



City and County of San Francisco Emergency Response Plan

ESF #3:

Public Works & Engineering Annex





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ESF #3: Public Works and Engineering
 Process Flow Chart
 Planned or Unplanned Event

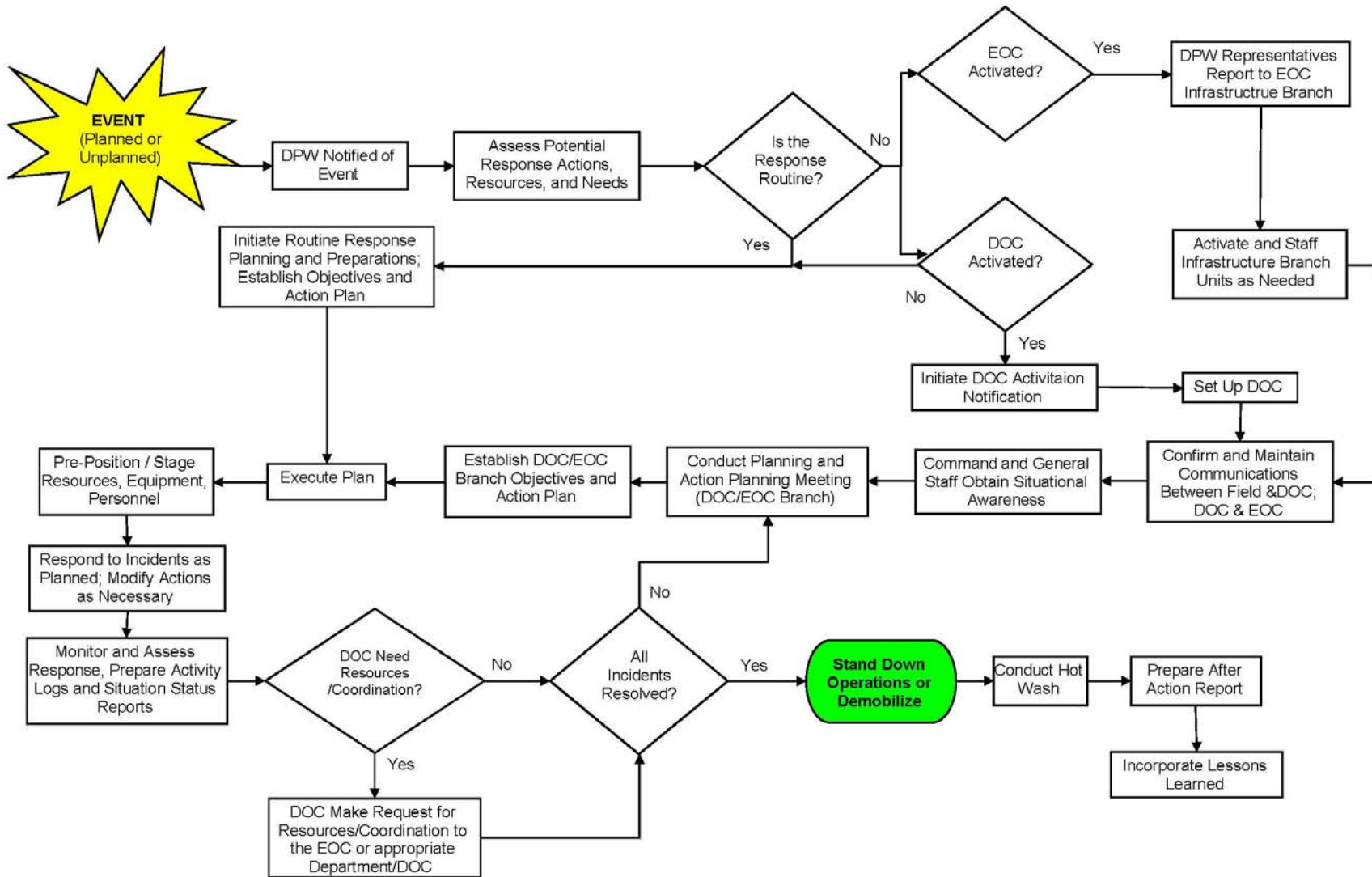


Figure A: Event Process Flow Chart



Section I: Introduction

1.1 Coordinating and Supporting Departments

Coordinating Department	DPW
Supporting Department(s)	DBI, DOE, DT, MTA (MUNI/DPT), PUC, RPD

1.2 Overview of Department Responsibilities

Department	Responsibilities
DPW	<ul style="list-style-type: none"> Assign ICS positions, as required. (This includes field-level Incident Command, DOC, EOC Infrastructure Branch Coordinator, Construction and Engineering Coordinator, and Unit Leaders.) Collect the disaster safety assessment, roadway status, and debris management reports and information; assign tasks; monitor the situation. Provide public information releases through ESF #15: Joint Information System. Exchange information with the Operations Support Section Chief and ESF #3 support agencies. Procure resources (personnel, equipment, and supplies) locally or via mutual aid, as needed. Conduct and coordinate damage assessment to roads and bridges,
DBI	<ul style="list-style-type: none"> Conduct and coordinate damage assessments to buildings and facilities.
DOE	<ul style="list-style-type: none"> Coordinate debris removal, storage, sorting, recycling, and recovery with contract provider(s).
DT	<ul style="list-style-type: none"> Ensure city telecommunications and data systems function in DOCs and the EOC. Conduct and coordinate damage assessment of communication systems (city fiber network, radio, 911 system, and private systems).
MTA - DPT	<ul style="list-style-type: none"> Direct and mitigate traffic congestion around closed areas and evacuation routes. Conduct and coordinate damage assessment of traffic signals and message sign boards (SFgo system).



Department	Responsibilities
MTA - MUNI	<ul style="list-style-type: none"> Assess damage in transportation infrastructure and reroute service to affected areas. Conduct and coordinate damage assessment of transportation systems (MUNI, BART, Ferries, bus systems).
PUC	<ul style="list-style-type: none"> Conduct and coordinate damage assessment of water, waste water, and utility services. Coordinate the restoration and repair of water and utility services.
RPD	<ul style="list-style-type: none"> Conduct and coordinate restoration and repair of RPD facilities. Assist with street clearance and debris removal activities.

