

# ANNEX J: DAMAGE ASSESSMENTS & DEBRIS MANAGEMENT

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## Damage Assessments

When a disaster occurs, it is necessary to collect and analyze information concerning the nature, severity, and extent of the situation, and to report the information through established channels. The information will be used to assess the extent of the disaster/event and determine the appropriate level of response for the County.

Damage information will be consolidated and reported to the State's Inland Region Emergency Operations Center (REOC), and may be provided to the appropriate jurisdictions in the Operational Area. An initial assessment, sometimes called a "windshield survey," will be conducted by field responders to give a quick picture of the incident.

The Public Works Branch in the Operations Section will coordinate safety inspections searching for life and/or property-threatening situations. (Note: Should the scope of damage require additional assessment resources, a Damage Assessment Branch may be activated under the Planning/Intelligence Section Chief to oversee Operational Area damage assessment activities.)

### Damage Assessment Phases

Assessing the damage caused by a particular event is essentially a three-phased process. Each phase of the process serves a distinct purpose.

- **Phase 1 Initial Damage Estimate** begins **immediately after the disaster**, but in some cases may actually begin during the event. Its purpose is to be prepared to respond to any immediate requests for assistance, such as sandbags or protective measures.
- **Phase 2 Preliminary Damage Assessment** is a more detailed look at the needs and usually **occurs prior to a request for federal or state assistance**, so that the most accurate and timely information can be included in the Governor's request.
- **Phase 3 Recovery Scoping** takes place **after receiving a federal or state declaration**. Its purpose is to review and update the information previously gathered and develop your list of projects.

### Initial Damage Assessment

#### Immediate Survey

When a disaster occurs, an immediate survey of the County will be conducted by emergency responders assessing the nature, severity, and extent of the situation. The primary responders may include members of Glenn County's Sheriff's Office and City/County Planning and Public Works Departments.

Field responders will accomplish the initial damage assessment by conducting ground surveys which will require the observation and reporting of damage, casualties, and status of affected areas.

The ground survey should include the inspection of and reporting on facilities essential to public welfare and safety. Field responders will report their observations to the Situation Branch or to the Damage

Assessment Branch, if activated. It is imperative that ground surveys are collected and analyzed as quickly and as completely as possible so a determination of immediate future actions can be made.

## Initial Damage Estimate (IDE)

As significant damages become apparent, the Operations Section Chief should direct the Public Works Branch to prepare an Initial Damage Estimate (IDE).

When completed, the IDE should be forwarded to the State's Inland REOC. The IDE includes the location and description of the damages and provides a rough estimate of the associated dollar loss. The IDE will be used to support requests for State and Federal recovery assistance.

## EOC Reporting

Once activated, the Situation Branch of the OA EOC Operations Section will begin safety assessments of the damaged facilities and follow up, as necessary, with the field responders' initial damage assessment.

The Planning/Intelligence Section will complete and transmit the various situation reports to the State's Inland REOC. When no damage is observed, a report will be submitted indicating no observed damage.

As directed by the Operations Section Chief, Public Works Branch will begin completing the Initial Damage Estimate (IDE), which includes the location and description of the damages and provides a rough estimate of the associated dollar loss.

*Note: Should the scope of damage require additional assessment resources, a Damage Assessment Branch may be activated under the Planning/Intelligence Section Chief to oversee Operational Area damage assessment activities.*

Once completed on Cal-EOC, the IDE will be sent to the State's Inland REOC. A Situation Report will accompany the IDE. The reports define affected areas, identify status of transportation routes, the number of casualties and fatalities, damage to both private and public facilities, and the type and relative priority of assistance needed.

## Preliminary Damage Assessment

A Preliminary Damage Assessment (PDA) is a detailed assessment of damage to public and private facilities, with more precise dollar loss estimates. This will be conducted jointly with local and Cal-OES officials.

Information needed to determine the operational problems and immediate needs of the community is critical. Specific information on dollar amounts of the damage and the economic consequences of the disaster are also important, but will not take priority over the operational problems and emergency needs.

Detailed damage assessment information will be used to plan both short- and long- range recovery efforts. These plans will be given the highest priority as the County emergency organization transitions from response to recovery operations.

## Damage Assessment Action List

- Complete Initial Damage Estimate
- Identify and document damage to infrastructure and estimate restoration cost
- Document emergency protective measure and debris removal activity and estimate cost
- Confirm insurance deductibles and limits for damaged facilities
- Collect documentation necessary to support estimates (important for large projects or when PA program eligibility may be in question)
- Summarize damage on annotated map(s)
- Summarize the impact damage will have on normal community functions (e.g. number of people impacted and estimated duration)
- Submit damage assessment information to GCSO-OES
- Complete Preliminary Damage Assessment with Cal-OES
- Guide and accompany Joint PDA team to damaged sites as necessary
- Answer questions related to submitted damage, activities, and impacts posed by Joint PDA team members
- Collect and submit additional information or supporting documentation requested by Joint PDA team members
- For incidents that include Individual Assistance:
  - Document the location of and level of damage to homes and businesses according to criteria defined by FEMA
  - Document trauma, disruption of normal community functions, areas of concentrated damage, and areas where there is a high numbers of residents from defined special populations observed in the field.

*Refer to Recovery Plan for additional information on the State and Federal Disaster Recovery process.*

*Refer to the FEMA Damage Assessment Operations Manual 2016 for additional information:*

<https://www.fema.gov/media-library-data/1459972926996-a31eb90a2741e86699ef34ce2069663a/PDAManualFinal6.pdf>

## Debris Management

### Hazard

Natural and man-made disasters precipitate a variety of debris that includes, but is not limited to, such things as trees, sand, gravel, building/construction materials, vehicles, personal property, etc. Potential disasters that may precipitate in a large accumulation of debris in Lake County include but are not limited to:

1. Fire
2. Flood
3. Earthquake
4. Wind storm
5. Manmade disaster

### Potential Impacts

The quantity and type of debris generated from any particular disaster is a function of the location and kind of event experienced, as well as its magnitude, duration, and intensity. The quantity and type of debris generated, its location, and the size of the area over which it is dispersed directly impacts the type of collection and disposal methods used to address the debris problem, associated costs incurred, and the speed with which the problem can be addressed. In a major or catastrophic disaster, Glenn County Operational Area may have difficulty in locating staff, equipment, and resources to devote to debris removal, in the short as well as long term. Private contractors may play a significant role in the debris removal, collection, reduction, and disposal process.

This Plan is based on a waste management approach of reduction, reuse, recycle, recovery, and landfilling.

### Roles and Responsibility

City and County Public Works Departments have primary responsibility for Debris Management response and recovery including hazardous waste management through the Certified Unified Program Agency (CUPA). Additionally, Planning Department will assist operations with damage assessments, GIS mapping capabilities, and Environmental Health.

Debris Management will consist of a response organization supported by the OA EOC. Operations Section – Public Works Branch in the OA EOC will coordinate Damage Assessments and Debris Removal Operations.

### *Public Works Branch - Debris Manager*

The City and County Public Works will staff the Debris Manager role.

This individual's responsibilities include, but are not limited to, the following with respect to any and all debris management issues:

- Receive regular updates from the Debris Coordinator regarding cleanup progress and any problems encountered or expected.
- Coordinate all Public Works debris management assignments including monitoring duties (Roving, Load Site, and Disposal Site Monitors).
- Supervise all Debris Removal and management operations
- Communicate timely information to OA EOC Operations Section Chief regarding the status of the debris clearing, removal, and disposal operations.
- Assure that the OA is represented at all meetings with other government and private agencies involved with the debris cleanup operation.
- Coordinate with appropriate OA, State and Federal agencies, including Cal-OES, FEMA, and others appropriate.
- Coordinating with the State on debris issues affecting adjacent counties.
- Appoint a Debris Management Coordinator to oversee on the ground (incident) operations.
- Maintain a listing of all available Public Works equipment identified for possible debris clearing and disposal missions.
- Ensure that required logistical support is available, including cell phone, transportation, etc.
- Obtain all necessary regulatory permits for debris collection, reduction, temporary storage, and final disposal.
- Providing updates and information on debris removal and disposal activities to the OA EOC PIO.
- Coordinate with Public Health to ensure a Local Health Emergency is declared to facilitate hazardous material removal operations and State assistance.

