The City of Colleyville, Texas
Disaster Debris Management Plan

June 2021

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

North Central Texas Council of Governments

City of Colleyville, Texas
Disaster Debris Management Plan

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INTRODUCTION

1.1 Overview

1.1.1 Purpose

The City of Colleyville, Texas (City), approved the preparation of this Disaster Debris Management Plan (DDMP) to better respond to emergency debris removal situations. The purpose of this plan is to outline the components critical to the success of a debris removal operation in the City. This plan provides key information that will help the City coordinate and effectively manage a turn-key debris removal effort if the City is affected by a major debris-generating incident. Central to the success of debris removal operations is the City's understanding of the following elements prior to a debris-generating incident:

- The parties involved and their roles and responsibilities regarding the debris removal operation;
- The rules, regulations, and guidelines enacted by the Federal Emergency Management Agency (FEMA) and other agencies governing debris removal;
- The process of collecting debris; and
- The disposal of debris, including where the debris will be staged for reduction and/or hauled to final disposal.

1.1.2 Plan Development

This plan provides a coordinated response blueprint for the City and other organizations and contract debris hauling and monitoring firms with a role in disaster debris operations. Departments within the City, as well as regional and private planning partners, have been instrumental in the development of the plan and in clarifying roles and responsibilities in the event of a debris-generating incident. Planning efforts have included participation in a project kickoff meeting with all City departments with a role in the plan, participation in department-specific meetings to ascertain responsibilities and to determine resources that can be brought to bear in debris-generating incidents, and the collection of data needed for development of the plan. City departments with a role in development of the plan include the following:

- City Attorney's Office
- City Manager's Office
- Communications
- Community Development
- Emergency Management
- Finance

- Fire Department
- Human Resources
- Information Services
- Parks and Recreation
- Police Department
- Public Works

1.2 Authority

This DDMP is developed, promulgated, and maintained under the following city, state, and federal statutes and regulations:

City

- The Charter of the City of Colleyville, Texas
- City of Colleyville Code of Ordinances
  - Chapter 18 – Buildings and Building Regulations
    - Article VIII – Dangerous Buildings
  - Chapter 30 – Civil Emergencies
    - Article II – Emergency Management

  Chapter 42 – Environment
    - Article II – Nuisances
  - Chapter 82 – Solid Waste
  - Chapter 86 – Public Rights-of-Way
    - Division 1 – In General
  - Chapter 99 – Vegetation
    - Article – Planting and Maintenance
- Public Works Emergency Response Team Mutual Aid Agreement

State

- Local Government Code, 54.018 Action for Repair of Demolition of Structure
- Government Code, Title 4, Subtitle 418, Chapter 418, Emergency Management; Sec 418.023 Clearance of Debris; Sec 418.0425 State Emergency Management Plan Annex
- Texas Administrative Code, Title 37, Part 1, Chapter 7; Subchapter A, Emergency Management Program Requirements; Subchapter C
- Health and Safety Code, Title 5, Subtitle A, Chapter 343 Abatement of Public Nuisances; Subtitle B, Chapter 361 Solid Waste Disposal Act

Federal

- Sandy Recovery Improvement Act (SRIA) included as Division B of the Disaster Relief Appropriations Act, PL 113-2, signed into law January 29, 2013
- Robert T. Stafford Disaster Relief and Emergency Assistance Act, PL 100-707, signed into law November 23, 1988; amended the Disaster Relief Act of 1974, PL 93-288
- U.S. Code, Title 23 Highways, Part 125 Emergency Relief Section 1107 Public Law 112-141 Moving Ahead for Progress in the 21st Century Act (MAP-21), July 2012
- Title 2 Code of Federal Regulations, Part 200 Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (2 CFR 200)
- US Code, Title 42, Chapter 103, Comprehensive Environmental Response, Compensation, and Liability (CERCLA) and Title III of Superfund Amendments and Reauthorization Act of 1986 (SARA)
- Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. §9601 et seq
- Resource Conservation and Recovery Act, 42 U.S.C. §69012 et seq
- Federal Clean Water Act, 33 U.S.C. §1251 et seq
- Toxic Substances Control Act, 15 U.S.C. §1601 et seq
- Occupational Safety and Health Act, 29 U.S.C. §651 et seq
- Hazardous Materials Transportation Act, 49 U.S.C. §1802 et seq
- National Historic Preservation Act, Section 106

1.3 References

The following references were used in the development of the plan:

Local

- City of Colleyville Emergency Management Plan

County

- Tarrant County Hazard Mitigation Action Plan, 2020

State

- State of Texas Emergency Management Plan, Catastrophic Debris Management Annex, December 2019
- Managing Debris from Declared Disasters, TCEQ 2017
- State of Texas Emergency Management Plan, Annex K: Public Works and Engineering