1.3 Purpose

Emergency Support Function (ESF) #3: Public Works and Engineering provides guidance for initial size-up, rapid needs, and preliminary disaster safety reports on the areas that are affected, damaged, and destroyed during an emergency event. This information determines the need for and location of emergency access routes, the need for restoration of critical services, and prioritization of clean up and repair efforts.

The City’s Emergency Response Plan (ERP) identifies the Department of Public Works (DPW) as the Coordinating department for ESF # 3. ESF #3 responsibilities includes implementation strategies for debris clearance to allow for inspection and reconnaissance of damaged areas, the passage of emergency vehicles, personnel and lifesaving equipment, and the establishment of emergency contracting; repairing municipal facilities, roads, and structures; and supporting power, fuel, and potable water supplies.

1.4 Scope

ESF #3: Public Works and Engineering supports emergency response operations through the Infrastructure Branch of the San Francisco Emergency Operations Center’s (EOC) Operations Support Section, which is responsible for providing city and county public works and engineering services. For many emergency situations, ESF #3: Public Works and Engineering may be called upon to enhance response and recovery efforts with other city and county departments. Specific activities within the scope of this function include the following objectives:

- Initiate and coordinate disaster safety assessment reports for damaged roads, municipal infrastructures, government facilities, construction, and debris management.
- Mobilize damage response teams and crews to assist first responders in the management of immediate life safety issues.
- Coordinate the inspection, restoration, and repair of: disrupted municipal services (such as the CCSF water and wastewater facilities, city owned traffic lights, etc.) and damaged city and county buildings, facilities, and transportation infrastructure (streets, bridges, etc.).

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- Obtain equipment, supplies, and personnel services as necessary to support response and recovery efforts.
- Match workload requirements with available contractors and vendors to supplement existing assets.

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Section 2: Concept of Operations

2.1 General Concepts

When activated, ESF #3: Public Works and Engineering activities will be conducted by DPW and supporting departments. Procedures pertaining to this function do not pre-empt or nullify existing DPW functions within the Incident Command System (ICS).

This Concept of Operations outlines the following elements of ESF #3: Public Works and Engineering:

- EOC Construction and Engineering Group Functions
- Infrastructure / Facility Protection and Engineering Repair
- Infrastructure Restoration
- Engineering Services, Construction Management, and Damage Assessment
- Coordination with Public Works and Engineering Industries and Agencies
- Information Flow
- Organization and Structure
- Notification and Activation
- Response Actions
- Logistical Considerations
- Deactivation

2.1.1 Public Works and Engineering Primary Roles

ESF #3: Public Works and Engineering is responsible for assisting the Infrastructure Branch both before and after a disaster occurs within CCSF. The Infrastructure Branch coordinates ESF #3: Public Works and Engineering and ESF #12: Water and Utility activities. ESF #3 coordination encompasses the following primary roles:

1. Provide initial and ongoing assessments on public/private buildings, streets, roadways and utilities.
2. Provide infrastructure and public facility protection and emergency repair.
3. Coordinate infrastructure and public facility restoration and reconstruction.
4. Provide engineering services, construction management, and response support.
5. Coordinate with public works and engineering industries and agencies (Federal, State, regional, and local, including private and public).
6. Coordinate street clearance and route recovery.



Because life safety efforts take priority in a response effort, public works and engineering resources will address efforts for life saving and evacuation first, then incorporate their capabilities to assess and repair immediate essential services to the city and county. Secondary priorities, such as area damage and restoration activities, will then be addressed as resources become available or will be covered simultaneously if staffing allows.

Immediate objectives for safety assessments are as follows:

1. Return people to their homes and businesses as soon as possible.
2. Secure the perimeter around unsafe structures and infrastructures.
3. Identify the extent of damages.
4. Develop and revise response and recovery plans.

2.1.2 EOC Construction and Engineering Group Functions

The Construction and Engineering Group (CEG) operates within the Infrastructure Branch of the Emergency Operations Center (EOC) Operations Support Section. When activated, the Construction and Engineering Group will conduct the following functions:

1. Maintain and implement internal Standard Operating Procedures (SOPs) that address the following:
 - 24-hour notification procedures for staff
 - Internal public works and engineering response procedures and strategies
 - Management assignments, checklists, and report forms necessary for the implementation and response management of ESF #3
2. Prioritize and facilitate a public works and engineering expedited response effort to critical locations and essential facilities that includes the following actions:
 - Safeguard the well-being of people
 - Evacuate and recover arterial routes (including road repairs and debris removal for emergency vehicles)
 - Support life safety missions (e.g., structure stabilization for search and rescue, emergency demolitions or shoring)
 - Implement emergency protective measures to protect roads, public facilities, and property (e.g., sandbagging, water diversion dikes, ditches)
 - Coordinate and conduct safety and damage (windshield, rapid, detailed, damage) assessments of buildings, roadways, street structures, public facilities, and utilities.
 - Support establishing emergency temporary sites, such as shelters, bases, camps, and staging areas
 - Conduct and/or coordinate removal, collection, sorting, recycling, and recovery of debris
 - Conduct and coordinate emergency rapid repairs of municipal utilities



- Coordinate emergency repair or relocation of city and county facilities
 - Support coordination of resumption of lifeline systems and essential services
 - Support coordination of delivery of emergency power, fuel, and water to designated community areas and the resumption of normal services
 - Support ESF #12: Water and Utilities with waste disposal and sanitation efforts
 - Conduct and coordinate engineering, design, construction management, and contract management services to restore public facilities, including public buildings and public infrastructure
3. Disseminate internal and public information related to public works and engineering activities to the appropriate ESF agencies, the Operations Support Section, and in the CCSF EOC.
- Provide internal information to maintain a common operating picture,
 - Provide public information regarding the status of disaster safety assessment teams, the progress of restoration efforts, and public safety guidelines while restoration activities are occurring.
4. Assume or designate staff to assume the following Unit Leader functions to handle assessments and monitor progress in their specific areas:
- Street Clearance Unit Leader
 - Building Assessment Unit Leader
 - Infrastructure Assessment Unit Leader
 - Debris Management Unit Leader

2.1.3 Supporting Department Roles

The following CCSF departments: will provide support to ESF #3 operations:

- Department of Building Inspection (DBI)
- Department of Emergency Management (DEM)
- Department of the Environment (DOE)
- Department of Technology (DT)
- Municipal Transportation Authority (MTA) - (Municipal Railway [MUNI] and Department of Parking and Traffic [DPT])
- Public Utilities Commission (PUC)
- Recreation and Parks Department (RPD)

Situational updates, reports, and requests will be coordinated through the Infrastructure Branch Coordinator with supporting departments, so that identified priorities lead to unified response efforts for restoration operations. Each supporting department maintains its authority and is responsible for providing resources, personnel, equipment, facilities, technical assistance, and support.