### *Debris Management Coordinator*

- The Debris Manager Coordinator is responsible for daily operational control of the DM staff. The Deputy Debris Manager will receive current information on the severity of the disaster from the OA EOC Public Works Branch.
- All requests for debris removal or disposal OA EOC Public Works Branch. Requests for debris removal from public facilities and roadways will be reviewed and approved by the PW Branch - Debris Manager before being directed to the appropriate DM Coordinator to implement the request.
- The Debris Management Coordinator will appraise the extent of damage and resulting debris and issue directives to the appropriate Debris Management staff to implement the removal.
- The Debris Management Coordinator will ensure that all Contractor debris removal and disposal operations are properly monitored utilizing personnel assigned by the OA EOC Public Works Branch – Debris Manager.
- The Debris Management Coordinator staff informed on all ongoing debris management operations through, at a minimum, daily meetings and/or reports.

- Provide training and just in time training for all personnel assigned to debris management monitoring responsibilities.
- The Debris Management Coordinator will maintain a daily file on all debris related documents and issues including appropriate ICS documentation of staff activities (ICS 211, 214).

### *Public Information Officer – Debris Management*

The PIO will coordinate with the OA EOC Public Works Branch to obtain updates and important information to share with the public regarding debris removal and recovery. Topics to be addressed may include:

- Segregating Household Hazardous Waste (HHW)
- Safe handling of HHW to include use of Personal Protective Equipment (PPE)
- Placing disaster debris at the curbside
- Keeping debris piles away from fire hydrants and valves
- Reporting locations of illegal dump sites or incidents of illegal dumping
- Segregating recyclable materials
- Disseminate pickup schedules

## Response & Recovery Operations

The Public Works Branch - Debris Manager will be the single point of contact to coordinate and control all personnel and equipment responding to a major debris-generating event. This Plan provides guidance for the coordination of initial debris assessments through debris clearance, removal, and disposal operations.

### Phase I – Initial Response Operations

For ease of control and coordination, debris management operations are divided into two phases. Phase I will be implemented immediately after a debris-generating event to open emergency evacuation routes and roadways to critical facilities and affected neighborhoods. The major emphasis during this phase is to simply push debris from the traveled way to the right-of-way or curb. This activity is commonly referred to as Debris Clearance. Little or no effort is made to remove debris from the right-of-way.

#### *Phase I activities include:*

- Implementation of the Plan.
- Determination of incident-specific debris management responsibilities.
- Establishment of priorities based on evacuation needs.
- Identification and procurement of debris management sites.
- Activation of pre-positioned contracts, if necessary to support Phase I clearance operations.
- Distribution of public information.
- Coordination and tracking of resources.
- Formal documentation of costs.

#### *Initial Impact Assessment Actions*

The OA EOC - Public Works Branch is responsible for coordinating impact assessment for all City and County public structures, equipment, and debris clearance immediately following a large-scale disaster. Impact assessments are performed by **Damage Assessment Teams** and used to prioritize impacted areas and resource needs. The teams will be composed of personnel from City and County Public Works and Planning departments.

#### **Damage Assessment Teams will:**

- Conduct initial zone-by-zone windshield surveys

- Identify the type of debris
- Identify debris impacts on critical roads
- Estimate amounts of debris on the roadways, private and public property.
- Prioritize and issue urgent assignments to clear debris from at least one lane on all evacuation routes and critical roadways for emergency response vehicles
- Provide information from the windshield surveys to the Debris Manager in the OA EOC Public Works Branch

### Priority for Debris Clearance

**The Public Works Branch - Debris Manager** will establish initial priority for debris clearance based upon the following ranking as provided by the Damage Assessment Teams:

1. Extrication of people.
2. Major flood drainage ways.
3. Egress for fire, police, and Emergency Operations Center.
4. Ingress to hospitals, jail, and special care unit.
5. Major traffic routes.
6. Supply distribution points, assembly areas, and shelters
7. Government facilities.
8. Public Safety communications towers.
9. Access for utility restoration.
10. Secondary roads to neighborhood collection points.
11. Neighborhood streets.
12. Private property adversely affecting public welfare.

*During the debris clearance and removal process, the DM staff will be responsible for coordinating with the Debris Coordinator and utility companies as appropriate to ensure that power lines do not pose a hazard to emergency work crews.*

### Temporary Debris Storage

Initially, debris will be placed in temporary holding areas, locations for which should be determined as quickly as possible following the onset of the disaster to match the needs of the debris, until such time as a detailed plan of debris collection and disposal is prepared. This is not anticipated until after the local traffic has been restored. Temporary debris collection sites should be readily accessible by recovery equipment and should not require extensive preparation or coordination for use. Criteria for selecting these temporary sites will include such factors as ownership of property, size of parcel, surrounding land uses and environmental conditions, and transportation facilities that serve the site.

Collection sites will be on public property when feasible to facilitate the implementation of the mission and mitigate against any potential liability requirements. Activation of sites will be under the control of the involved jurisdiction, and will be coordinated with other recovery efforts through the emergency operations center.

## **Phase II – Recovery Operations**

Phase II will be implemented within two to seven days following a major debris-generating event, and will encompass the processes of debris removal and disposal. This delay is normal and allows time for affected residents to return to their homes and begin the cleanup process. Debris must be brought to the rights-of-way or curb to be eligible for removal.

The Public Works Branch - Debris Manager will be responsible for implementing Phase II activities. All debris removal and disposal operations will be coordinated by the Public Works Branch - Debris Manager. Phase II may be quite lengthy as disaster recovery continues until pre-disaster conditions are restored.

### *Phase II Debris Removal and Disposal Operations*

The Public Works Branch - Debris Manager will coordinate debris removal and disposal operations for the Operational Area (OA). Phase II operations involve the removal and disposal of curbside debris by City/County force account and/or contract crews. All contract debris removal and disposal operations will be overseen by the Public Works Branch – Debris Management staff.

The OA EOC Medical-Health Branch (Environmental Health) will coordinate with the California Department of Toxic Substances Control for the collection of eligible industrial or commercial hazardous waste resulting from the disaster.

### **Phase II activities**

- Activation of pre-positioned contracts
- Public information on safe debris removal process
- Activation of debris management sites
- Removal of debris from rights-of-way and critical public facilities
- Movement of debris from debris management sites to permanent landfills, composting facilities, or recycling facilities
- Monitoring and documentation of debris management operations to include associated costs

### *Debris Disposal*

To the greatest degree possible, local resources for debris collection and disposal will be used. Emphasis will be placed on actions that the public can perform to expedite the cleanup process, such as separating burnable and non-burnable debris; segregating Household Hazardous Waste; placing debris at curbside; keeping debris piles away from fire hydrants and valves, reporting locations of illegal dump sites or incidents of illegal dumping; and segregating recyclable materials.

The OA EOC Public Works Branch - Debris Management Team will map out collection zones and consolidation points. Copies of the grid map will be distributed to Debris Coordinator for distribution to staff and contracted clean-up crews.

### Types of Debris

- **Clean fill material** may be buried on site or hauled to the nearest approved clean fill site
- **Mixed debris** will be collected and hauled to designated debris management sites, including recycling and composting facilities, and landfills.
- **Clean woody debris** will be hauled to the nearest temporary debris storage and reduction site for eventual burning or grinding
- **Utility Company Property**
  - Pacific Gas and Electric and other utility crews will remove and dispose of all utility related debris such as power transformers, utility poles, cable, and other utility company material.
- **White goods/Household Hazardous Waste are:**
  - Household appliances including refrigerators, freezers, air conditioners, heat pumps, ovens, ranges, washing machines, clothes dryers, water heaters, etc.
  - Refrigerants and other machine fluids are regulated and will only be reclaimed by certified technicians before the metal is recycled.
    - To avoid the releases of refrigerants or oils, the collection of white goods will be accomplished carefully by manually placing the appliance on trucks or by using lifting equipment that will not damage the elements that contain refrigerants or regulated oils. Residents will be required to segregate white goods from other types of debris.
      - The Debris Manager will identify Household Hazardous Waste (HHW) drop-off locations. Debris Contractors and staff will be encouraged to separate HHW at the curb and not haul it to a Debris Management Site. Residents will be encouraged to separate and transport HHW to identified facilities.
- **Private Property Debris Disposal**
  - Dangerous structures are the responsibility of the owner to demolish in order to protect the health and safety of adjacent residents. However, experience has shown that unsafe structures will often remain in place due to lack of insurance or absentee landlords. Care must be exercised to ensure that the OA EOC properly identifies structures listed for demolition.
    - Demolition of private structures.
    - Removing debris from private property.
    - Local law and/or code enforcement requirement.
    - Historic and archaeological sites restrictions.
    - Qualified environmental Contractors to remove hazardous materials such as asbestos and lead-based paint.
    - Execution of Right-of Entry/Hold Harmless agreements with landowners. A sample Right-of-Entry/Hold Harmless agreement is shown in Appendix H.

Authorized or approved curbside solid waste contractors will continue to collect refuse in accordance with current procedures, routes, and removal schedules. They will not haul disaster debris unless expressly authorized by the involved jurisdiction.

## *Debris Monitoring*

Debris activities require monitoring in order to ensure proper documentation for recovery funds. Furthermore, debris monitoring assists in identifying, evaluating, and resolving debris issues.

There are a number of monitoring considerations that are critical to effective monitoring of debris activities. These include:

- a) Responsibilities
- b) Staff to perform tasks
- c) Documentation and reporting requirements
- d) Monitoring activities and techniques

## *Debris Monitor*

Debris Monitors will monitor:

- Loading sites
- Disposal sites
- Verify that the debris is eligible for disposal
- Document quantities (cubic yards of debris, hours of operation, etc.)

## *Tracking and Documentation*

The primary tracking mechanism for all debris loaded, hauled, and disposed of under this plan will be the Load Ticket, which is shown in Figure 1.

### **Load tickets**

- Initiated at pickup sites and closed-out upon drop-off of each load at a debris management site or permanent landfill
- Used to document both County force account and contract haulers.
- Serve as supporting documentation for:
  - Contractor payment
  - reimbursement from State and Federal recovery funds
- Weight tickets from the debris management site or permanent landfill must also accompany the load ticket

***Sample Load Ticket on next page***

Figure 1 – Sample Load Ticket

<b>County of Glenn LOAD TICKET</b>	<b>Ticket No. 00001</b>
<b>Section 1</b>	
Primary Contractor:	Date:
Subcontractor (Hauler):	Departure Time:
Driver:	Truck Plate No.:
Measured Bed Capacity (cu. yds.):	
Debris Pickup Site Location: (must be a street address)	
Debris Type: <input type="checkbox"/> Vegetation <input type="checkbox"/> Construction/Demolition <input type="checkbox"/> Mixed <input type="checkbox"/> Other:	
Loading Site Monitor:	Print Name: _____ Signature: _____
Remarks:	
<b>Section 2</b>	
Debris Disposal Site Location:	
Estimate Debris Quantity (cu. yds.):	Arrival Time:
Disposal Site Monitor:	Print Name: _____ Signature: _____
Remarks:	
Copies:                   White - Load Site Monitor Yellow- Disposal Site Monitor Pink- Onsite Contractor's Representative or Driver	

For tracking of all debris moved in response to a given event, the following is the disposition of each ticket part:

- |        |        |   |
|--------|--------|---|
| Part 1 | White  | Load Site Monitor (Turned in daily to the DMC)                  |
| Part 2 | Yellow | Disposal Site Monitor (Turned in daily to the DMC)              |
| Part 3 | Pink   | Driver or Contractor's on-site representative (Contractor Copy) |

## *Environmental Requirements*

Following a disaster event, compliance with environmental protection laws and regulations is required. Federal and State Environmental Protection Agencies including but not limited to California Environmental Protection Agency, the California Department of Resources Recycling and Recovery, the California Department of Toxic Substances Control, California State Water Resources Control Board, California Air Resources Board, and any local or regional branches of these agencies, and the Tehama County Department of Environmental Health should be consulted for applicable regulatory requirements.

All debris related activities shall be in compliance with Federal, State, and local agencies.

## *Health and Safety*

All debris related activities shall be done in compliance with health and safety regulations, and consistent with California Department of Industrial Relations Division of Occupational Safety and Health standards.

The Operational Area and its contractor will disseminate safety information and will monitor compliance with the minimum safety standards to all emergency workers, and corrective actions to be taken if workers do not comply with the minimum safety standards.

**APPENDICES**

## APPENDIX J-1 Debris Definitions

**Chipping or Mulching** – Reducing wood related material by mechanical means into small pieces to be used as mulch or fuel. Woody debris can be reduced in volume by approximately 75%. The terms “chipping” and “mulching” are often used interchangeably.

**Construction and Demolition** – Any type of solid waste resulting from land clearing operations, the construction of new buildings or remodeling structures, or the demolition of any building or structure.

**Debris** - Scattered items and materials that were broken, destroyed, or displaced by a natural disaster.

**Debris Clearance** – Clearing the major road arteries by pushing debris to the roadside to accommodate emergency traffic.

**Debris Removal** – Picking up debris and taking it to a temporary storage site, composting, recycling or permitted landfill site.

**Final Debris Disposal** – Placing mixed un reusable, unrecyclable or noncompostable debris and/or residue into an approved landfill.

**Garbage** – Waste that is normally picked up by a designated contract hauler.

**Hazardous Waste** – Any waste or combination of wastes of a solid, liquid, contained gaseous or semisolid form which because of its quantity, concentration, or physical, chemical, or infectious characteristics may:

- Cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or
- Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Also includes material and products from institutional, commercial, recreational, industrial and agricultural sources that contain certain chemicals with one or more of the following characteristics, as defined by the Environmental Protection Agency:

- 1) Toxic
- 2) Flammable
- 3) Corrosive
- 4) Reactive

Such wastes may include, but are not limited to, those that are persistent in nature, assimilated, or concentrated in tissue or which generate pressure through decomposition, heat, or other means. The term does not include solid or dissolved materials in domestic sewage or solid dissolved materials in irrigation return flows, or industrial discharges, which are point sources subject to state or federal permits.

**Household Hazardous Waste (HHW)** – Used or leftover contents of consumer products that contain chemicals with one or more of the following characteristics, as defined by the Environmental Protection Agency:

- 1) Toxic
- 2) Flammable
- 3) Corrosive
- 4) Reactive

Examples of household hazardous waste include small quantities of normal household cleaning and maintenance products, latex and oil based paint, cleaning solvents, gasoline, oils, swimming pool chemicals, pesticides, and propane gas cylinders.

**Hot Spots** – Illegal dumpsites that may pose health and safety threats.

**Illegal Dumping** – Dumping garbage and rubbish, etc., on open lots is prohibited. No garbage, refuse, abandoned junk, solid waste or other offensive material shall be dumped, thrown onto, or allowed to remain on any lot or space within the County.

**Industrial Waste** – Any liquid, gaseous, solid, or other waste substance, or a combination thereof resulting from any process of industry, manufacturing, trade, or business or from the development of any natural resources.

**Monitoring** – Actions taken to ensure that a Contractor complies with the contract scope of work.

**Recycling** – The recovery and reuse of materials that may have a residual monetary or environmental value.

**Rights-of-Way** – The portions of land over which facilities, such as highways, railroads, or power lines are built. Includes land on both sides of public roadways up to the private property line.

**Scale/Weigh Station** – A scale used to weigh trucks as they enter and leave a recycling, composting or landfill facility. The difference in weight determines the tonnage dumped and a tipping fee may be charged accordingly. It will be used to determine the quantity of debris picked-up and hauled.

**Sweeps** – The number of times a contractor passes through a community to collect all disaster-related debris from the rights-of-way. Usually limited to three passes through the community.