Federal

- FEMA Comprehensive Planning Guide 102 Version 2
- FEMA Publication FP 104-009-2 – Public Assistance Program and Policy Guide, 2020
- FEMA 329 Debris Estimating Field Guide, September 2010
- FEMA Public Assistance Alternative Procedures Pilot Program Guide for Debris Removal, Version 6.1, June 28, 2018
- FEMA Public Assistance Alternative Procedures EMMIE Cost Codes for Debris Removal
- National Response Framework, Department of Homeland Security, Third Edition, June 2016
- Pre-Disaster Recovery Planning Guide for Local Governments, FEMA, February 2017
- National Disaster Recovery Framework, Second Edition, Department of Homeland Security, June 2016

1.4 Incidents and Assumptions

Population and Demographics

An important consideration in disaster debris management is the population of the area to be served under the plan and factors relating to demographics that will need to be considered in developing strategies for debris removal strategies and communications. According to the U.S. Census Bureau, in July 2019, the population of the City was 27,091. 8.5% of the population speaks a language other than English at home.[1] The City will need to ensure that public information regarding set-out procedures and the safe handling of debris is accessible in multiple formats. In addition, 18.2% of the population is over the age of 65, and approximately 3.8% of the population lives in poverty.[2] During disasters, populations with functional and access needs and socio-economic barriers, which may include persons over the age of 65 and persons in poverty, often have less access to resources and support. The City will consider the needs of these populations in planning and in response to a debris-generating incident.

Physical Characteristics

The City encompasses approximately 13.22 square miles and lies within Tarrant County. The topography in the City is hilly, rolling, and well-drained. The geographic location of the City makes it susceptible to several types of incidents that could result in widespread disaster debris, including tornadoes, severe thunderstorms with high winds, flooding, and winter storms.

With regard to debris removal efforts, this plan assumes the following:

- The greatest threat of a debris-generating incident to the City is in the form of a severe weather system, such as a tornado or thunderstorm.[3]
- The response and recovery outlined in this plan is designed to address two types of debris-generating scenarios:

[1] U.S. Census Bureau, QuickFacts Colleyville City, Texas, https://www.census.gov/quickfacts/colleyvillecitytexas
[2] Ibid
[3] Tarrant County Hazard Mitigation Action Plan, 2020

  - **Scenario 1:** Low Probability – High Consequence Incidents
  - **Scenario 2:** High Probability – Medium Consequence Incidents
- In the event of a debris-generating incident, the City may activate one or more debris removal contractors.
- In the event of a debris-generating incident, the City may activate a monitoring firm.
- If warranted, the City will request federal assistance from FEMA through the State.
- The City will be operating under the current Public Assistance (PA) guidelines for reimbursement, as described in the Stafford Act. Changes to the PA Program or published program-specific guidance may result in a revision to the DDMP or its implementation.

1.4.1 Incident Description

The multi-hazard DDMP is designed to address numerous debris-generating incident scenarios. For the purposes of the DDMP, two scenarios have been developed based on maximum impact, ability to respond, and frequency of incident.

Scenario 1: Low Probability – High Consequence

This scenario focuses on catastrophic debris-generating incidents that may significantly impact the City. In this case, resources are severely strained throughout the entire region, and a Presidential Disaster Declaration for Category A is immediate or imminent due to:

- Long-term impacts to roads, bridges, and highways;
- Composition of debris includes vegetative and construction and demolition (C&D) debris; and
- Post-incident debris estimates have the potential to exceed 100,000 cubic yards (CY).

This incident is best described as a severe tornado or high-wind storm (above 111 mph). The period for debris removal and demobilization may last from 3 months to 1 year and beyond.

The National Oceanic and Atmospheric Administration (NOAA) National Weather Service utilizes the Enhanced Fujita (EF) Scale to rate the severity of tornadoes. The table below describes the EF Scale and associated wind speed categories.

Table 1-1: EF Scale[4]

Fujita Scale			Derived EF Scale		Operational EF Scale	
F Number	Fastest ¼ Mile (mph)	3 Second Gust (mph)	EF Number	3 Second Gust (mph)	EF Number	3 Second Gust (mph)
0	40-72	45-78	0	65-85	0	65-85
1	73-112	79-117	1	86-109	1	86-110

[4] The EF Scale is a set of wind estimates (not measurements) based on damage. Its uses 3-second gusts estimated at the point of damage based on a judgment of levels of damage to various indicators. These estimates vary with height and exposure. The 3-second gust is not the same wind as in standard surface observations. Standard measurements are taken by weather stations in open exposures, using a directly measured 1-minute mile speed.

Fujita Scale			Derived EF Scale		Operational EF Scale	
2	113-157	118-161	2	110-137	2	111-135
3	158-207	162-209	3	138-167	3	136-165
4	208-260	210-261	4	168-199	4	166-200
5	261-318	262-317	5	200-234	5	Over 200

Scenario 2: High Probability – Medium Consequence Impact

This scenario focuses on those higher frequency debris-generating incidents that may impact the City. These incidents may be characterized as those that do not immediately receive a Presidential Disaster Declaration for Category A:

- Short-term impacts to roads, bridges, and rail lines;
- Composition of debris is primarily vegetative with limited C&D and white goods; and
- Post-incident debris estimates do not exceed 100,000 CY.

