

APPENDIX E

DEBRIS REMOVAL ON PUBLIC RIGHTS OF WAY

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DEBRIS REMOVAL ON PUBLIC RIGHTS OF WAY

1. Mission Definition. Debris removal from public rights of way, in most cases, will be the single largest mission the Corps will receive from FEMA following a catastrophic event. The mission is normally stated broadly to cover all aspects of debris removal. Depending on the local governments capability, FEMA may include debris reduction and disposal in the removal mission.

2. Pre-Disaster Planning.

a. Corps: Work with local governments to understand their debris removal capabilities and planning.

b. Local Governments: Local governments should consider pre-designating debris removal areas. Local governments could then target areas for federal assistance.

3. Special Coordination Issues.

a. Coordination of the public ROW mission covers a broad spectrum of participants. The following are key coordination POC's that play a role in debris removal operations:

- (1) State Highway Department
- (2) City / County Public Works Dept. or County Engineer's Office
- (3) Volunteer Organizations
- (4) Military/ National Guard
- (5) FEMA, DSR program manager
- (6) FEMA, Debris Coordinators
- (7) National Resource Conservation Service

b. Work together with the above POC's to determine which areas the corps will target for removal. Intervention and overlap must be avoided to prevent contract disputes and claims.

c. Work with local government to determine the proper ROW limits and definitions to help prevent damage or entering onto private property.

4. Engineering. Engineering has two major roles in the public ROW removal mission, writing statements of work for contracts and providing quantity estimates.

a. The detail and complexity of contract statements of work will vary greatly with contract format. See paragraph 5 for examples of various contract formats.

b. The most difficult task for engineering will be estimating the quantities of total debris generated. Most debris estimates progress through four phases.

(1) Phase I is a very rough order of magnitude, ROM, estimate. In the case of a hurricane the ROM estimate can begin at landfall. The most destructive area of the storm can be seen with Doppler radar. CNN, Hurricane Tracking Center and the Weather Channel all use Doppler. The Doppler Radar indicates the storm's density using rainfall and wind speed. The most destructive area of the storm normally extends across the eye and a short distance past and is indicated by a bright red color. This area can be plotted and followed longitudinally until wind speeds fall below 100 MPH. The area inside the plot will indicate the most severe damage. By using population density, vegetative cover, topography and past information from debris removal operations, a ROM estimate can be generated. Another way to provide a ROM estimate is by air reconnaissance.

(2) Phase II estimates are based on more detailed technical data, primarily aerial photography. Detailed aerial photos provide a visual verification of damages. This information can be spot checked in the field. Other sources such as GIS data, data from other Federal agencies and the local government can be all compiled to support the estimate.

(3) Phase III estimates are contract specific and are usually totally verified by field teams.

(4) Phase IV estimates are actual quantities of debris removed by contract.

5. Contracting. Choosing a contract format or formats for debris removal is a complex decision. The decision evolves around the ability to write an accurate scope of work. Influencing factors such as intervention by others, unknown storage/disposal sites, varying quantities and unknown quantities all affect the contract scope of work. See Appendix 4-A for commonly used contract formats and see the enclosed computer disk under file "SCOPES" for examples of scopes of work used during Hurricane Andrew response.

6. Real Estate. Real estate must work closely with local governments to coordinate public ROW definitions. Some rural roads and metropolitan streets have ROW widths that are difficult to determine by visual observation. Some public ROW are maintained by private citizens such as road side ditches and may be damaged by debris contractors. Real estate support will be required in settling these issues.

7. Public Affairs. This mission will require continued PA support commencing immediately following the disaster through completion. The debris mission, usually the most challenging task required of the Corps, affects most of the population, is very political, is environmentally sensitive, involves large contracts, and requires large sums

of money. Public affairs must take a proactive role early in the response. Some of the major areas that must be addressed throughout the mission are:

- a. Debris handling, tell the public what, how, and when debris should be brought to the ROW.
- b. Tell the public what the Corps plan of action is for the debris mission. Give general information about types of contracts, if divided into areas show areas, general schedules for passes, express concerns about incorporating local contractors into the effort, and discuss environmental issues.
- c. Provide 1-800 number for questions and inquiries about Corps missions. This will help remove the information burden from Corps personnel performing the various missions.

8. Reporting. Upward reporting should be broken out by contract or contract area and include the following information:

- a. Total mission amount
- b. Map showing contract areas
- c. Contract amount for each area or contract
- d. Debris estimate for each area or contract in C.Y
- e. Number, size, location of storage/disposal sites
- f. Number of air curtain burners, chippers
- g. Number of passes anticipated
- h. C.Y. removed
- i. % complete per pass and % complete total job
- j. Estimated completion date (ECD) for each pass and total job
- k. 8A, Small, disadvantaged, and minority contract status and local contractor status

9. Reference Information.

- a. Appendix I Contract Examples

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Tab E-1

**UNIT PRICE CONTRACT
- CUBIC YARD -**

ADVANTAGES

- ACCURATE ACCOUNT OF ACTUAL QUANTITIES REMOVED
- WIDE RANGE OF COMPETITION DUE TO SIMPLICITY OF CONTRACT
- LOW CONTRACTOR RISK

DISADVANTAGES

- FULL TIME (SPECIALLY TRAINED) FIELD INSPECTORS REQUIRED
- CONTRACTOR FRAUD, IF LOADING AND DUMPING ARE NOT CLOSELY MONITORED
- SEGREGATION OF DEBRIS WILL COMPLICATE CONTRACT
- TRUCKS MUST BE MEASURED AND NUMBERED