2.1.4 Infrastructure / Facility Protection and Engineering Repair

DPW manages protection and engineering capabilities through: (1) safety assessments and inspections with DBI to assess damaged city and county buildings, facilities, and infrastructure and (2) determining the physical state of a building and posting safety notifications on inspected facilities. The building owner retains responsibility for deciding whether to demolish or restore the structure.

2.1.5 Infrastructure Restoration

In coordination with ESF #12: Water and Utilities, ESF #3 collects safety and damage assessments on public infrastructure systems, consolidates damage data, and compiles situational reports for the Infrastructure Branch Coordinator. With this information, the Infrastructure Branch Water and Utilities Group and the Construction and Engineering Group will coordinate the restoration of infrastructure.

2.1.6 Engineering Services, Construction Management, and Damage Assessment

DPW may request support for the Public Works and Engineering Annex throughout the event. Requests will include route clearance and recovery to allow emergency vehicles ingress on damaged streets, including operations involving the physical removal of debris on roadways. An initial step prior to debris removal involves inspecting bridges and tunnels to ensure they have not suffered severe damage to impede traffic. Requests for engineering surveys, heavy and light equipment, construction and loading, and waste removal assets must be coordinated through ESF #3.

For simple day-to-day event responses, DPW works with CCSF agencies to manage scheduled workloads and handle smaller, isolated emergency events. When a larger, more complex response becomes necessary, the DOCs will coordinate efforts with the EOC Infrastructure Branch for outside resources in order to manage public work operations. Utilization of contractors and resources from unaffected neighboring Operational Areas will be coordinated through DOCs, and priorities will be established to manage the cleanup and public works operations in the city. To achieve this coordination, the engineering and construction staff may lead the largest part of the Safety Assessment Program (SAP) (apart from or with the State of California) in reporting disaster safety assessments. After the initial assessments are compiled, engineering and construction project elements will increase in size depending on the extent of damage and the direction of city and county objectives.

2.1.7 Coordination with Public Works and Engineering Industries and Agencies

In addition to coordinating functions with DPW, collaboration with other Federal, State, regional, local, and private sector agencies will ensure that the public works and engineering response within San Francisco occurs after an event. Examples of additional assistance supplemental to ESF #3 responsibilities are listed in Table 2-1.



Function	Additional Response Coordination Activities
Route Recovery	<ul style="list-style-type: none"> • Transportation agencies remove debris and assist with road restoration • Light and heavy equipment and operators establish routes with State agencies for State Highways • Restoration of Caltrain / railroads • Restoration of public transit lines
Damage Assessment	<ul style="list-style-type: none"> • Public hotlines are established to collect localized damage information through State and local agencies • Civil Air Patrol, National Guard, and others perform aerial reconnaissance • Coordinate real estate valuation or insurance issues with private sector • Collect information from Assessor's Office / Real Estate and Insurers
Debris Management	<ul style="list-style-type: none"> • Fire and waste disposal companies dispose of and remove hazardous waste • Identification and establishment of recycle and reuse sites • Coordinate disposal of agricultural or biohazard debris with agricultural and public health agencies • Establishment of temporary storage sites on private property • Debris recovery processors and facilities
Facilities Management	<ul style="list-style-type: none"> • Security/barricades, custodial services, private and public • Building and home utility services inspection • Demolition services contracted, if necessary
Construction and Infrastructure Management	<ul style="list-style-type: none"> • Fuel for dispensing • Sanitation services • Aviation support for receipt or transport of resources through Federal, State, and local agencies • Geographic Information System (GIS) mapping/layering of damaged area with related cost estimates • Outsourcing contracts

Table 2-1: Public Works and Engineering Federal, State, Regional, and Private Sector Coordination Areas

2.1.8 Information Flow

ESF #3 requires information flow among multiple response coordination levels during a public works and engineering response. The following provides an overview of the ESF #3 information flow process during a full EOC activation; however, information flow requirements will be determined according to the needs of the event. Figure 2-1 below depicts ESF #3 information flow.

Incident Command

- Provide coordination to field operations
- Submit situation status reports and resource requests to the DPW DOC



DPW DOC

- Maintain communication with Incident Commander(s) regarding the status of field operations
- Receive requests for resources from Incident Command; fulfill requests internally or coordinate requests with EOC or mutual aid if necessary
- Provide situation status reports to the CEG Coordinator in the EOC Infrastructure Branch

Street Clearance Unit Leader

- Collect information from the DPW DOC and/or other relevant Street Clearance DOCs regarding road impairments and damage
- Work with DOCs and the CEG Coordinator to collect disaster safety assessments from transportation agencies regarding highway and route impacts
- Provide situation updates and communicate resource requests from DOCs to the CEG Coordinator

Building Assessment Unit Leader

- Obtain information and resource requests from DBI and DPW DOCs regarding the status of buildings;
- Submit resource requests
- Provide situational updates and communicate resource requests from DOCs to the CEG Coordinator
- Communicate repair and restoration objectives as received from the CEG Coordinator to DPW and DBI DOCs

Infrastructure Assessment Unit Leader

- Work with appropriate DOCs and the CEG Coordinator to collect disaster safety assessments, utility status information, and requests from utility agencies
- Exchange information with Unit Leaders to identify affected areas and compile infrastructure priorities
- Provide situational updates and communicate resource requests from DOCs to the CEG Coordinator