This incident is best described as a severe thunderstorm with high winds (65–110 mph). The period for clean-up may last from 1 to 2 months. Depending on the severity of the incident, debris management site (DMS) locations may or may not be operational. In this case, the City may choose to rely on local contractors or force account labor.

1.5 Debris Volume Estimate

The debris volume generated by an incident will depend on the type of incident. Table 1-2 describes the debris-generating disaster incidents that may affect the City. The table also illustrates the probability of the disaster incident occurring, the nature of the debris generated, the debris generation potential, and the widespread impact throughout the City.

Table 1-2: Potential Disaster Incidents

Type of Incident	Probability[5]	Nature of Debris	Debris Generation Potential[6]	Widespread Impact
Tornado	Occasional	Vegetative Construction and Demolition Personal Property Hazardous Waste Household Hazardous Waste White Goods Vehicles and Vessels Putrescent	Medium to High	Extensive
Flood	Occasional	Vegetative Construction and Demolition	Low to Medium	Limited

[5] Tarrant County Hazard Mitigation Action Plan, 2020.
[6] The ability of a particular incident to produce debris based upon historical data on each incident. High could generate more than 1,000,000 cubic yards of debris; medium could generate more than 50,000–1,000,000 cubic yards; and low could generate 25,000–50,000 cubic yards of debris.

		Personal Property Hazardous Waste Household Hazardous Waste White Goods Soil, Mud, and Sand Vehicles and Vessels Putrescent		
Severe Thunderstorm with High Winds	Highly Likely	Vegetative Construction and Demolition	Low to Medium	Extensive

For planning purposes, this plan will be based on debris volumes generated by an EF3 or stronger tornado. However, the guidance that follows in this plan will apply to all debris-generating incidents that may affect the City.

1.5.1 Debris Estimate – Scenario 1

For purposes of generating debris estimates for the DDMP under Scenario 1, the high-volume debris incident is assumed to be a major tornado impacting the City. While the tornadoes of this magnitude are rare, they have the greatest opportunity to generate debris and therefore will act as the basis for the high-volume debris estimate.

Table 1-3 provides information on tornadoes that have impacted the county with more than $1 million worth of damage in the past and the estimated amount of property damage that was inflicted as a result.

Table 1-3: Past Tornado Incidents Causing $1 Million or More in Damage in Dallas and Tarrant Counties

Date	Location	Strength	Deaths/ Injuries	Property Damage	Length	Width
4/25/1970	Dallas County	F2	0/12	2.5 million	1 mile	33 yards
12/14/1971	Dallas County	F1	0/1	2.5 million	.1 miles	17 yards
12/14/1971	Dallas County	F2	0/4	2.5 million	4.3 miles	167 yards
12/14/1971	Tarrant County	F1	0/4	2 million	.1 miles	17 yards
5/26/1976	Dallas County	F3	0/1	2.5 million	4.5 miles	150 yards
5/3/1979	Dallas County	F2	0/5	25 million	7.6 miles	200 yards
12/13/1984	Dallas County	F3	0/28	25 million	6.9 miles	500 yards
5/13/1985	Dallas County	F2	0/16	2.5 million	4.5 miles	77 yards
1/19/1990	Dallas County	F2	0/1	2.5 million	.8 miles	50 yards
4/5/1990	Tarrant County	F2	0/0	2.5 million	.2 miles	10 yards

5/9/1993	Dallas County	F1	0/1	5 million	2 miles	100 yards
9/13/1993	Tarrant County	F2	0/0	5 million	8 miles	100 yards
9/13/1993	Tarrant County	F2	0/5	5 million	2 miles	100 yards
4/25/1994	Dallas County	F2	0/7	50 million	2 miles	400 yards
4/19/1995	Dallas County	F1	0/8	6 million	6 miles	100 yards
4/19/1995	Tarrant County	F2	0/0	4 million	5 miles	50 yards
5/7/1995	Tarrant County	F1	0/4	3.3 million	10 miles	300 yards
10/21/1996	Dallas County	F1	0/7	3 million	.5 miles	50 yards
5/4/2001	Tarrant County	F1	0/2	5 million	8 miles	150 yards
4/10/2008	Dallas County	EF1	0/0	1 million	2.01 miles	40 yards
4/13/2007	Tarrant County	EF1	1/0	2 million	6 miles	125 yards
4/23/2008	Tarrant County	EF2	0/0	1 million	.31 miles	100 yards
4/3/2012	Dallas County	EF2	0/10	400 million	9.35 miles	200 yards
4/3/2012	Tarrant County	EF2	0/7	200 million	6.4 miles	150 yards
12/26/2015	Dallas County	EF4	10/468	26 million	9.21 miles	550 yards
10/20/2019	Dallas County	EF2	0/0	400 million	2.48 miles	265 yards
10/20/2019	Dallas County	EF1	0/0	10 million	4.47 miles	500 yards

Table 1-4 shows the number of F3/EF3 tornadoes that have occurred in Tarrant County since 1960. Within Tarrant County no tornadoes of greater intensity than a F3 or EF3 have been recorded during that time period. In an EF3 tornado it is possible for entire stories of well-constructed houses to be destroyed and severe damage can occur to large structures such as shopping centers. Trains can be turned-over and vehicles can be picked up and tossed into the air.

