

Unit 6: Debris Monitoring Procedures



December 2007

E/G/L202 Debris Management Planning

1

Unit Introduction

- Debris activities require monitoring by trained and properly supervised personnel.
- Effective debris management planning requires a thorough understanding of debris monitoring responsibilities and techniques.
- Most importantly, debris monitoring is the most effective process for identifying, evaluating, and resolving debris issues.

Notes:



Objectives

- Describe monitoring responsibilities
- Evaluate a Debris Monitoring Plan
- Address monitoring issues in debris planning

December 2007

E/G/L202 Debris Management Planning

2

Unit Objectives

- At the end of this unit, you will be able to:
 - Describe debris monitoring responsibilities.
 - Evaluate a Debris Monitoring Plan.
 - Address debris monitoring issues in debris planning.

Notes:



Debris Monitoring Responsibilities

Monitoring Considerations

- Responsibilities
- Staff
- Reporting
- Activities and techniques

December 2007 E/G/L202 Debris Management Planning 3

- As discussed in earlier units, inadequate monitoring of debris activities often results in disputes between a community and the contractor, and/or the community and FEMA over Federal reimbursement for debris removal, reduction and disposal, and often loss of funding.
- This section of the unit addresses various monitoring considerations that are critical to effective monitoring of debris activities.
 - Responsibilities of the community as well as FEMA in a Presidentially declared event
 - Staff to perform tasks
 - Documentation and reporting requirements
 - Monitoring activities and techniques
- It is important to recognize that the monitoring process is used to both identify and resolve debris-related issues.

Notes:



Debris Monitoring Responsibilities (Cont'd)

Monitoring Responsibilities

Applicant

- Responsible for monitoring all of their Debris Operations

State

- Responsible for monitoring Applicant Debris Operations

FEMA

- Responsible for insuring the Applicant/State has a comprehensive monitoring process

December 2007
E/G/L202 Debris Management Planning
4

- It is the primary responsibility of the community to independently monitor all debris activities, whether performed by its own force account labor or contract.
 - For the purpose of this discussion, the community’s monitoring staff is referred to as the Debris Field Monitor.
 - The Debris Field Monitor is responsible for monitoring of the specific day-to-day field activities.
- In Presidentially declared events, FEMA may also perform overall monitoring of an applicant’s debris activities. However, as discussed herein, this does not relieve applicants of any of their own monitoring responsibilities.
 - For the purpose of this discussion, FEMA’s monitoring staff is referred to as the PA Program Debris Monitor.

State/Applicant Responsibility

- The State/Applicant Debris Field Monitor typically will:
 - Be assigned to a specific task and be onsite every day
 - Monitor specific activities at loading sites, Debris Management Site inspection sites, or landfills
 - Prepare a quantitative report of activities completed
 - Most importantly, identify and resolve debris issues

- For Presidentially declared disasters, it is the applicant's responsibility to provide sufficient documentation to support that:
 - The scope of the work performed meets FEMA's eligibility criteria (discussed in Unit 4)
 - Often, a contractor or the applicant's own forces may perform activities that are not eligible for FEMA reimbursement while completing other eligible activities. Such work must be clearly identified, documented, and quantified to minimize disputes when the work is completed.
 - The quantities (cubic yards of debris, hours of operation, etc.) are adequately verified
- The information provided by the applicant's field monitor usually provides the basis of this documentation.

FEMA Responsibility

- FEMA has the authority to monitor an applicant's debris operations, whether they be performed by an applicant's force account or contract.
- Often, a two-person, FEMA/State team will perform this function. Generally, the PA Debris Team will be staffed by:
 - PA Debris Technical Specialists and PA Debris Monitoring Specialists—generally the most qualified for this role but may need additional support depending on the severity of the operations and number of Specialists deployed to the disaster.
 - Technical Assistance Contractors—often have this expertise
 - Other Federal agencies, such as USACE
- Typically these staff will:
 - Make periodic site visits, depending on the magnitude and complexity of an applicant's operations
 - Assess operations compliance with the terms of the *Project Worksheets*, the contract, and the applicant's Debris Monitoring Plan
 - Review field notes and/or reports prepared by the PA Debris Monitoring Specialist
 - Compile payment and cost documentation for an applicant's operations
 - Prepare a summary report of observations, issues, and resolutions
 - Provide training to PA Debris Monitoring Specialist

Notes:



Debris Monitoring Responsibilities (Cont'd)

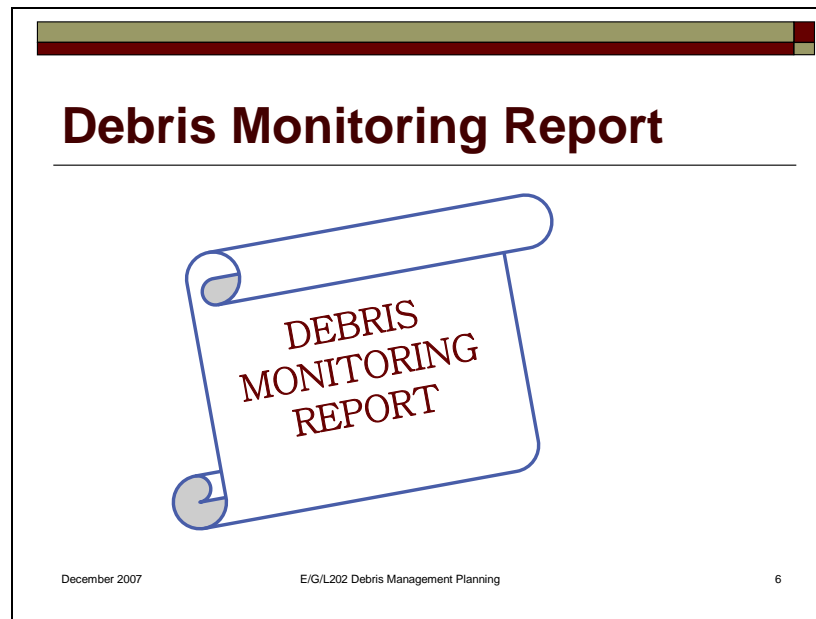
Monitoring Staff

- Force Account Permanent Staff
- Temporary Hires
- Third-Party Contractors

December 2007 E/G/L202 Debris Management Planning 5

- The community should employ full-time debris monitors to account for all debris management activities.
 - The community should not rely solely on the records or invoices provided by the contractor.
- These monitors should be trained and properly supervised.
 - FEMA may provide training on Presidentially declared disasters, if necessary.
- The size of the staff will depend on the operation, and may range from a few individuals who randomly monitor pickup and disposal sites (least efficient) to having a monitor at every pickup and disposal site (most efficient, most costly).
- Staffing may be provided by:
 - Local force account labor or temporary hires. Retired employees can be a good resource.
 - What labor costs (overtime or straight time) would be eligible for your staff to meet FEMA’s eligibility criteria in Presidentially declared disasters for:
 - permanent employee?
 - temporary employee?
 - seasonal employees?
 - Indicate that because of the regular time restrictions, many applicants choose to use contractors to perform monitoring activities for declared events.
- Engineering firms usually have staff with construction experience that could provide the monitoring functions (these do not need to be professional engineers). This staff should not be employed by the debris contractor, but rather an independent engineering firm.

Debris Monitoring Responsibilities (Cont'd)



- It is important to develop a monitoring system that includes a systematic method of identifying pertinent activities and recording relevant observations and data.
- A monitoring report should be developed to capture specific debris-related activities, based on the method of payment (force account or contract type) and other issues unique to the community's operations.
- The reports may also be used to assess eligibility of debris-related activities and quantities.
- A sample report used in Texas is provided as Reference: Sample Applicant Debris Monitoring Report. This report indicates the type of items that may be recorded by a community.

Notes:



Debris Monitoring Responsibilities (Cont'd)

Monitoring Program

- Monitor at pick-up locations
- Inspection station
- Use load tickets

December 2007 E/G/L202 Debris Management Planning 7

A monitoring program observes and documents the work being done at two locations, minimum—point of collection and disposal (temporary and final). Some items to document at the various monitoring points include:

- Debris Loading Area
 - Eligible debris is being picked up from contract area.
 - If debris types are separated at the curbside, check that the contractor keeps them separated.
 - Truck loads are full.
 - Tailgates are in-place.
 - If sideboards are in place.
 - Time of pickup.
 - Load is reasonably compact—large obstructions are not restricting placement of material. Note that if the loads are not properly loaded or compacted, debris monitors should reduce the rated volume of the truck accordingly.
- Debris Unloading Area
 - Truck size is as reported on the load ticket.
 - Determine proper debris quantities.