Debris Management Unit Leader

- Collect ongoing disaster safety assessments from DOCs related to outsourced contractors
- Exchange information with Unit Leaders to identify priorities and coordinate storage and removal of debris from critical routes



- Provide situational updates and communicate resource requests from DOCs to the CEG Coordinator

Construction and Engineering Group Coordinator

- Compile and provide disaster safety assessment reports and resource requests to the Operations Support Section
- Coordinate operations and resources with CCSF support agencies
- Communicate ESF #3 priorities and repair and restoration objectives to Unit Leaders
- Collect situational updates from each Unit Leader

Infrastructure Branch Coordinator

- Consult with the CEG Coordinator regarding resource needs (equipment and personnel) for restoration of public streets, sewers, city facilities, infrastructure operations, and debris removal
- Provide information to the Operations Support Section Chief regarding support operations, needed resources, and field situation status

Operations Support Section Chief

- Exchange updated infrastructure information with the Infrastructure Branch Coordinator to ensure EOC situational awareness
- Assess the scope, magnitude, extent, and potential duration of the event

Supporting ESF Departments

- Communicate information regarding public works and engineering concerns to appropriate Incident Commander, DOC or CEG Unit Leader
- Support EOC, DOC, and/or field operations as requested

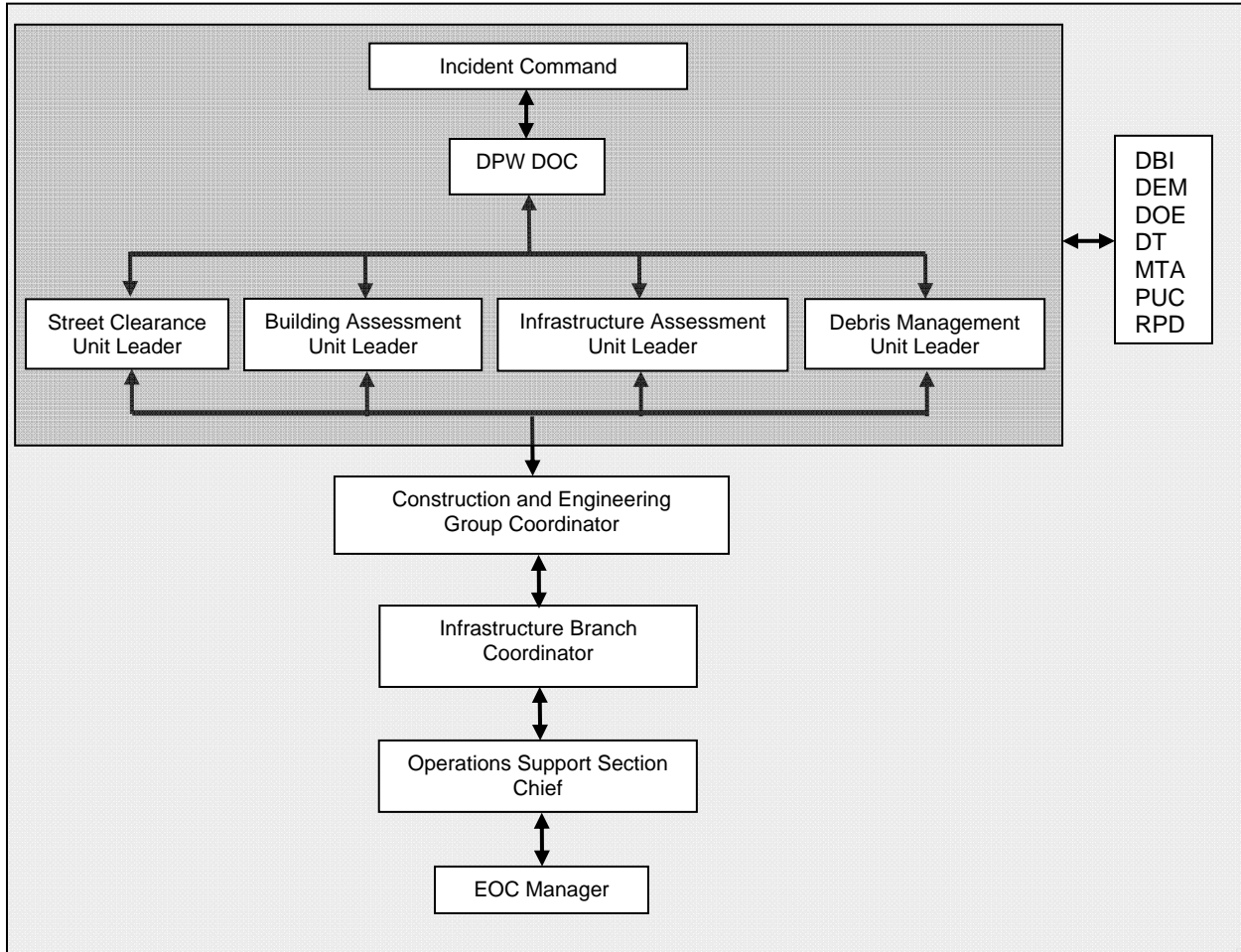


Figure 2-1: ESF #3 Information Flow



2.2 Organization and Structure

2.2.1 Organization

CCSF has organized the ESFs in accordance with ICS to comply with the National Incident Management System (NIMS). ESF #3 is a part of the Operations Support Section, Infrastructure Branch.

Upon activation of ESF #3, the EOC Manager, DEM Duty Officer, or Operations Support Section Chief notifies DPW of the event. DPW is designated as a lead for all ESF #3 operations. The CEG Coordinator facilitates agency and ESF requests, and reports disaster safety assessment information to the Infrastructure Branch Coordinator. DPW may be the Incident Commander or Infrastructure Branch Coordinator for events exclusive to public works and engineering issues. Once a CEG Coordinator has been assigned, he or she designates Unit Leaders as necessary. Depending on the extent of the response, personnel may work directly from their facility office, DOC, Field Incident Command Post, or EOC. For large emergencies, the EOC may serve as the central location for interagency support and coordination, including activities associated with ESF #3.