Table 1-4: Past F3/EF3 Tornadoes in Tarrant County

Date	Strength	Deaths/ Injuries	Property Damage	Length	Width
5/4/1960	F3	0/12	250,000	7.4 miles	500 yards
3/28/2000	F3	2/80	0	4 miles	250 yards
3/28/2000	F3	0/0	0	7 miles	300 yards
4/15/2002	F3	0/0	250,000	2.1	80 yards

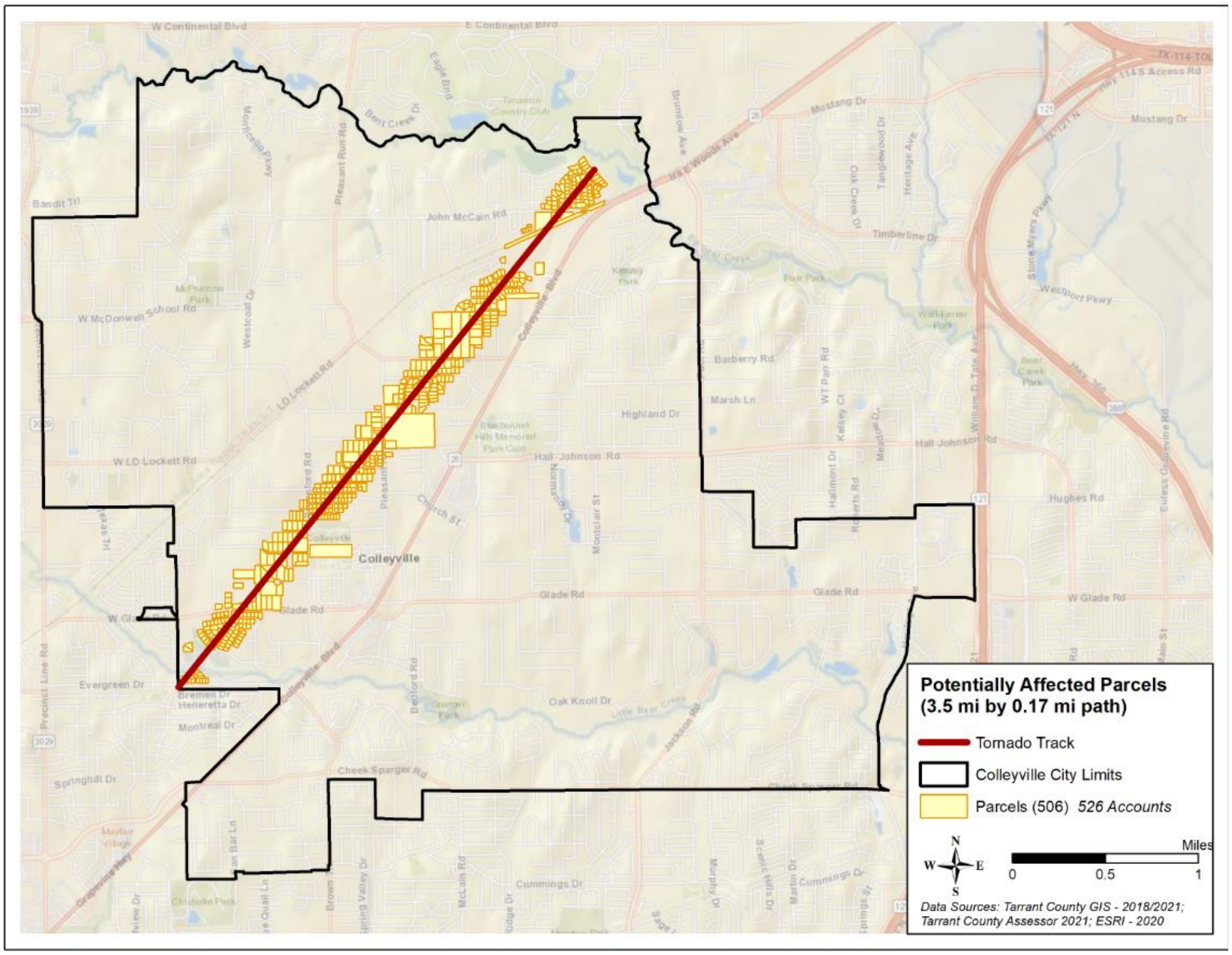
Debris Forecast Formula

The forecasted amount of residential debris in the City is based on the following formula for a totally destroyed household as described in Section 6 of FEMA 325. Estimates of the square footage of a one-story, single-family home in the City are used for this calculation. The average square footage of homes in Colleyville, Texas is estimated at approximately 3,700 square feet.[7]