- Check time of collection for reasonable turnaround.
- Assure appropriate materials are properly segregated, such as HHW.
- Debris Management Site
 - Record inactive times of contract equipment.
 - If air curtain incinerators are used, assure proper procedures.
 - Assure HHW is properly segregated.
 - Assure safety of personnel around equipment.
 - At a minimum, an elevated inspection station should be used to enable the monitor to look down into the truck to verify both the contents and the load amount.
 - Monitoring should also be performed at the exit point of the Debris Management Site to ensure the load has been sufficiently dumped.
- If the contract is by weight, then there should be a monitor at the certified scales.
- One of the best methods of monitoring is to use a load ticket system as discussed on the next slide.

Notes:



Debris Monitoring Responsibilities (Cont'd)

Contract Monitoring Load Ticket Method

- Four part ticket
 - One part at load site
 - One part at inspection station
 - One part to Contractor
 - One part to Subcontractor
- Payment based on load tickets
 - All four must match

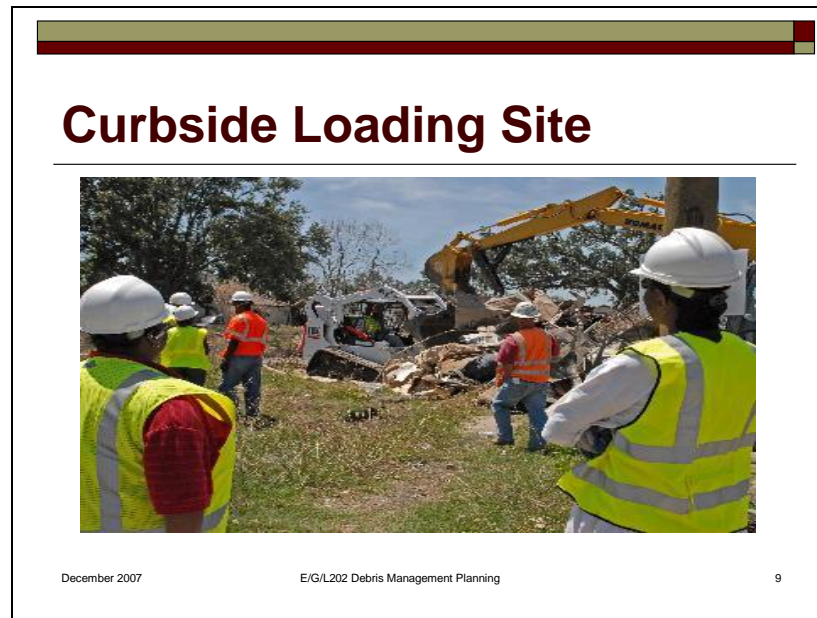
December 2007

E/G/L202 Debris Management Planning

8

- Payment under a unit price contract is normally made on the basis of load tickets.
- The load ticket method usually consists of a three- or four-part ticket.
 - The first part of the ticket is completed at the loading site, signed by the monitor, and given to the driver.
 - The driver hands the remaining two parts to the monitor at the inspection station. That person inspects the load, and initials the ticket.
 - One part remains with the monitor, and the other goes to the driver, to be turned in to the contractor's representative.
 - A four-part ticket would include a copy for a subcontractor when used.
- Payment is based on the information contained on the tickets. The contractor must submit tickets with invoices. Payment is made for tickets where all three match.
- Load tickets must be reconciled and entered into a spreadsheet or database at the end of each work period.
- Load tickets become the basis for the invoice submitted for reimbursement.
- There are computer programs and computer hardware packages available in the private sector that automate the load ticket process.
- These systems electronically generate the load ticket, reconcile the tickets, and prepare the required reports real time.

Debris Monitoring Observations



General

- The following slides illustrate various debris activities that require monitoring and items to be aware of.

Debris Monitoring Observations

- If the contractor is conducting operations in several large areas, a second or third inspection team may be required or an inspection site established where all trucks must pass.
- This photograph illustrates a typical curbside loading operation. Note that this crew is using a loader with a grapple. This arrangement makes for the most efficient means to handle woody debris. Moreover, the operator is able to maximize loading.
- Prior to initial loading, trucks should be measured and load capacities documented by truck number. Periodically, trucks should be pulled out of operation and remeasured.
- Monitors should observe operations to ensure ineligible debris is not picked up. Monitors should have a good understanding of eligible debris (especially from private property) and any time limits imposed on pickup of specific types of debris. Examples (from actual occurrences) include sweeping areas for abandoned cars and white goods, cleaning up illegal dump sites, removing cut trees from subdivisions under development, and removing/cutting trees from the right-of-way in rural areas.