RECOMMENDATIONS

- FOR QUANTITIES LESS THAN 50,000 CY, MONITOR LOADING OF TRUCKS AND LOG IN DATA SUCH AS CY, TRUCK #, ETC. CHECK DUMP TO VERIFY PLACEMENT.
- FOR QUANTITIES OVER 50,000 CY, RECOMMEND A DOCUMENTATION FORMAT (TICKET). ISSUE A TICKET AT THE LOADING SITE, TRUCK MUST BE LOADED PROPERLY TO RECEIVE A SIGNED TICKET (CONTROLLED LOADING). LOADING INSPECTOR KEEPS A COPY. TICKET IS FINALIZED AT THE DUMP SITE BY A DUMP INSPECTOR, WHICH VERIFIES MATERIAL WAS PLACED IN THE DUMP. THE DUMP INSPECTOR RETAINS A FINAL COPY AND THE TRUCK DRIVER IS PROVIDED A FINAL COPY. FOR LARGE JOBS INVOLVING MORE THAN ONE AREA DIFFERENT COLOR TICKETS ARE RECOMMENDED.

**FIRM FIXED PRICE
LUMP SUM CONTRACTS
- AREA METHOD -**

ADVANTAGES

- MINIMUM LABOR REQUIRED FOR MANAGEMENT
- CONTRACTOR SHOULDERS MOST OF THE RISK
- QUANTITIES DO NOT HAVE TO BE DOCUMENTED AS IN A UNIT PRICE CONTRACT

DISADVANTAGES

- MUST HAVE A CLEAR, DEFINABLE SCOPE OF WORK THAT CAN BE QUANTITATIVELY MEASURED BY THE CONTRACTOR
- OFTEN DIFFICULT TO QUANTIFY WHAT DEBRIS WILL BE BROUGHT TO THE R-O-W FOR REMOVAL
- HIGH PROBABILITY OF CLAIMS IF DEBRIS ESTIMATES ARE DIFFICULT TO ESTIMATE AND REQUIRE SPECULATION

RECOMMENDATIONS

- USE ANYTIME SCOPE OF WORK IS CLEARLY DEFINABLE

**FIRM FIXED PRICE
LUMP SUM CONTRACTS
- PASS METHOD -**

ADVANTAGES

- MINIMUM LABOR REQUIRED FOR MANAGEMENT
- DEFINES SCOPE BETTER THAN AREA METHOD AND DECREASES THE RISK OF CLAIMS DUE TO QUANTITY SPECULATION
- QUANTITIES DO NOT HAVE TO BE DOCUMENTED AS IN A UNIT PRICE CONTRACT

DISADVANTAGES

- MUST HAVE ACCURATE, UP-TO-DATE PLANS AND INFORMATION ON ALL ROADS THAT WILL BE INCLUDED IN THE "PASS" SCOPE OF WORK
- PUBLIC MUST COOPERATE IN THE REMOVAL PROCESS
- CONTRACTING AGENCY MUST BE SUCCESSFUL IN COMMUNICATING WITH THE PUBLIC IN THE REMOVAL AREA

RECOMMENDATIONS

- PROVIDE 3 TO 4 PASSES DEPENDING ON THE MAGNITUDE OF THE DISASTER
- SOLICIT A PRICE FOR EACH PASS AND A TOTAL JOB PRICE
- CLEARLY DEFINE ANY DEBRIS SEGREGATION REQUIREMENTS, ROAD LOCATIONS BY DETAILED SCALED MAPS, TIME LAPSE BETWEEN PASSES, AND REQUIRED TIME FRAME TO COMPLETE EACH PASS.

**EQUIPMENT RENTAL
CONTRACTS
- HOURLY RATES -**

ADVANTAGES

- EXTREMELY FLEXIBLE, NOT SCOPE DEPENDENT
- WIDE RANGE OF USES
- GREAT FOR EMERGENCY "HOT SPOTS" AND EARLY DEBRIS R-O-W CLEARANCE

DISADVANTAGES

- CONTRACTOR MUST BE DIRECTED AS TO WHAT WORK TO PERFORM
- REQUIRES FULL TIME INSPECTORS
- REQUIRES DOCUMENTATION OF ACTUAL HOURS WORKED BY EQUIPMENT AND OPERATORS

RECOMMENDATIONS

- COMPETITIVELY BID OR NEGOTIATE REASONABLE HOURLY RATES FOR EQUIPMENT WITH OPERATORS
- SPECIFY EQUIPMENT AS GENERICALLY AS POSSIBLE TO ENCOURAGE COMPETITION
- TRAIN INSPECTORS ON DOCUMENTATION REQUIREMENTS FOR RENTAL CONTRACTS

**LETTER CONTRACTS
- COST PLUS FIXED FEE -**

ADVANTAGES

- FLEXIBLE, VERY GENERAL IN SCOPE, CAN BE UTILIZED WHEN DETAILED SCOPE INFORMATION IS NOT AVAILABLE
- CAN WORK WITHIN A COMMON AREA WITH OTHER AGENCY CONTRACTS
- NO DETAILED SCOPE INFORMATION REQUIRED TO PREPARE FOR SOLICITATION
- CAN COVER A WIDE RANGE OF TASKS
- CAN BE IMPLEMENTED QUICKLY

DISADVANTAGES

- LABOR INTENSIVE TO MANAGE
- COST VERIFICATION BASED ON AUDITS, AUDIT STAFF MUST BE FAMILIAR WITH COST CONTRACT FORMATS
- FEE HAS TO BE NEGOTIATED ASAP
- SCOPE MUST BE DEFINITIZED BEFORE 50% COMPLETION STAGE

RECOMMENDATIONS

- NOT RECOMMENDED FOR AGENCIES WHO ARE NOT FAMILIAR WITH LETTER CONTRACTS OR COST PLUS FORMATS

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