A scenario using an EF3 tornado approximately 3.5 miles long, with a width of 300 yards was used to determine the number of buildings/homes that would be affected. Using that scenario, it was determined that approximately 493 residences and 31 commercial buildings would be affected by the tornado. See Figure 1-1 on the following page.

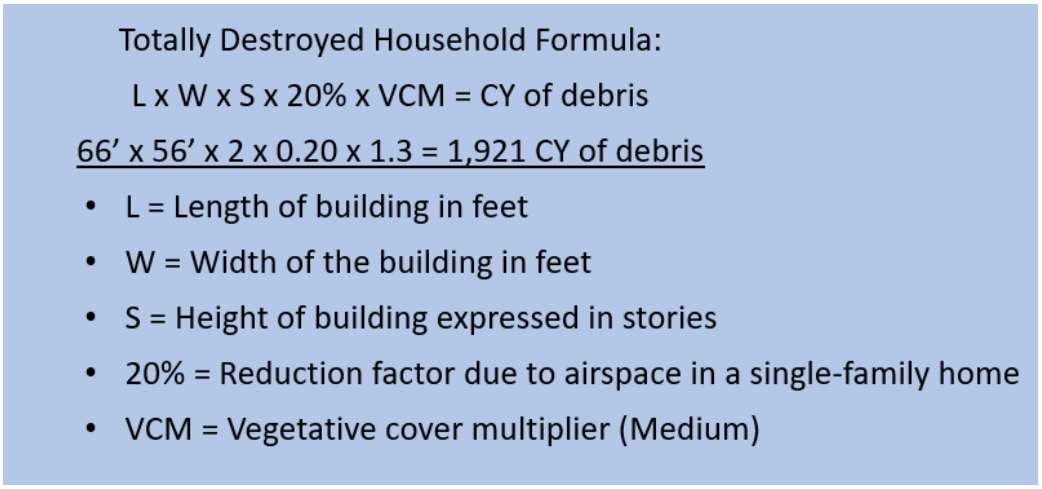
[7] Realtor.com website at https://www.realtor.com/realestateandhomes-search/Colleyville_TX/overview

Figure 1-1: Possible Tornado Scenario for the City of Colleyville



The forecasted amount of residential debris in the City is based on the following formula for a totally destroyed household as described in Section 6 of FEMA 325. An estimate of a two-story, single-family home in the City that is approximately 3,700 square feet (66 feet by 56 feet) is used for this calculation.

Figure 1-2: Totally Destroyed Household Formula



The resulting debris estimates were derived by taking the number of impacted parcels (with structures) multiplied by the average amount of CYs of debris generated from a totally destroyed household based on the formula in Figure 1-2. Percentages have been calculated to account for totally destroyed, heavily damaged, and partially damaged buildings for each of the three debris forecast models. The debris forecast for each of the models is presented below.

Table 1-5: Estimated CY of Debris from an EF3 Tornado

Total Buildings Impacted – 493				
Amount of Damage	**% of Buildings Impacted**	**# of Impacted Buildings**	**Average CY Per Parcel**	**Total Residential CY**
Partially Damaged	50%	246	576	141,696
Heavily Damaged	30%	148	1153	170,644
Totally Destroyed	20%	99	1,921	190,179
Total	100%	493		502,519

1.5.2 Debris Estimate – Scenario 2

A flooding incident is the second type of debris-generating incident examined under the plan. Using Hazus software from FEMA, estimates were generated in Table 1-5 below to determine the potential amounts of debris that might be generated from flooding occurring in the City based on

a 1% annual chance flooding incident (100-year flood) and a 0.2% annual chance flooding incident (500-year flood). Debris quantities are stated in CY.

Table 1-6: Flooding Incident Debris Estimates

Debris Type	100-Year Flood	500-Year Flood
Structure (CY)	110	116
Foundation (CY)	94	104
Finish (CY)	1,684	2,422
Total (CY)	**1,888**	**2,642**

1.5.3 Debris Estimate – Scenario 3

A high probability, moderate consequence incident that may impact the City may occur as a high-wind incident susceptible to severe weather, including flooding and strong winds. For this reason, the U.S. Army Corps of Engineers (USACE) hurricane debris estimation model was used to determine the type and volume of debris. While the City will not experience a direct hit from a hurricane, a Category 1 hurricane was used because it most closely resembled the type of conditions related to wind speed and precipitation and flooding the City could experience in a severe weather incident.