As event requirements increase, DPW will call for mutual aid or assistance from supporting departments (DBI, DEM, DOE, DT, MTA [MUNI/DPT], PUC, RPD); the Regional Emergency Operations Center (REOC); and Federal, State, and private public works and engineering organizations.

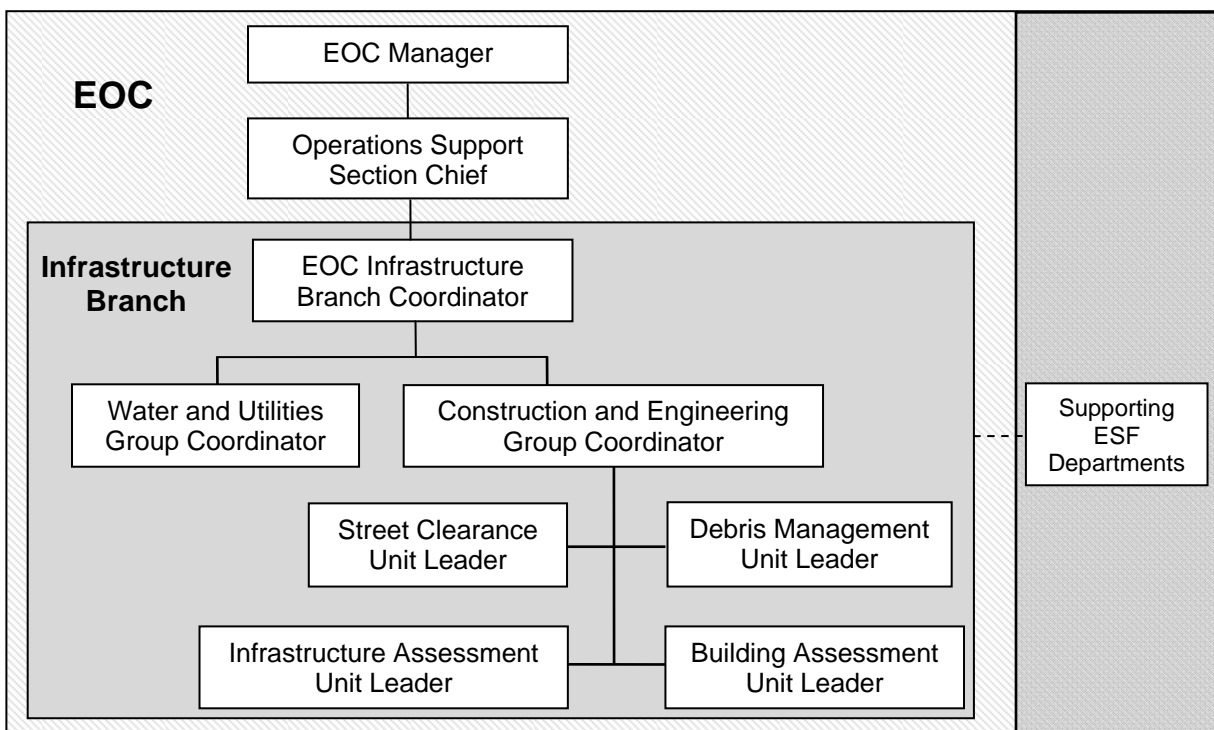


Figure 2-2: Public Works and Engineering EOC Organization



2.2.2 Roles and Responsibilities

A detailed account of ESF #3 roles and responsibilities are outlined in Table 2.2. Roles and responsibilities for each involved department/entity are identified, as well as the roles and responsibilities for the CEG positions within the EOC Infrastructure Branch.

Departments/Entities	
Dept./Entity	Responsibility
DPW	<ul style="list-style-type: none"> • Coordinate the assessment of damaged public infrastructures (bridges, roads, tunnels, retaining walls) with ESF #3 support agencies • Clear streets and support route recovery activities • Provide engineering support services • Coordinate the repair and restoration of damaged public facilities and public infrastructure • Provide light and heavy equipment resources • Repair damaged streets, bridges, and ports, and assist in procurement and execution of contracting for construction management and inspection services • Provide emergency power and fuel resources • Provide transportation resources • Coordinate debris removal, staging, holding, and storage areas • Manage the collection, recovery, recycling, and disposal of disaster debris • Provide emergency construction contract administration
DBI	<ul style="list-style-type: none"> • Coordinate with public works assessment strike teams for building and facility disaster safety assessments and survey reports • Provide inspection, local building codes, zoning, and land use authorities during the restoration of critical private and public buildings and private residential structures • Coordinate the inspection of structures in CCSF • Prepare and compile disaster safety assessments reports
DOE	<ul style="list-style-type: none"> • Assist with evaluating sites for staging and processing debris • Assist in identifying recyclable materials • Provide assistance with identifying debris recovery • Support the Debris Management Unit
MTA – DPT	<ul style="list-style-type: none"> • Coordinate assessment and repair of traffic signals and traffic signage • Mitigate traffic congestion around closed areas and along evacuation routes and construction zones • Analyze and report on the transportation infrastructure (roads, airports, port) accessibility level for transport of relief services and supplies • Manage the removal of hazards associated with abandoned vehicles • Coordinate utility and infrastructure repairs to minimize impact on transportation • Coordinate transportation operations with the CEG Coordinator
MTA – MUNI	<ul style="list-style-type: none"> • Prepare assessments of transportation infrastructure • Coordinate transportation operations with the CEG Coordinator