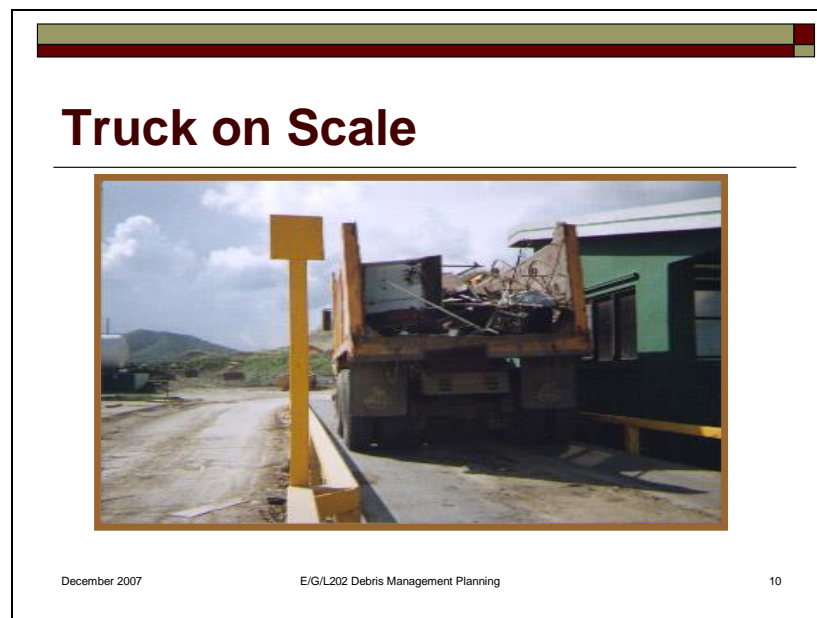
Can you identify various monitoring issues? The items below are some examples.

This picture reflects many debris monitoring issues such as truck and loader backed up in private driveway, citizen standing too close to the loading operation which presents a danger to the citizen, crew members not wearing proper safety equipment, and truck does not have a tailgate.

Notes:



Debris Monitoring Observations (Cont'd)



- This photograph illustrates a truck hauling mixed debris going across scales at a landfill.
- It is important to ensure that tare weights (empty) have been taken for each truck.
- Remember that gross weight minus the tare weight equals the net weight. In this situation, the scale house operator was estimating the weight because the scale was broken. If this happens, then the quantity of material should be measured in cubic yards and converted to tons.
- There have been occasions when contractors have added excessive water to debris loads to increase the weight when being paid by the ton. This can be detected during monitoring before the load reaches the disposal site by observing excessive water dripping from the truck bed, or by inspecting the truck bed immediately after unloading.

Notes:



Debris Monitoring Observations (Cont'd)



- This photograph illustrates a typical inspection tower. It must be built high enough to be able to look into the bed of the truck.
- This is the bare minimum site. The contractor operating the site should be required to construct the tower to contract specification and provide for portable sanitary facilities.
- Debris Management Sites should have only one way in and one way out or have an inspection station at the exit. Trucks have been reported driving through the disposal site without unloading, then re-entering with the same load.
 - This can be detected by observing the time of departure and time of arrival recorded on the driver's load ticket.
 - This may also indicate problems with the community's debris monitors at the loading or unloading site.

Notes:



Debris Monitoring Observations (Cont'd)

Inspection Tower with Catwalk



December 2007 E/G/L202 Debris Management Planning 12

- This photograph illustrates a combination inspection tower and catwalk.

Notes:



DMS Inspection Station



December 2007

E/G/L202 Debris Management Planning

13

- This photograph illustrates a dump truck entering into the Debris Management Site.
 - Note the monitor in the tower.
 - The tower height is almost too low.
 - Note the plastic tailgate. This is not acceptable because it is too flexible. The only acceptable temporary tailgate is one made out of cyclone fence material, spot welded to one side with a means to secure it to the other side.
 - This truck would be rated at only 85% of the measured bed.
- Many States require trucks to have tarps that cover the bed. If a monitor sees a truck without a tarp, he or she may want to take note of the truck number and report it to his/her supervisor. Remember that monitors are not law enforcement officers.