Debris Forecast Formula

The forecasted amount of residential debris in the City is based on the following formula.

$$Q=H(C)(V)(B)(S)$$

Where:

Q = Cubic yards (CY) of debris

H = Number of households in the community

C = Storm category factor (Category 1)

V = Vegetative characteristic multiplier

B = Commercial multiplier

S = Precipitation characteristic multiplier

Storm Category

C is the storm category factor as shown below. It expresses debris quantity in CY per household by hurricane category and includes the house, its contents, and land foliage.

Table 1-7: Storm Category Factor

Hurricane Category	Value of "C" Factor
1	2
2	8
3	26
4	50
5	80

Vegetative Cover

V is the vegetation multiplier as shown below. It acts to increase the quantity of debris by adding vegetation, including shrubbery and trees, on public rights-of-way (ROW).

- Light (1.1 multiplier) includes new home developments where more ground is visible than trees. These areas will have sparse canopy cover.
- Medium (1.3 multiplier) generally has a uniform pattern of open space and tree canopy cover. This is the most common description for vegetative cover.
- Heavy (1.5 multiplier) is found in mature neighborhoods and woodlots where the ground or houses cannot be seen due to the tree canopy cover.

Table 1-8: Vegetative Cover Factor

Vegetation Cover	Value of "V" Factor
Light	1.1
Medium	1.3
Heavy	1.5

Commercial Multiplier

B is the multiplier that takes into account areas that are not solely single-family residential but includes small retail stores, schools, apartments, shopping centers, and light industrial-manufacturing facilities. Built into this multiplier is the offsetting commercial insurance requirement for owner/operator salvage operations.

Table 1-9: Commercial Multiplier Factor

Commercial Density	Value of "B" Factor
Light	1
Medium	1.2
Heavy	1.3

Precipitation Multiplier

S is the precipitation multiplier that takes into account either a "wet" or "dry" storm incident.

Table 1-10: Precipitation Multiplier Factor

Precipitation Characteristic	Value of "B" Factor
None to Light	1
Medium to Heavy	1.2

Scenario 3 - Debris Forecast

A combination of relevant historical data and debris forecast calculations was used to develop the debris forecast in the high-volume debris incident.

- The goal of the debris forecast analysis for a high-wind scenario is to provide the City with a realistic amount of debris that could be generated by an incident.
- A high-wind and rain incident is a plausible scenario for a high frequency, medium consequence incident.

Table 1-11: Scenario 3 - Debris Forecast Analysis

Total Number of Households	Storm Category Multiplier	Vegetative Cover Multiplier (VCM)	Commercial Property Multiplier	Wet or Dry Storm Multiplier	Debris Estimate (CY)
9,311	2	1.3	1.2	1.3	**37,765**

1.5.4 Local Resource Needs Assessment

Local resources, also known as force account resources, are City-owned resources, including equipment and labor, that the City can use to respond to a debris-generating incident. For relatively minor incidents, the City can rely on its own resources to respond. For larger-scale incidents and disasters, the demand for resources may quickly overwhelm the resources that the City might have available. In that case, the City may look to mutual aid resources or may rely upon contracted services to provide the needed staffing, equipment, and expertise to help manage the debris. In the event of a large-scale disaster, the City must assess the local labor and determine the resources that might be needed to respond.

The matrix below provides resource requirements for tornado and severe storm debris events based on the debris estimation models.

Assumptions regarding resource requirements for earthquake and severe weather event include the following:

- Average debris collection truck capacity is 35 CY.
- Average number of trips per day for each collection truck is six.

- One monitor in place for each loading unit. Note that a Disposal Monitor will also be needed at the disposal site and DMS if activated.
- Contractor will use tandem self-loading vehicles—two containers for each loading device.
- Volume of debris that can be staged per acre is based on a 10-foot stack height: 16,117 CY/acre.
- Minimum area for a DMS is 5 acres.
- The number of operational days will vary depending on the scope of the operation.
- Number of trucks will fluctuate throughout the operation. Table 1-12 lists the debris resource requirements over the entire operation.

Table 1-12: Debris Resource Requirements

Incident	Total Debris (CY)	Operational Days	DMS Acres Needed	Tandem Trucks Needed	Collection Monitors Needed
EF3 Tornado	502,519	180	31	14	7
Flooding (100 year)	1,888	7	5	1	1
Flooding (500 year)	2,642	7	5	2	1
Severe Weather	37,765	30	5	6	3

Section 2
ROLES AND RESPONSIBILITIES

2.1 Administration and Logistics

Staff from the City as well as other agencies and organizations involved in debris management activities will document the personnel, equipment, and material resources used to comply with this plan. Documentation will then be used to support reimbursement from any state or federal assistance that may be requested or required.

The City will implement 12-hour staffing for debris operations as the emergency or disaster requires or as directed by the Debris Manager.