**Temporary Debris Storage and Reduction (TDSR) Site** – A location where debris is temporarily stored until it is sorted, processed, and reduced in volume and/or taken to a recycling facility or permanent landfill.

**Tipping Fee** – A fee based on weight or volume of debris dumped that is charged by landfills or other waste management facilities to cover their operating and maintenance costs. The fee also may include amounts to cover the cost of closing the current facility and/or opening a new facility.

**Trash** – Non-disaster related refuse and household furnishings placed on the curbside for pickup by franchise solid waste hauler personnel.

**Volume Reduction Operations** – Any of several processes used to reduce the volume of debris brought to a temporary debris storage and reduction site. It includes chipping and mulching of woody debris, shredding and baling of metals, etc.

**White Metals** – Household appliances such as refrigerators, washers, dryers, and freezers.

APPENDIX J-2 Debris Monitoring Checklists

Debris Loading Site Monitoring Checklist

Date: \_\_\_\_\_  
Arrival time: \_\_\_\_\_ Departure Time: \_\_\_\_\_ Weather: \_\_\_\_\_

Loading Site Location: \_\_\_\_\_  
(Street address or nearest intersection)

GPS Location: N \_\_\_\_\_; W \_\_\_\_\_

Loading Site Monitor's Name: \_\_\_\_\_  
(Print Name)

Roving Monitor's Name: \_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Signature)

Loading Site

1. Is the Site Monitor filling out the Load Ticket properly?  Yes  No  
If no, explain actions taken: \_\_\_\_\_

2. Is the Contractor loading eligible debris from the designated right-of-way (approximately 15' from the curb)?  Yes  No  
If no, explain actions taken: \_\_\_\_\_

3. Is the Contractor loading trucks to capacity?  Yes  No  
If no, explain actions taken: \_\_\_\_\_

4. Identify Contractor's truck numbers observed while on site: \_\_\_\_\_

5. Were photographs taken at the loading site?  Yes  No  
If yes, list photo log numbers: \_\_\_\_\_

General Notes and Comments:

Include observations within the general area as to overall cleanup activities. Use reverse side if necessary.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Debris Disposal Site Monitoring Checklist**

Date: \_\_\_\_\_

Arrival time: \_\_\_\_\_ Departure Time: \_\_\_\_\_ Weather: \_\_\_\_\_

Loading Site Location: \_\_\_\_\_  
(Street address or nearest intersection)

GPS Location: N \_\_\_\_\_; W \_\_\_\_\_

Disposal Site Monitor's Name: \_\_\_\_\_  
(Print Name)

Roving Monitor's Name: \_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Signature)

**Loading Site**

1. Is the Disposal Monitor filling out the Load Ticket properly?  Yes  No

If no, explain actions taken: \_\_\_\_\_

2. Is the Disposal Monitor attaching a copy of the Weight Ticket to the Load Ticket?

If no, explain actions taken:  Yes  No

3. Is the Contractor loading trucks to capacity?  Yes  No

If no, explain actions taken: \_\_\_\_\_

4. Identify Contractor's truck numbers observed while on site: \_\_\_\_\_

5. Were photographs taken at the disposal site?  Yes  No

If yes, list photo log numbers: \_\_\_\_\_

**General Notes and Comments:**

Include observations within the general area as to overall cleanup activities. Use reverse side if necessary.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**APPENDIX J-3 Debris Estimation Formulas**

**Estimating Rule of Thumb:**

- 15 trees, 8 inches in diameter = 40 CY
- Single wide mobile home = 290 CY
- Double wide mobile home = 415 CY
- Root system (8'-10' dia.) = One flatbed trailer to move
- Treat debris piles as a cube, not a cone, when performing estimates.
- Average pace = 2' 6"

**Formulas**

Conversions:

- 27 cubic feet=1 cubic yard
- One mile=5280 feet or 1760 yards

Building formula:

$L' \times W'$  (building footprint) x No. of Stories x 0.2 = \_\_\_\_\_ Cubic Yards of debris

Debris pile formula:

$\frac{L' \times W' \times H'}{27}$  = \_\_\_\_\_ Cubic Yards of debris.

**Conversion Factors from Cubic Yards to Tons**

- Mixed Construction & Demolition Debris = 500 LBS/CY or  $CY \times 0.25 =$  Tons
- Yard Vegetation = 300 LBS/CY or  $CY \times 0.15 =$  Tons
- Mulch = 500 LBS/CY or  $CY \times 0.25 =$  Tons
- Regular Trash = 300 LBS/CY or  $CY \times 0.15 =$  Tons
- Concrete = 2000 LBS/CY or  $CY \times 1.0 =$  Tons
- Sand = 2600 LBS/CY or  $CY \times 1.3 =$  Tons
- Land Clearing (Root balls with dirt) 1500 LBS/CY or  $CY \times 0.75 =$  Tons



**APPENDIX J-5 Debris Load Ticket**

**COMPLETING THE LOAD TICKET**

- The Disposal Site Monitor will make an estimate of the quantity of debris contained in the truck or trailer in cubic yards. Each truck or trailer will have the measured hauling capacity in cubic yards recorded on the side of the truck or trailer. That number should be validated with the quantity stated in Section 1.
- The Disposal Site Monitor will indicate the name and the arrival time of the truck and indicate the type of debris in the truck.
- The Disposal Site Monitor will record the estimated volume, in cubic yards, on the Load Ticket in the Estimated Debris Quantity block of material contained within the bed of the truck or trailer.
- Examples of a Truck / Trailer Estimating Table and Truck Capacity Table are shown below.
- The Monitor will print and sign his/her name in the designated block.
- The Disposal Site Monitor will retain one copy of the load ticket and give the remaining copies to the truck driver. The Disposal Site Monitor’s copy will be turned into the County Debris Manager or his representative at the end of each day. These are controlled forms and cannot be lost since they will be used to verify the amount of money paid to the Debris reduction site Contractor and to the debris hauling Contractor.

**EXAMPLE TRUCK / TRAILER ESTIMATING TABLE**

Truck/Trailer Size (CY)	100% (CY)	90% (CY)	85% (CY)	80% (CY)	75% (CY)
32	32	29	27	25	24
46	46	41	39	37	35
47	47	42	40	38	35
Note: Truck/Trailer without tailgate is rated at 85% capacity					

**EXAMPLE TRUCK CAPACITY TABLE**

Truck Number	Driver	Model	License #	Capacity in CY
101	Chip Grinder	Trailer	CA 000001	47 CY

List Vehicle Numbers, Drivers Name, Model, License Number and Measured Capacity of Truck / Trailer Bed In Cubic Yards.

*NOTE: Debris Contract Oversight must measure and photograph every truck and trailer used by the contractor to move debris. This should be done jointly with the contractor’s representative before debris removal operations begin.*

<b>County of Glenn LOAD TICKET</b>	<b>Ticket No. 00001</b>
<b>Section 1</b>	
Primary Contractor:	Date:
Subcontractor (Hauler):	Departure Time:
Driver:	Truck Plate No.:
Measured Bed Capacity (cu. yds.):	
Debris Pickup Site Location: (must be a street address)	
Debris Type: <input type="checkbox"/> Vegetation <input type="checkbox"/> Construction/Demolition <input type="checkbox"/> Mixed <input type="checkbox"/> Other:	
Loading Site Monitor:	Print Name: _____ Signature: _____
Remarks:	
<b>Section 2</b>	
Debris Disposal Site Location:	
Estimate Debris Quantity (cu. yds.):	Arrival Time:
Disposal Site Monitor:	Print Name: _____ Signature: _____
Remarks:	
Copies:                    White - Load Site Monitor Yellow - Disposal Site Monitor Pink - Onsite Contractor's Representative or Driver	

For tracking of all debris moved in response to a given event, the following is the disposition of each ticket part:

- |                 |   |
|-----------------|---|
| Part 1   White  | Load Site Monitor (Turned in daily to the DMC)                  |
| Part 2   Yellow | Disposal Site Monitor (Turned in daily to the DMC)              |
| Part 3   Pink   | Driver or Contractor's on-site representative (Contractor Copy) |

APPENDIX J-6 Right of Entry for Private Property

Right of Entry / Hold Harmless Agreement

I/We Insert Owners' Legal Names, the owner(s) of the property commonly identified as Insert Street Address, Insert City/Town Name, State of California, do hereby grant and give freely and without coercion, the right of access and entry to the County of Glenn, its agencies, contractors, and subcontractors, for the purpose of removing and clearing any or all storm-generated debris of whatever nature from the above described property.

It is fully understood that this permit is not an obligation to perform debris clearance. The undersigned agrees and warrants to hold harmless the County of Glenn, State of California, its agencies, contractors, and subcontractors, for damage of any type whatsoever either to the above described property or persons situated thereon and hereby release, discharge, and waive any action, either legal or equitable, that might arise out of any activities on the above described property. The property owner(s) will mark any storm damaged sewer lines, water lines, and other utility lines located on the described property.

I/We ( ) have ( ) have not) ( ) will ( ) will not) receive(d) any compensation for debris removal from any other source, including the Small Business Association (SBA), Agricultural Stabilization and Conservation Service (ASCS), private insurance, individual and family grant program or any other public assistance program. I will report for this property any insurance settlements to me or my family for debris removal that has been performed at government expense. For the considerations and purposes set forth herein, I set my hand this Insert Numerical Day of Insert Month, Insert Year.

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Owner

\_\_\_\_\_  
Owner

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Address

## APPENDIX J-7 Temporary Debris Storage & Reduction Site

### *TDSR Site Setup*

The topography and soil/substrate conditions should be evaluated to determine best site layout. When planning site preparation, think of ways to make restoration easier. For example, if the local soils are very thin, the topsoil can be scraped to bedrock and stockpiled in perimeter berms. Upon site closeout, the uncontaminated soil can be spread to preserve the integrity of the tillable soils.

The following site baseline data checklist should be used to evaluate a site before a contractor begins operations and used during and after to ensure that site conditions are properly documented.

### TDSR Site Baseline Data Checklist

#### **A. Before Activities Begin**

- Take ground or aerial photographs and/or video.
- Note important features, such as structures, fences, culverts, and landscaping.
- Take random soil samples.
- Take random groundwater samples.
- Take water samples from existing wells.
- Check the site for volatile organic compounds.

#### **B. After Activities Begin**

- Establish groundwater-monitoring wells.
- Take groundwater samples.
- Take spot soil samples at household hazardous waste, ash, and fuel storage areas.

#### **C. Progressive Updates**

- Update videos/photographs.
- Update maps/sketches of site layout.
- Update quality assurance reports, fuel spill reports, etc.

### TDSR Site Operations

Lined temporary storage areas should be established for ash, household hazardous waste, fuels, and other materials that may contaminate soils and groundwater. Plastic liners should be placed under stationary equipment such as generators and mobile lighting plants. These actions should be included as a requirement in the contract scope of work. If the site is also an equipment storage area, fueling and equipment repair should be monitored to prevent and mitigate spills of petroleum products and hydraulic fluids. Be aware of and lessen the effects of operations that might irritate occupants of neighboring areas. Establishment of a buffer zone can abate concerns over dust, noise, and traffic.

Consider on-site traffic patterns and segregate materials based on planned volume reduction methods. Operations that modify the landscape, such as substrate compaction and over excavation of soils when loading debris for final disposal, will adversely affect landscape restoration.

Debris removal/disposal should be viewed as a multi-staged operation with continuous volume reduction. There should be no significant accumulation of debris at temporary storage sites. Instead, debris should be constantly flowing to grinders or recycled, with the residue and mixed construction and demolition materials going to a landfill.

### TDSR Site Closeout

Each TDSR Site will eventually be emptied of all material and be restored to its previous condition and use. The Contractor is required to remove and dispose of all un reusable, unrecyclable and noncompostable debris to approved landfills. Appropriate administrative and regulatory inspectors will monitor all closeout activities.

### TDSR Site Closeout Planning

The Contractor must assure the Debris Manager that all TDSR sites are properly remediated. There will be significant costs associated with this operation. Site remediation will go smoothly if baseline data collection and site operation procedures are followed. Closeout or re-approval of a TDSR site should be accomplished within 30 days of receiving the last load of debris.

### TDSR Site Closeout Steps

1. Contractor is responsible for removing all debris from the site.
2. Contractor conducts an environmental assessment with the Debris Manager and landowner.
3. Contractor develops a remediation plan.
4. Remediation plan reviewed by the Debris Manager, landowner, and appropriate environmental regulatory entities.
5. Remediation plan approved by the appropriate environmental regulatory entities.
6. Contractor executes the plan.
7. Contractor obtains acceptance from the Debris Manager, appropriate environmental regulatory entities, and the landowner.

### TDSR Site Closeout Coordination

The Contractor will coordinate the following closeout requirements through the DCOT staff:

- Coordinate with local and State officials responsible for construction, real estate, contracting, project management, and legal counsel regarding requirements and support for implementation of a site remediation plan.

- Establish an independent testing and monitoring program. The Contractor is responsible for environmental restoration of both public and leased sites. The Contractor will also remove all debris from sites for final disposition.
- Refer to appropriate and applicable environmental regulations.
- Prioritize site closures.
- Schedule closeout activities.
- Determine separate protocols for ash, soil and water testing.
- Develop decision criteria for certifying satisfactory closure based on limited baseline information.
- Develop administrative procedures and contractual arrangements for closure phase.
- Inform local and State environmental regulatory entities regarding acceptability of program and established requirements.
- Designate approving authority to review and evaluate Contractor closure activities and progress.
- Retain staff during closure phase to develop site-specific remediation for sites, as needed, based on information obtained from the closure checklist shown below.

### Material Removal

1. All processed and unprocessed vegetative material and inter debris shall be removed to a properly approved solid waste management site.
2. Tires must be disposed of at a scrap tire collection/processing facility; white goods and other scrap metal should be separated for recycling.
3. Burn residues shall be removed to a properly approved solid waste management site.
4. All unrecoverable materials shall be removed to a properly permitted C&D recycling facility, C&D landfill, or municipal solid waste landfill.

### TDSR Site Remediation

During the debris removal process and after the material has been removed from each of the TDSR sites, environmental monitoring will be needed to close each of the sites. The monitoring should be done on soil and groundwater.

**Soil** Monitoring of the soils should be completed consistent with local, State and federal regulations to determine if any of the soils are contaminated by volatile hydrocarbons. This phase of the monitoring should be done after the stockpiles are removed from the site.

**Ground Water**      The monitoring of the groundwater should be done to determine the probable effects of rainfall leaching.

**TDSR Site Closure Checklist**

- Site number and location
- Date closure complete
- Household hazardous waste removed
- Contractor equipment and temporary structures removed
- Contractor petroleum spills remediated
- Ash piles removed
- Comparison of baseline information to conditions after the contractor has vacated the temporary site

**Site Re-approval**

Sites that were approved as TDSR sites will require re-approval for long-term storage, continuing reduction processing, and permanent disposal if site is not closed out in accordance with guidelines stated here. Sites shall be managed and monitored in accordance with local, State and federal regulations to prevent threats to the environment or public health.

## APPENDIX J-8 Temporary Vegetative Debris Storage and Reduction Site (TDSR)

When preparing temporary facilities for handling debris resulting from the cleanup efforts, the following guidelines should be considered when establishing Temporary TDSR sites.

These guidelines apply only to sites for staging vegetative storm debris (yard waste, trees, limbs, stumps, branches, and untreated or unpainted wood). Arrangements should be made to screen out unsuitable materials.

The method of managing vegetative and land clearing storm debris is "chipping/grinding" for use in landscape mulch, compost preparation, and industrial boiler fuel.

### *Chipping and Grinding Sites*

Locating sites for chipping/grinding of vegetative and land clearing debris will require a detailed evaluation of potential sites and possible revisits at future dates to see if site conditions have changed or if the surrounding areas have changed significantly to alter the use of the site.

The following guidelines are presented in locating a site for "chipping/grinding" and are considered "minimum standards" for selecting a site for use:

- Sites should be located outside of identifiable or known floodplain and flood prone areas.
- Storage areas for incoming debris and processed material should be at a minimum 100 feet from all surface waters of the state. "Waters of the state" includes but is not limited to small creeks, streams, watercourses, ditches that maintain seasonal groundwater levels, ponds, wetlands, etc.
- Storage areas for incoming debris and processed material shall be at least 100 feet from the site property boundaries and on-site buildings/structures. Management of processed material shall be in accordance with the guidelines for reducing the potential for spontaneous combustion in compost/mulch piles.
- Storage areas for incoming debris shall be located at least 100 feet from residential dwellings, commercial or public structures, potable water supply wells, and septic tanks with leach fields.
- Sites that have identified wetlands should be avoided. If wetlands exist or wetland features appear at a potential site, will be necessary to delineate areas of concern. Once areas are delineated, the areas shall be flagged and a 100-foot buffer shall be maintained for all activities on-going at the site.
- Sites bisected by overhead power transmission lines need careful consideration due to large dump body trucks/trailers used to haul debris, and underground utilities need to be identified due to the potential for site disturbance by truck/equipment traffic and possible site grading.

- Sites shall have an attendant(s) during operating hours to minimize the acceptance of unapproved materials and to provide directions to haulers and private citizens bringing in debris.
- Sites should be secure after operating hours to prevent unauthorized access to the site. Temporary measures to limit access to the site could be the use of trucks or equipment to block entry. Gates, cables, or swing pipes should be installed as soon as possible for permanent access control, if a site is to be used longer than two weeks. Sites should have adequate access that prohibits traffic from backing onto public rights-of-way or blocking primary and/or secondary roads to the site.
- When possible, signs should be installed to inform haulers and the general public on types of waste accepted, hours of operation, and who to contact in case of an afterhours emergency.
- Grinding of clean wood waste such as pallets and segregated non-painted/non-treated dimensional lumber is allowed.
- Final written approval is required to consider any TDSR site to be closed. Closeout of staging and processing sites shall be within six months of receiving waste. If site operations will be necessary beyond this time frame, permitting of the site may be required. If conditions at the site become injurious to public health and the environment, then the site shall be closed until conditions are corrected or permanently closed. Closeout of sites shall be in accordance with the closeout and restoration guidelines for TDSR sites.

#### **Reducing the Potential for Spontaneous Combustion in Compost or Mulch Piles Guidelines**

- When ground organic debris is put into piles, microorganisms can very quickly begin to decompose the organic materials. The microorganisms generate heat and volatile gases as a result of the decomposition process. Temperatures in these piles can easily rise to more than 160 degrees Fahrenheit. Spontaneous combustion can occur in these situations.
- Spontaneous combustion is more likely to occur in larger piles of debris because of a greater possibility of volatile gases building up in the piles and being ignited by the high temperatures. If wind rows can be maintained 5 feet to 6 feet high and 8 feet to 10 feet wide, volatile gases have a better chance of escaping the piles; and the possibility of spontaneous combustion will be reduced.
- Turning piles when temperatures reach 160 degrees can also reduce the potential for spontaneous combustion. Pile turning provides an opportunity for gases to escape and for the contents of the pile to cool. Adding moisture during turning will increase cooling. Controlling the amount of nitrogen-bearing (green) wastes in piles will also help to reduce the risk of fire. The less nitrogen in the piles the slower the decomposition process and consequently the less heat generated and gases released.
- Large piles should be kept away from wooded areas and structures and should be accessible to firefighting equipment, if a fire were to occur. Efforts should be made to avoid driving or

operating heavy equipment on large piles because the compaction will increase the amount of heat build-up, which could increase the possibility of spontaneous combustion.

## APPENDIX J-9 Temporary Construction & Demolition Staging & Transfer Site

The following guidelines should be considered when establishing staging/transfer sites for Construction & Demolition (C&D) and C&D recycling treatment and processing facilities.

These guidelines apply only to sites for staging/transferring C&D storm debris (roof shingles/roofing materials, carpet, insulation, wallboard, treated and painted lumber, etc.). Arrangements should be made to screen out unsuitable materials, such as household garbage, white goods, asbestos containing materials (ACM's), and household hazardous waste.

### *Selecting Temporary Staging / Transferring Sites*

Locating sites for staging/transferring C&D waste can be accomplished by evaluating potential sites and by revisiting sites used in the past to see if site conditions have changed or if the surrounding areas have changed significantly to alter the use of the site. The following guidelines are presented in locating a site for "staging/transferring" and are considered "minimum standards" for selecting a site for use:

- Sites should be located outside of identifiable or known floodplain and flood prone areas.
- Unloading areas for incoming C&D debris material should be at a minimum 100 feet from all surface waters of the state. "Waters of the state" includes but is not limited to small creeks, streams, watercourses, ditches that maintain seasonal groundwater levels, ponds, wetlands, etc.
- Storage areas for incoming C&D debris shall be at least 100 feet from the site property boundaries, on-site buildings, structures, and septic tanks with leach fields or at least 250 feet from off-site residential dwellings, commercial or public structures, and potable water supply wells, whichever is greater.
- Materials separated from incoming C&D debris (white goods, scrap metal, etc.) shall be at least 50 feet from site property lines. Other non-transferable C&D wastes (household garbage, larger containers of liquid, household hazardous waste) shall be placed in containers and transported to the appropriate facilities as soon as possible.
- Sites that have identified wetlands should be avoided. If wetlands exist or wetland features appear at a potential site, verification will be necessary to delineate areas of concern. Once areas are delineated, the areas shall be flagged and a 100-foot buffer shall be maintained for all activities on-going at the site.
- Sites bisected by overhead power transmission lines need careful consideration due to large dump body trucks/trailers used to haul debris, and underground utilities need to be identified due to the potential for site disturbance by truck/equipment traffic and possible site grading.
- Sites shall have an attendant(s) during operating hours to minimize the acceptance of unapproved materials and to provide directions to haulers and private citizens bringing in debris.

- Sites should be secure after operating hours to prevent unauthorized access to the site. Temporary measures to limit access to the site could be the use of trucks or equipment to block entry. Gates, cables, or swing pipes should be installed as soon as possible for permanent access control, if a site is to be used longer than two weeks.
- When possible, signs should be installed to inform haulers and the general public on types of waste accepted, hours of operation, and who to contact in case of afterhours emergency.
- Final written approval is required to consider any TDSR site to be closed. Closeout of processing/recycling sites shall be within one (1) year of receiving waste. If site operations will be necessary beyond this time frame, permitting of the site by the State may be required. If conditions at the site become injurious to public health and the environment, then the site shall be closed until conditions are corrected or permanently closed. Closeout of sites shall be in accordance with the closeout and restoration of TDSR sites guidelines.

### C&D Treatment & Processing/Recycling Sites

Management of C&D debris and source separated materials to be reused, recycled or composted shall be in accordance with the following additional conditions:

- Contact the Department of Environmental Health for information on managing asbestos containing materials (ACM's) or materials that are considered regulated asbestos containing materials.
- Sites should be located outside of identifiable or known floodplain and flood prone areas.
- Storage areas for incoming debris should be at a minimum 100 feet from all surface waters of the state. "Waters of the state" includes but is not limited to small creeks, streams, watercourses, ditches that maintain seasonal groundwater levels, ponds, wetlands, etc.
- Storage areas for incoming debris shall be located at least 100 feet from property boundaries and on-site buildings/structures.
- Sites that have identified wetlands should be avoided. If wetlands exist or wetland features appear at a potential site, verification will be necessary to delineate areas of concern. Once areas are delineated, the areas shall be flagged and a 100-foot buffer shall be maintained for all activities on-going at the site.
- Storage areas for incoming C&D debris shall be at least 100 feet from the site property boundaries, on-site buildings, structures, and septic tanks with leach fields or at least 250 feet from off-site residential dwellings, commercial or public structures, and potable water supply wells, whichever is greater.
- Sites bisected by overhead power transmission lines need careful consideration due to large dump body trucks / trailers used to haul debris and the intense heat generated by the air curtain

burner (ACB) device. Underground utilities need to be identified prior to digging pits for using the ACB device.

- Provisions should be made to prevent unauthorized access to facilities when not open for use. As a temporary measure, access can be secured by blocking drives or entrances with trucks or other equipment when the facilities are closed. Gates, cables, or other more standard types of access control should be installed as soon as possible.
- When possible, post signs with operating hours and information about what types of clean up waste may be accepted. Also include information as to whether only commercial haulers or the general public may deposit waste.
- Final written approval is required to consider any TDSR site to be closed. Closeout of processing recycling sites shall be within six months of receiving waste. If site operations will be necessary beyond this time frame, permitting of the site by the State may be required. If conditions at the site become injurious to public health and the environment, then the site shall be closed until conditions are corrected or permanently closed.

APPENDIX J-10 Category of Work Checklists

Category A - Debris Removal

**Important Information**

Classification of debris by type: <ul style="list-style-type: none"> <li>▪ Vegetative debris including hazardous limbs, trees, and stumps</li> <li>▪ White goods (Appliances such as refrigerators and other household appliances)</li> <li>▪ Construction and demolition (C&amp;D) debris</li> <li>▪ Hazardous, infectious, putrescent, and/or CBRN waste White goods (appliances)</li> <li>▪ Buildings and contents/construction and demolition</li> <li>▪ Soil, Mud, and Sand</li> <li>▪ Wet debris</li> <li>▪ Vehicles and Vessels</li> <li>▪ Contaminated</li> </ul>
Location of Debris* (roads, ROW, private property, waterways, parks, etc.)
Quantity of each type of debris being removed
How work was/will be accomplished <ul style="list-style-type: none"> <li>▪ Force account</li> <li>▪ Contract</li> <li>▪ Combination</li> </ul>
Force Account cost <ul style="list-style-type: none"> <li>▪ Labor (include regular time and overtime hours and rates used)</li> <li>▪ Equipment (include time and rates used)</li> <li>▪ Supplies (list supplies used and cost)</li> </ul>
Contract costs
Unit costs (\$/ton or CY)– with explanation of calculation
Percent of debris removal completed at the time of assessment
Location of debris operations facilities (reduction sites, disposal sites, etc.)
Unique removal requirements (special equipment, long hauls, staging, reduction, hazardous materials, local ordinances etc.)
Recycling or reusing any of the debris (yes/no)
Impact on normal community functions
Environmental and historic preservation considerations

**Supporting Documentation**

	<p>Photographs</p> <ul style="list-style-type: none"> <li>▪ Work completed</li> <li>▪ Work to be completed</li> <li>▪ Locations where estimates were developed</li> </ul>
	<p>Debris quantity calculation sheets</p>
	<p>Contracts (provide for large projects)</p> <ul style="list-style-type: none"> <li>▪ Contractor Bids or invoices</li> <li>▪ Disposal invoices</li> </ul>
	<p>Force Account</p> <ul style="list-style-type: none"> <li>▪ Labor cost summary (separate regular time from overtime)</li> <li>▪ Equipment cost summary</li> <li>▪ Supply cost summary</li> </ul>
	<p>Notated maps</p> <ul style="list-style-type: none"> <li>▪ Debris locations</li> <li>▪ Debris operations facilities</li> </ul>

\*When applicable refer to the Use of the United States National Grid (USNG), FEMA Directive 092-5

Category B – Emergency Protective Measures

**Important Information**

	Location (specific location address and GPS/USNG location or jurisdiction wide)
	Emergency protective measures required
	How work was/will be accomplished <ul style="list-style-type: none"> <li>▪ Force account</li> <li>▪ Contract</li> <li>▪ Mutual Aid</li> <li>▪ Combination</li> </ul>
	Force Account cost <ul style="list-style-type: none"> <li>▪ Labor (include overtime hours and rates used)</li> <li>▪ Equipment (include time and rates used)</li> <li>▪ Supplies (substantial expenditures should be noted specifically with unit cost)</li> </ul>
	Mutual aid cost
	Contract cost
	Percent of emergency protective measures completed at the time of assessment
	Unique requirements that impact cost
	Impact on normal community functions

**Supporting Documentation**

	Photographs of unique requirements
	Force Account <ul style="list-style-type: none"> <li>▪ Labor cost summary (overtime)</li> <li>▪ Equipment cost summary</li> <li>▪ Supply cost summary</li> </ul>
	Mutual aid agreements used (provide for large projects)
	Contracts, bids, or invoices (provide for large projects)
	Notated maps

Category C: Roads and Bridges

**Important Information**

	Location(s) (address and/or GPS/USNG location)
	Federal Aid Road or BIA road (yes/no/unsure)
	Road or bridge type (specific structure and material)
	Repair/replacement required (in-kind) <ul style="list-style-type: none"> <li>▪ Damaged elements</li> <li>▪ Damage dimensions</li> </ul>
	How work was/will be accomplished <ul style="list-style-type: none"> <li>• Force account</li> <li>• Contract</li> <li>• Combination</li> </ul>
	Force account cost (actual or estimate) <ul style="list-style-type: none"> <li>▪ Labor (include regular time and overtime hours and rates used)</li> <li>▪ Equipment (include time and rates used)</li> <li>▪ Supplies (list supplies used and cost)</li> </ul>
	Material cost (actual or estimate)
	Contract cost (actual or estimate)
	Unique requirements that impact cost
	Impact on normal community functions
	Environmental and historic preservation considerations

**Supporting Documentation**

	Photographs (sample if multiple similar damage has occurred)
	<ul style="list-style-type: none"> <li>▪ Force Account (work completed)</li> <li>▪ Labor cost summary (separate regular time from overtime)</li> <li>▪ Equipment cost summary</li> <li>▪ Supply cost summary</li> </ul>
	Contracts, bids, or invoices (provide for large projects)
	Basis for estimations (for work to be completed) <ul style="list-style-type: none"> <li>▪ Historic costs for similar work (provide example for large projects)</li> <li>▪ Estimate by professional familiar with the facility (provide breakdown)</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Commercial estimating source (RS Means, Cost Works, etc.) report</li> </ul>
	Recent safety inspection reports or maintenance records that show pre-disaster condition (provide for large projects)
	Codes and standards to be considered (provide when the code or standard will dramatically increase the cost of restoration)
	Notated maps

Category D: Water Control Facilities

**Important Information**

	Location(s) (address and/or GPS/USNG location)
	Facility type
	Are repairs to these facilities the responsibility of USACE or NRCS? (yes/no/unsure)
	Repair/replacement required (in-kind) <ul style="list-style-type: none"> <li>▪ Damaged elements</li> <li>▪ Damage dimensions</li> </ul>
	How work was/will be accomplished <ul style="list-style-type: none"> <li>▪ Force account</li> <li>▪ Contract</li> <li>▪ Combination</li> </ul>
	Force Account cost (actual or estimate) <ul style="list-style-type: none"> <li>▪ Labor (include regular time and overtime hours and rates used)</li> <li>▪ Equipment (include time and rates used)</li> <li>▪ Supplies (list supplies used and cost)</li> </ul>
	Material cost (actual or estimate)
	Contract cost (actual or estimate)
	Unique requirements that impact cost
	Impact on normal community functions
	Environmental and historic preservation considerations

**Supporting Documentation**

	Photographs (sample if multiple similar damage has occurred)
	Force Account (work completed) <ul style="list-style-type: none"> <li>▪ Labor cost summary (separate regular time from overtime)</li> <li>▪ Equipment cost summary</li> <li>▪ Supply cost summary</li> </ul>
	Contracts, bids, or invoices (provide for large projects)
	Basis for estimations (for work to be completed) <ul style="list-style-type: none"> <li>▪ Historic costs for similar work (provide example for large projects)</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Estimate by professional familiar with the facility (provide breakdown – especially when replacement is requested)</li> <li>▪ Commercial estimating source (RS Means, Cost Works, etc.) report</li> </ul>
	Recent inspection reports or maintenance records that show pre-disaster condition (when pre-disaster condition may impact estimate of large project )
	Specifications or as-built drawings of the damage facility (may be helpful – only for large projects)
	Codes and standards to be considered (provide when the code or standard will dramatically increase the cost of restoration)
	Notated maps

Category E: Buildings and Equipment

**Important Information**

	Location(s) (address and/or GPS/USNG location)
	Facility type
	Repair/replacement required (in-kind) <ul style="list-style-type: none"> <li>▪ Damaged elements</li> <li>▪ Damage dimensions</li> <li>▪ Damaged equipment type</li> <li>▪ Damaged building contents</li> </ul>
	How work was/will be accomplished <ul style="list-style-type: none"> <li>▪ Force account</li> <li>▪ Contract</li> <li>▪ Combination</li> </ul>
	Force account cost (actual or estimate) <ul style="list-style-type: none"> <li>▪ Labor (include regular time and overtime hours and rates used)</li> <li>▪ Equipment (include time and rates used)</li> <li>▪ Supplies (list supplies used and cost)</li> </ul>
	Material cost (actual or estimate)
	Contract cost (actual or estimate)
	Value of equipment (blue book value) if replacement is required
	Insurance deductibles and limits
	Unique requirements that impact cost
	Impact on normal community functions
	Environmental and historic preservation considerations

**Supporting Documentation**

	Photographs (sample if multiple similar damage has occurred)
	Force Account (work completed) <ul style="list-style-type: none"> <li>▪ Labor cost summary (separate regular time from overtime)</li> <li>▪ Equipment cost summary</li> <li>▪ Supply cost summary</li> </ul>

	Contracts, bids, or invoices (provide for large projects)
	Insurance documentation needed to establish deductible and limits (provide for large projects)
	<p>Basis for estimations (for work to be completed)</p> <ul style="list-style-type: none"> <li>▪ Historic costs for similar work (provide example for large projects)</li> <li>▪ Estimate by professional familiar with the facility (provide breakdown – especially when replacement is requested)</li> <li>▪ Commercial estimating source (RS Means, Cost Works, etc.) report</li> </ul>
	Codes and standards to be considered (provide when the code or standard will dramatically increase the cost of restoration)
	Notated maps

**Category F: Utilities**

**Important Information**

	Location(s) (address and/or GPS/USNG location)
	Facility type
	Repair/replacement required (in-kind) <ul style="list-style-type: none"> <li>▪ Damaged elements</li> <li>▪ Damage dimensions (size, length, capacity, etc.)</li> </ul>
	Will reconditioning be required (yes/no/unsure)
	How work was/will be accomplished <ul style="list-style-type: none"> <li>▪ Force account</li> <li>▪ Contract</li> <li>▪ Combination</li> </ul>
	Force account cost (actual or estimate) <ul style="list-style-type: none"> <li>▪ Labor (include regular time and overtime hours and rates used)</li> <li>▪ Equipment (include time and rates used)</li> <li>▪ Supplies (list supplies used and cost)</li> </ul>
	Material cost (actual or estimate)
	Contract cost (actual or estimate)
	Unique requirements that impact cost
	Impact on normal community functions
	Environmental and historic preservation considerations

**Supporting Documentation**

	Photographs (sample if multiple similar damage has occurred)
	Force Account (work completed) <ul style="list-style-type: none"> <li>▪ Labor cost summary (separate regular time from overtime)</li> <li>▪ Equipment cost summary</li> <li>▪ Supply cost summary</li> </ul>
	Contracts, bids, or invoices (provide for large projects)

	<p>Basis for estimations (for work to be completed)</p> <ul style="list-style-type: none"> <li>▪ Historic costs for similar work (provide example for large projects)</li> <li>▪ Estimate by professional familiar with the facility (provide breakdown – especially when replacement is requested)</li> <li>▪ Commercial estimating source (RS Means, Cost Works, etc.) report</li> </ul>
	Information used to evaluate the need for reconductoring (if reconductoring is requested)
	Codes and standards to be considered (provide when the code or standard will dramatically increase the cost of restoration)
	Notated maps

Category G: Parks, Recreational, and Other

**Important information**

	Location(s) (address and/or GPS/USNG location)
	Facility type
	Repair/replacement required (in-kind) <ul style="list-style-type: none"> <li>▪ Damaged elements</li> <li>▪ Damage dimensions</li> </ul>
	How work was/will be accomplished <ul style="list-style-type: none"> <li>▪ Force account</li> <li>▪ Contract</li> <li>▪ Combination</li> </ul>
	Force account cost (actual or estimate) <ul style="list-style-type: none"> <li>▪ Labor (include regular time and overtime hours and rates used)</li> <li>▪ Equipment (include time and rates used)</li> <li>▪ Supplies (list supplies used and cost)</li> </ul>
	Material cost (actual or estimate)
	Contract cost (actual or estimate)
	Insurance deductibles and limits
	Unique requirements that impact cost
	Impact on normal community functions
	Environmental and historic preservation considerations

**Supporting Documentation**

	Photographs (sample if multiple similar damage has occurred)
	Force Account (work completed) <ul style="list-style-type: none"> <li>▪ Labor cost calculation sheet (separate regular time from overtime)</li> <li>▪ Equipment cost calculation sheet</li> <li>▪ Supply cost calculation sheet</li> </ul>
	Contracts, bids, or invoices (provide for large projects)
	Insurance documentation needed to establish deductible and limits (provide for large projects)

	<p>Basis for estimations (for work to be completed)</p> <ul style="list-style-type: none"> <li>▪ Historic costs for similar work (provide example for large projects)</li> <li>▪ Estimate by professional familiar with the facility (provide breakdown – especially when replacement is requested)</li> <li>▪ Commercial estimating source (RS Means, Cost Works, etc.) report</li> </ul>
	<p>Codes and standards to be considered (provide when the code or standard will dramatically increase the cost of restoration)</p>
	<p>Notated maps</p>

Work Categories A-G Examples

FEMA CATEGORIES AND EXAMPLES OF COMMON ELIGIBLE WORK

A	B	C	D	E	F	G
Debris Removal	Emergency Protective Measures	Roads & Bridges	Water Control Facilities	Buildings & Equipment	Utilities	Parks, Recreation, & Other
Debris removal must be in the public interest and necessary to: <ul style="list-style-type: none"> <li>• Eliminate immediate threats to lives, public health &amp; safety;</li> <li>• Eliminate immediate threats of significant damage to improved public or private property</li> </ul> Trees and Woody Debris Building Components Sand, Mud, Silt, & Gravel Removal of Temporary Levees	Search & Rescue Security Emergency Pumping Sandbagging Detour & Warning Signs EOC Activation Emergency & Temporary Repairs Overhead Power Lines Emergency Medical Facilities Emergency Evacuations Activities undertaken before, during and following a disaster to save lives, protect improved property	Roads <ul style="list-style-type: none"> <li>• Surfaces</li> <li>• Bases</li> <li>• Shoulders</li> <li>• Ditches</li> <li>• Drainage Structures</li> <li>• Low Water Crossings</li> </ul> Bridges <ul style="list-style-type: none"> <li>• Decking &amp; Pavement</li> <li>• Piers</li> <li>• Girders</li> <li>• Abutments</li> <li>• Slope Protection</li> <li>• Approaches</li> </ul> Slope Failures	Dams and Reservoirs Levees Engineered drainage Channels Canals Aqueducts Sediment Basins Shore Protective Devices Irrigation Facilities Pumping Facilities	Buildings Structural Components Interior Systems <ul style="list-style-type: none"> <li>• Electrical</li> <li>• Mechanical</li> <li>• Contents</li> </ul>	Water Treatment Plants Power Generation & Distribution Facilities <ul style="list-style-type: none"> <li>• Natural Gas Systems</li> <li>• Wind Turbines</li> <li>• Generators</li> <li>• Substations</li> <li>• Power Lines</li> </ul>	Playground Equipment Swimming Pools Bath Houses Tennis courts Boat Docks Piers Picnic Tables Golf Courses Fish Hatcheries Mass Transit Facilities