Notes:



Debris Monitoring Observations (Cont'd)



- This photograph illustrates a typical 16-20-cubic yard dump truck.
Note the wooden sideboards. In general, use of sideboards should be discouraged as it makes measuring quantities difficult.
 - If sideboards are used, you must be sure they are in place at loading and disposal locations.
- There have been occasions where trucks have had a heavy steel grating welded 2 to 3 feet above the bed after being measured, reducing the capacity. This can be detected by periodically having the community remeasure the truck.

Notes:



Debris Monitoring Observations (Cont'd)

Less Than 100% Loaded



December 2007

E/G/L202 Debris Management Planning

15

- This photograph illustrates an example of a truck entering the Debris Management Site.
 - Note that it is not filled to capacity. It is extremely important that monitors record the estimated quantities based on a percentage of a full load.
 - This truck would be estimated at 90% full capacity.
 - If this is a 30-cubic yard trailer, then $90\% \text{ of } 30 \text{ CY} = 27 \text{ cy}$.
 - Estimates are made in 5% increments.

Notes:



Less Than 100% Loaded



December 2007

E/G/L202 Debris Management Planning

16

- This photograph illustrates an example of a trailer that was originally measured with the sideboards in place.
 - Note that the sideboards have been broken to allow for loading by a small front loader.
 - This trailer is considered 85% loaded.
 - Note the numbers on the truck. This trailer has two numbers on it. Numbering should be distinct for the current operation.

Notes:



100% Loaded



December 2007

E/G/L202 Debris Management Planning

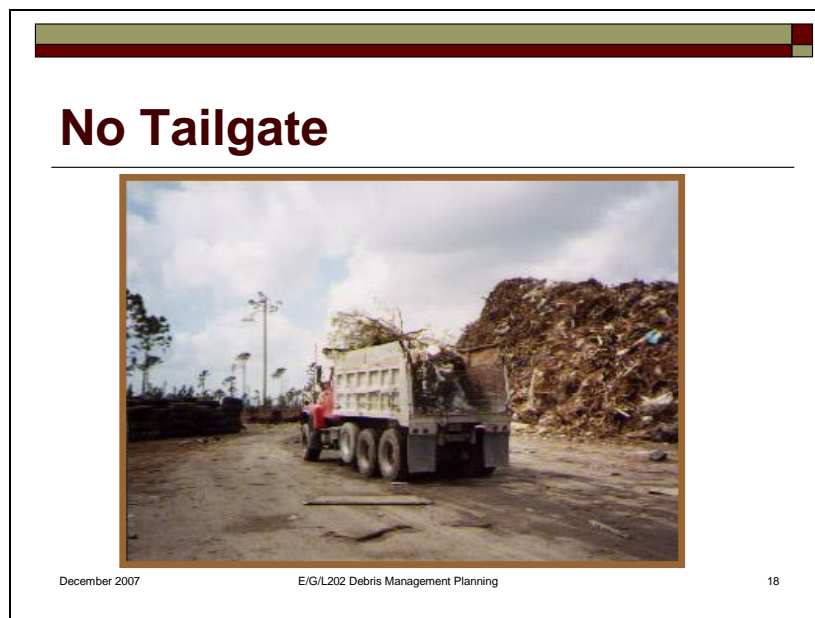
17

- This photograph illustrates an example of a truck that is 100% loaded. The driver would get credit for 18 CY.
- If the truck has material exceeding the capacity of the bed, credit is still only given for the measured bed capacity. The community should never approve more than 100% capacity.
- Do not accept the contention that loads are higher in the middle and, if leveled, would fill the truck.

Notes:



Debris Monitoring Observations (Cont'd)




- This photograph illustrates an 18 CY dump truck without a tailgate.
 - What percentage would you give to this truck?
- Note: Trucks without tailgates, just as trucks with plastic fencing, are rated at 85% of their measured capacity (or only 15 CY in this case).

Notes:



Review Activity 6.1



December 2007 E/G/L202 Debris Management Planning 19

Activity 6.1: Monitoring Plan Assessment

- This activity will begin to provide you with the opportunity to apply the teaching points covered in this unit.
- Turn to Activity 6.1 in Student Manual, Volume II (Group Activity Materials).
- Discuss in a tabletop group using the activity information provided in Student Manual Volume II (Group Activity Materials). The instructor will indicate time for completion.

Notes:

