with the appropriate local, regional, state or federal agencies
- Assist in identifying and acquiring property required for emergency debris management needs
- Assist in identifying and acquiring property (buildings, office space, *etc.*) to be used by critical infrastructure organizations in the event their work places are rendered unusable
- Assist with pre- and post-incident damage assessment of critical infrastructure, including the water system
- Assist with threat, risk, and vulnerability assessments of key City infrastructure

Primary Agencies: Tucson Department of Transportation (TDOT), Environmental Services Department, and Tucson Water Department

As Primary Agencies, the functions of TDOT, the Environmental Services Department, and Tucson Water include ensuring that public works and engineering related functions and operations are protected and reconstituted as soon as possible following an Incident of Local or Regional Significance. Specific responsibilities are as follows:

- Conduct pre- and post-incident assessments of public works and infrastructure
- Construction, repair, or restoration of public buildings
- Emergency demolition or stabilization of public facilities or structures
- Damage assessment or inspection of damaged buildings and facilities
- Establish and maintain temporary storage sites for debris
- Assist with debris management concerns in regard to stormwater runoff areas
- Segregate debris and isolate power and utility lines
- Assist with the recovery/reconstruction of traffic-related infrastructure
- Assist with debris management issues on City streets
- Coordinate reconstruction/repair of City streets
- Monitor operations and sites for compliance with state and federal regulations
- Establish and manage disposal sites
- Participate in debris management activities
- Assist, as needed and as requested by the Pima County Regional Wastewater Reclamation Department, with the repair or restoration of solid waste treatment facilities
- Provide technical engineering expertise in determining emergency operations required for water supply, firefighting, and other related areas
- Execute emergency contract support for life saving and/or life sustaining services
- Manage the financial aspects of the ESF #3 response, including the funding of mission assignments and/or reimbursable agreements
- Coordinate the recovery, restoration, and safety/security of the public works infrastructure. Provide trained personnel to staff ESF #3 responsibilities at the EOC, or any other temporary facility in the impacted region.

- Provide emergency restoration of critical public services and facilities including supply of adequate potable water, temporary restoration of water supply systems and the provision of water for firefighting.
- Assist with permit and building code regulations related to residential and commercial buildings, grading & excavation, and floodplain management on private property

Support Agencies

Agency	Functions
Finance Department	Central Safety/Risk Management <ul style="list-style-type: none"> • Provide technical assistance related to worker safety and health issues
Planning & Development Services Department	<ul style="list-style-type: none"> • Assist with conducting pre- and post-incident assessments of public works and infrastructure • Assist with construction, repair, or restoration of public buildings • Assist with the emergency demolition or stabilization of public facilities or structures • Assist with damage assessment or inspection of damaged buildings and facilities
Tucson Fire Department	<ul style="list-style-type: none"> • Provide technical expertise in matters pertaining to hazardous materials or waste
General Services Department	<ul style="list-style-type: none"> • Assist in the response to public works operations as necessary and as capable
Parks and Recreation Department	<ul style="list-style-type: none"> • Provide personnel, vehicles and equipment for debris management, and/or infrastructure repair/rebuilding
Tucson Police Department	<ul style="list-style-type: none"> • Assist the Environmental Services Division, as necessary, in gaining access to private property for the purpose of debris removal
Procurement Department	<ul style="list-style-type: none"> • Provide assistance in needs identification and coordinate source selection for goods and services, as needed.
City Attorney's Office	<ul style="list-style-type: none"> • Provide legal assistance during an Incident of Local or Regional Significance • Specifically, assist in the creation of and/or the approval of documents necessary for entering private property for the purpose of debris removal (<i>i.e.</i>, liability releases and/or other correspondence)
Southwest Gas	<ul style="list-style-type: none"> • Provide technical assistance regarding natural gas issues in the event of an Incident of Local or Regional Significance
Tucson Electric Power Company	<ul style="list-style-type: none"> • Provide technical assistance regarding electrical power issues in the event of an Incident of Local or Significant Significance

Pima County Department of Transportation	<ul style="list-style-type: none"> • Coordinate the provision of debris removal services and critical infrastructure damage assessment in support of Pima County; the private sector; and voluntary organizations
Pima County Waste Management	<ul style="list-style-type: none"> • Coordinate the repair/recovery of wastewater management and treatment facilities