Emergency Management is responsible for the annual review of this plan. It will be the responsibility of each tasked City department and agency to update its respective portion of the plan and ensure any limitations and shortfalls are identified and documented, and work-around procedures are developed, if necessary.

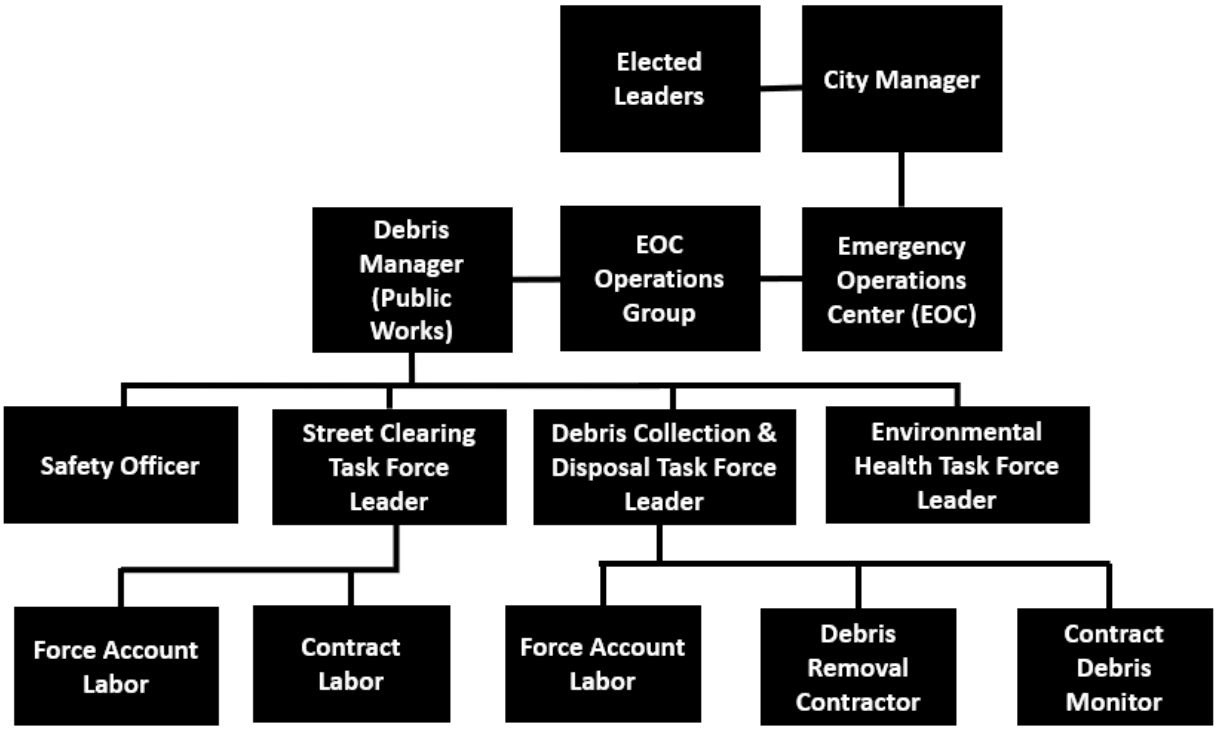
The review will consider such items as:

- Changes in mission
- Changes in concept of operations
- Changes in organization
- Changes in responsibility
- Changes in desired contracts
- Changes in pre-positioned contracts
- Changes in priorities

2.2 Debris Management Organization

To prevent duplication of effort following a disaster incident, roles and responsibilities of key staff and City departments, as related to debris removal and management, must be clearly defined prior to a disaster. Based on severity of the incident, the City may establish a Debris Management Operations Center (DMOC) with its own organizational structure. An organization structure for local management of debris-generating incidents, based on the Incident Command System (ICS), is depicted on Figure 2-1. The purpose of the organizational chart is to further clarify roles and facilitate local communication following a disaster.

Figure 2-1: Debris Management Operations Chart



2.3 Key Positions in Debris Management

Positions that could be needed for debris management operations are described below. The level of staffing for response to a debris-generating incident will depend on the magnitude of the incident. Job action sheets for key debris management positions are provided in **Appendix A**.

2.3.1 Debris Manager

- Establish a DMOC.
- Activate contractors for debris clearing and debris monitoring services.
- Establish the Incident Command Structure for debris management operations.
- Coordinate with Purchasing to activate contractors for debris clearing and debris monitoring services.
- Establish priorities for debris management operations.
- Collaborate with federal, state, and other agency representatives.
- Provide updates to Emergency Management regarding debris management operations.
- Review and approve public information messages regarding debris operations.
- Coordinate with Finance in the tracking of debris management costs.
- Coordinate the demobilization of debris management operations.

2.3.2 Safety Officer

- Create a safety plan.
- Ensure safety messages are developed and briefings are conducted.
- Exercise emergency authority to stop and prevent unsafe acts during debris operations.
- Revise Incident Management Plans for safety considerations.
- Investigate accidents and near misses.
- Participate in planning meetings.
- Review and approve the medical plan.