Departments/Entities	
Dept./Entity	Responsibility
DT	<ul style="list-style-type: none"> • Prepare and compile assessments of the city fiber network and the 800-megahertz (MHz) radio system • Staff the 24-hour hotline to dispatch appropriate staff and log emergency calls. • Provide Local Area Network and Wide Area Network support • Coordinate with DEM and the GIS Unit Leader to develop maps
PUC	<ul style="list-style-type: none"> • Collect information, monitor water and utility events, and exchange information between EOC and impacted water and wastewater companies • Provide situational awareness and prioritized recommendations concerning the recovery and restoration of municipal water and wastewater sectors • Supply situational updates on non-municipal utility disaster operation • Obtain resources to restore water, sewer, and energy services
RPD	<ul style="list-style-type: none"> • Conduct disaster safety assessments for park and recreation related facilities (determine whether facilities are undamaged, are damaged and obviously unusable, or are damaged and require further assessment by a building inspector to determine the facility’s habitability) • Provide for emergency repair or restoration of park and recreation facilities • Provide personnel and equipment for street clearance and debris removal or other assigned restoration activities
State and Federal Public Works and Engineering agencies	<ul style="list-style-type: none"> • Provide Federal and State disaster safety assessment information on Federal and State properties and freeways • Provide background, technical, and/or scientific information relative to a disaster event • Coordinate repair and response emergency crews to supplement local restoration operations
Non-Governmental Organizations¹	<ul style="list-style-type: none"> • Provide consultant services and resources for the repair, reconstruction, inspection, or re-establishment of infrastructures and management of debris • Provide situation status updates on operations • Assist with response efforts

Table 2-2: Public Works and Engineering Department/Entity Responsibilities

¹ Any non-governmental entity to include non-profit organizations and the private sector.



Infrastructure Branch Positions and Responsibilities	
Position	Responsibility
CEG Coordinator	<ul style="list-style-type: none"> • Delegate actions and assessments to the appropriate unit leader, as necessary • Establish priorities and staffing for short-term and long-term operational periods • Receive situation reports from unit leaders • Provide construction and engineering information to Infrastructure Branch Coordinator • Serve as Public Works and Engineering liaison to Federal, State, and/or regional government entities as necessary • Provide EOC action plan priorities to unit leaders • Obtain EOC support and resources for DOC operations
Street Clearance Unit Leader	<ul style="list-style-type: none"> • Provide situational updates to the CEG Coordinator regarding road status and route operations • Coordinate resources with the CEG Coordinator to support street clearance activities • Coordinate posting signs, erecting barricades, towing stranded vehicles, and removing debris • Collect disaster safety assessment reports for street damage and impairment • Obtain Federal/State property safety assessments from the appropriate agencies (e.g. Caltrans for State bridges and freeways) • Support traffic control measures, which may include directing resources for detours, shelters, routes, security, trespassing, etc. • Relay EOC Action Plan priorities to DOCs for the coordination and mobilization of personnel and equipment for the immediate clearance and/or repair and reconstruction of critical streets, roads, bridges, and tunnels
Building Assessment Unit Leader	<ul style="list-style-type: none"> • Provide situational updates to the CEG Coordinator regarding building assessment activities • Convey EOC Action Plan priorities to the DBI DOC and other DOCs for the coordination of resources and staffing for buildings and facilities (to include resources to secure and close hazardous areas and unsafe infrastructures until repairs can be scheduled, and resources to support DBI with public/private sector assessment and building integrity inspections) • Assist the DPW and/or DBI DOC in obtaining engineering expertise, equipment, contractors and contract equipment, traffic control, and barricades through the EOC • Coordinate with the CEG Coordinator to obtain waivers in relation to building codes, temporary construction repair, utility re-establishment, and debris removal • Collect safety and damage assessment reports from DOCs assigned to assess post-event safety inspections of city and county buildings and facilities • Identify and expedite permitting and required building inspections through DBI • Provide status updates on damaged and/or abandoned structures and proposes demolition or stabilization measures to the CEG Coordinator • Assist in planning strategies for response and recovery efforts to repair or restore CCSF facilities



<p>Infrastructure Assessment Unit Leader</p>	<ul style="list-style-type: none"> • Provide situational updates to the CEG Coordinator regarding infrastructure assessment activities • Submit DOC resource requests to the CEG Coordinator • Relay EOC Action Plan priorities to relevant DOCs for the coordination of resources and staffing for street, road, bridge, and tunnel repair disaster assessments • Collect disaster safety assessment reports for flood control, storm water, water systems, and sewer facilities • Identify critical systems and coordinates resources through the CEG Coordinator to support the repair and restoration of flood control, storm water, and sewer measures (which may include supporting and repairing hydrant systems, conducting water contamination testing, and coordinating resources to inspect and test private wells and septic systems) • Collect assessment reports from the Port, MTA – DPT and Airport Agencies, and non-utility Public Utilities Commission (PUC) and MTA – MUNI facilities in order to compile component assessments with other ESF #3 Unit Leaders • Provide technical advice and resources for sewage disposal • Provide support to ESF #12: Water and Utilities (support relevant DOCs, water purveyors, and public health) for the restoration of potable water services • Assist the DPW DOC with inspection, maintenance, and restoration of municipal infrastructure and community shelters
<p>Debris Management Unit Leader³</p>	<ul style="list-style-type: none"> • Provide situational updates to the CEG Coordinator regarding debris management • Relay EOC Action Plan priorities to DOCs for the coordination of resources and staffing to support debris removal, staging, holding and storage areas, sorting, and recycling • Obtain EOC support and resources for DOC operations • Coordinate the receipt of street, property, and infrastructure debris reports • Prioritize resources through the DOCs to assist with expediting the collection, transport, storage, recovery, recycling, and disposal of debris • Coordinate resources to support temporary public and private debris holding locations • Maintain the activity status of temporary sorting, chipping, and recycling sites throughout the affected area to facilitate debris management • Provide technical advice and resources for debris management operations • Coordinate DOC debris management efforts with support agencies • Provides information regarding enforcement efforts for illegal dumpsites or dumping • Work through the CEG Coordinator to relay public information to DPW and EOC Joint Information Center (JIC) to issue press releases on recycling ordinances, debris collection, recovery, recycling, reuse, and disposal • Coordinate a debris collection strategy with relevant agencies that includes response and recovery operations, curbside collection, collection centers, hazardous wastes, and recyclables

Table 2-3: Public Works and Engineering Infrastructure Branch Responsibilities



2.3 Notification and Activation

2.3.1 Notification

Initially, the DEM Duty Officer, or DEM Division of Emergency Communications (DEC) notifies DPW of a Public Works and Engineering event and of any EOC activation. Alternately, if DPW receives a call first from an agency, a DPW representative will contact the DEM Duty Officer to determine the need for ESF #3 activation.

DPW assigns a CEG Coordinator who reports to the EOC to assist with ESF #3 activities. This is typically accomplished by radio broadcast, digital pager, or telephone contact. Depending on the type of emergency situation, the CEG Coordinator may function as lead or request additional staffing to coordinate ESF #3 activities with the Infrastructure Branch Coordinator or other ESF #3 designees.

The CEG Coordinator is responsible for identifying the following positions:

- Street Clearance Unit Leader
- Building Assessment Unit Leader
- Infrastructure Assessment Unit Leader
- Debris Management Unit Leader

Notification to support agencies can be communicated via phone, e-mail, or AlertSF, and will provide situation updates and reporting instructions prior to arrival at the EOC. The CEG Coordinator maintains a current list of Unit Leaders with 24-hour contact information for emergency response.

2.3.2 Activation

ESF #3 may be activated by the DEM Duty Officer, DPW, or EOC Manager when a CCSF event affecting public works and engineering is anticipated or has occurred. The scope and type of emergency response will be decided at the time of activation. Elements of ESF #3 activation may begin prior to an official notification from the DEM Duty Officer, DPW, or EOC Manager if DPW is alerted to a planned or unplanned event through a Public Works or Engineering provider that requests resources and assets based on mutual aid agreements. If this occurs, notification to the DEM Duty Officer and/or DEM Director should be timely in order to provide situational awareness to the Mayor's Office.

Scalable Activation

ESF #3 operations can be expected to expand and contract based on the category, nature, and magnitude of the emergency. The type and level of activation is generally based on an event's resource and staffing requirements and the impact on the community. Activation of ESF #3 will be predicated on the following scenarios:

- There is existing or potential damage to roads, municipal infrastructure, or government facilities and buildings.



- Anticipated Public Works and Engineering assets are required to mitigate or eliminate threats to property, buildings, or infrastructure.
- Events cause significant route and road debris, structural damage, and municipal infrastructure impacts.
- There is a sustained response effort.

ESF #3 may function at the (1) DPW Offices, (2) DOC, (3) Incident Command Post, and/or (4) EOC. Table 2-3 illustrates the scalable emergency response activation categories by event type.

Emergency Situation	Examples	Coordinating Department	Placement of ESF #3 Staff
Planned Event (Simple)	Notification of a potential impact on infrastructure, public facilities, roads, bridges, etc.	Department of Public Works	<ul style="list-style-type: none"> • DPW Offices • DOC
Planned Event (Complex)	Situation escalates to critical, resulting in protection of critical infrastructures and properties, pulling in multiple ESFs and EOC activation	Department of Public Works and Department of Emergency Management	<ul style="list-style-type: none"> • DPW Offices • DOC • EOC
Unplanned Event (Simple)	Notification of an actual Public Works and Engineering event, system disruption, etc.	Department of Public Works	<ul style="list-style-type: none"> • DPW Offices • DOC
Unplanned Event (Complex)	Notification of a large-scale event requiring Public Works and Engineering resources and personnel, involving support agencies and EOC activation	Department of Public Works, Department of Emergency Management, Mayor's Office	<ul style="list-style-type: none"> • DPW Offices • DOC • EOC

Table 2-4: Scalable Public Works and Engineering Activation

2.3.3 Response Actions

Informing infrastructure support agencies, required government entities, stakeholders, and the public during an event is a six-step process:

Step 1: Gather Information

Information is collected from DPW, the infrastructure community, and the following groups to provide current status updates on infrastructure operations throughout the city:



- 311
- Responding departments
- Public and elected officials (via phone calls, emails, text messages)
- NGOs, non-profit organizations, private sector (transportation and port companies, airports)
- Media (via broadcast, web information, blogs, print)
- Response personnel in the field
- State and Federal agencies, as appropriate (DT, the Federal Emergency Management Agency [FEMA], etc.)

Step 2: Verify and Organize Information

Verification of collected information should be confirmed to determine the impact of the affected area.

- Secure a point of contact at each affected location for situational updates
- Map data in a centralized system available for viewing at DOC's and EOC
- Confirm affected areas through reports from dispatched emergency units and other support personnel:
 - Obtain preliminary infrastructure and public facility damage assessments
 - Create a cursory outage/damage footprint on maps or computer software based on assessments

Step 3: Coordinate and Analyze Information (Initial Actions)

Analysis includes, but is not limited to, the following:

- Conduct an assessment of the situation based on current information
- Determine the impact of the event on CCSF
- Identify infrastructure and public facility needs in affected communities
- Identify and recommend government actions necessary to restore damaged infrastructure and public facilities to service
- Receive and respond to requests for information

Step 4: Obtain Resources, Release Public Information

This function includes the following:

- Request resources through the DOC, EOC, and supporting departments, to deploy to the field during an event
- Disseminate emergency information and guidance to the public, private, and government organizations
 - All press releases are to be coordinated with involved departments and/or the EOC JIC, if activated



- If proprietary information is received from affected public or privately owned facilities, legal counsel should be consulted prior to disseminating a press release
- Initial public information includes, but is not limited to the following:
 - Damage assessment and estimated/anticipated duration
 - Public works and engineering actions that are being taken
 - Actions businesses, industries, and residents should take
 - A summary of the event
 - Overall steps to be taken by the government and residents to return to normal operation after the event

Step 5: Continue to Monitor, Track, and Inform (Continuing Actions)

Monitoring and tracking includes:

- Serve as the point of contact for post-event damage reports
- Conduct and participate in planning meetings; provide situation updates, as necessary
- Notify and consult with subject matter experts from Federal, State, regional, and local authorities via the EOC on priorities for restoration processes and assistance
- Secure resources (e.g., fuel for transportation, generators, technical support, and communications) for requested emergency operations
- Recommend actions regarding building safety, alternate transportation routes, debris management, etc.
- Coordinate the collection and reporting of infrastructure and public facility information to the public through the DEM PIO and/or JIC

Step 6: Resources and Assets (External)

Resource and asset response includes:

- Coordinating the deployment of resources as necessary to support restoration operations.



2.3.4 Logistical Considerations

The below table lists standard resources utilized for ESF #3 operations. Additional resources and assets needed to support operations are addressed in the SOPs developed by the CEG Coordinator.

Location	Minimal Resources, Equipment, and Supplies
<p>DPW Office or DOC</p>	<ul style="list-style-type: none"> • Plans, Procedures and Checklists <ul style="list-style-type: none"> - CCSF Emergency Response Plan (ERP) - ESF # 3: Public Works and Engineering Checklist - ESF # 3: Public Works and Engineering Contact List - Resources and Assets Lists • Equipment and Supplies <ul style="list-style-type: none"> - Basic office supplies (paper, pens, pencils, markers, etc.) - Copies of relevant logs and forms (ICS forms) - Maps - Laptop computers, accessories, software, Internet access, hard drive, power cords, additional batteries - Printer and fax machine - Alternate power source - Communication Equipment – land lines, cellular phone, satellite phone, radio, pager, battery charger - Personal identification or emergency credentials
<p>EOC</p>	<ul style="list-style-type: none"> • Plans, Procedures and Checklists <ul style="list-style-type: none"> - CCSF ERP - ESF #3: Public Works and Engineering Checklist - EST #3: Public Works and Engineering Contact List - Resources and Assets Lists • Equipment and Supplies <ul style="list-style-type: none"> - Multiple work stations to accommodate all functional positions - Basic office supplies (paper, pens, pencils, markers, etc.) - Copies of relevant logs and forms (ICS forms) - Maps - Computers, accessories, blank disks, software, Internet access, external/portable hard drives, power cords - Printer, toner, ink cartridges for each work station - Alternate power source - Dedicated phone and Mayor’s Emergency Telecommunications System (METS) lines - Communication Equipment – land lines, cellular phones, satellite phones, radio, pager, hand-held amateur (HAM) radio - Portable or stationary communications and chargers or back-up power sources - Alternate communications capabilities (e.g., HAM radio, satellite phone) - Alternate power source • Staffing <ul style="list-style-type: none"> - Sufficient EOC position and staff support

Table 2-5: Logistical Considerations



2.3.5 Deactivation / Stand Down Operations

The deactivation or standing down of ESF #3 may extend deep into the recovery phase and may involve a transfer of responsibilities to Federal and State agencies. The deactivation of ESF #3 operations is coordinated through DPW with the Infrastructure Branch Coordinator, supporting agencies, and the Incident Commander. Once deactivation is announced, DPW will do the following:

- Provide a plan for the demobilization of personnel and equipment to the Infrastructure Branch Coordinator and Operations Support Section Chief
- Coordinate deactivation steps with the supporting departments/agencies
- Prepare a deactivation press release, when requested by DEM PIO, which will include follow-up information
- Provide deactivation information to all involved response departments and affected Public Works and Engineering points of contact
- Assign or transfer long-term restoration assessment responsibilities to appropriate department(s)
- Ensure documentation is retained by the Documentation Unit in the Planning Section
- Debrief staff and conduct an after action meeting

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Section 3: Planning Assumptions

The following planning assumptions for the *ESF #3: Public Works and Engineering Annex* apply:

- The public expects fundamental resources—such as water, sewer, communication, electricity, natural gas, transportation networks, and home and building access—to be restored in a timely manner during an emergency situation.
- Communications and traffic signals may be hindered by power failures, which may affect public health and safety services, the deployment of resources, and/or overall response to the disaster area.
- Communication tools (e.g., cell phones, fax, satellite phones) are important elements of ESF #3 and should be included in event planning.
- Emergency environmental waivers and legal clearances may be needed for disposal of materials from debris clearance, and for demolition activities for the protection of threatened public and private improvements.
- Public Works facilities or equipment may be damaged or inaccessible, and some employees may be unable to respond. There could be scattered or large areas affected by power outages, loss of water, or loss of sewage collection and treatment facilities. The need for public works and engineering services may exceed CCSF resources.
- Staffing needs should be considered for durational deployment, which may be brief or extended.
- Outside contractors may be required.
- Documentation needs should be planned for (logs, time cards, press release forms).
- All CCSF departments will complete damage assessments / building inspections and request assistance when necessary.
- The San Francisco Port will be contacted if there is a need for debris storage on port property.
- Four situation types exist for an ESF #3 activation:
 - **Planned Event:** The emergency response community has advance knowledge or warning of an event and is able to pre-plan a response.
 - **Unplanned Event:** The response community has no prior knowledge of an event or the prior knowledge occurs on such short notice that there is insufficient time to plan a response.
 - **Simple:** Routine response coordinated at the field level involving departments that frequently work together (e.g. Fire, Law, EMS, DPT, DPW).
 - **Complex:** Non-routine response coordinated at the field, DOC, or EOC level that involves the activation of multiple DOCs and/or the pairing of non-traditional departments, entities, or assets.

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Appendix: List of Abbreviations and Acronyms

The following abbreviations and acronyms are used in this Annex:

BART	Bay Area Rapid Transit
CCSF	City and County of San Francisco
CEG	Construction and Engineering Group
DBI	Department of Building Inspection
DEC	Division of Emergency Communications
DEM	Department of Emergency Management
DOC	Department Operation Center
DOE	Department of the Environment
DT	Department of Technology
DPW	Department of Public Works
EOC	Emergency Operations Center
ERP	Emergency Response Plan
ESF	Emergency Support Function
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System
HAM	Hand-Held Amateur Radio
ICP	Incident Command Post
ICS	Incident Command System
JIC	Joint Information Center
METS	Mayor's Emergency Telecommunications System
MTA-DPT	Municipal Transportation Authority - Department of Parking and Traffic
MTA - MUNI	Municipal Transportation Authority - Municipal Railway
NIMS	National Incident Management System
PIO	Public Information Officer
PUC	Public Utilities Commission
REOC	Regional Emergency Operations Center
RPD	Recreation and Parks Department
SAP	Safety Assessment Program
SFgo	Department of Parking and Traffic Transportation Management System
SOP	Standard Operating Procedure