2.3.3 Street-Clearing Task Force Leader

- Stage and prepare resources immediately prior to an expected incident to ensure these will be fueled and ready to activate in the event they would be needed to clear debris off jurisdiction streets.
- Oversee street-clearing immediately following a debris-generating incident.
- Coordinate local and contract resources to clear streets of debris in accordance with established objectives and priorities.

- Track progress of street-clearing operations.
- Provide regular updates to the Debris Manager regarding the status of operations.
- Coordinate with the Safety Officer to ensure street-clearing operations are conducted in a safe manner.
- Ensure all hours, expenses, and equipment use are accurately documented.

2.3.4 Debris Collection and Disposal Task Force Leader

- Coordinate with local and contract resources to stage and ready resources immediately prior to an expected incident to ensure these will be fueled and ready to activate in the event they are needed to collect debris.
- Coordinate with the Debris Monitoring Contractor to conduct truck certifications.
- Coordinate local and contract resources to conduct debris collection operations in accordance with established objectives and priorities.
- Coordinate with the Debris Monitoring Contractor to conduct collection, DMS, and disposal site monitoring.
- Activate DMS locations as needed in coordination with relevant departments and agencies.
- Coordinate with Environmental Health to conduct soil sampling at DMS locations prior to and after closure of DMS locations.
- Coordinate with local labor and contractors to ensure debris is recycled or disposed of in accordance with regulatory guidelines.
- Coordinate local and contract resources to conduct special debris operations, including removals of dangerous trees, privately owned vehicles, and vessels, waterway debris, parks debris, and private property debris in accordance with FEMA authorization and guidelines.
- Track progress of debris collection, recycling, and disposal in coordination with the Debris Monitoring contractor.
- Provide regular updates to the Debris Manager regarding status of operations.
- Coordinate with the Safety Officer to ensure debris collection and disposal operations are conducted in a safe manner.
- Ensure all hours, expenses, and equipment use are accurately documented.

2.3.5 Environmental Health Task Force Leader

- Liaise with regional, state, and federal environmental agencies and contractors to monitor environmental impacts of debris management operations, including ground/surface water, air, soil, and asbestos monitoring.
- Coordinate with the Debris Collection and Disposal Task Force Leader, or designee, to conduct soil sampling at DMS locations prior to and after closure of DMS locations.
- Conduct permitting of DMS locations.

- Track progress of environmental monitoring and testing operations, and documents results.
- Provide regular updates to the Debris Manager regarding status of environmental monitoring operations.
- Coordinate with the Safety Officer to ensure environmental monitoring operations are conducted in a safe manner.
- Ensure all hours, expenses, and equipment use are accurately documented.

2.3.6 Debris Clearing Task Force

- Coordinate through the Street-Clearing Task Force Leader to divide into teams and clear streets of debris in accordance with established objectives and priorities.
- Report any hazardous conditions such as downed power lines, hazardous materials (HAZMAT) spills, and natural gas leaks to the proper authorities as well as the Street-Clearing Division Supervisor.
- Track progress of the Task Force in street-clearing operations.
- Provide updates as required to the Street-Clearing Task Force Leader regarding status and progress of the Task Force.
- Obey health and safety policy and follow health and safety guidance in conducting street-clearing operations.
- Ensure all hours, expenses, and equipment use are accurately documented.

2.3.7 Debris Removal Task Force

- Coordinate through the Debris Collection and Disposal Task Force Leader to divide into teams consisting of debris removal and debris monitors to collect debris and deliver it to the appropriate location for reduction, recycling, or disposal.
- Report any hazardous conditions such as downed power lines, HAZMAT spills, and natural gas leaks to the proper authorities as well as the Debris Collection and Disposal Task Force Leader.
- Track progress of the Task Force in debris removal, reduction, recycling, and disposal operations.
- Provide updates as required to the Debris Collection and Disposal Task Force Leader regarding status and progress of the Task Force.
- Obey health and safety policy and follow health and safety guidance in conducting debris removal, reduction, and disposal operations.
- Ensure all hours, expenses, and equipment use are accurately documented.

2.4 Primary Departments

The unique roles of City offices and departments associated with managing the debris clean-up process are summarized below.

2.4.1 Public Works Department

- Serve as the lead City department for debris management operations.
- Assign an individual to serve as the Debris Manager.
- Pre-stage equipment to prevent damage and to ensure its readiness in the event of a known hazard such as a severe storm.
- Coordinate with Emergency Management to activate the DDMP.
- Prioritize streets for clearing debris.
- Implement debris clearing activities, coordinate department personnel, and coordinate with personnel from supporting departments and agencies with a role in debris operations.
- Conduct initial baseline sampling at DMS locations as well as sampling after use of the property as a DMS to ensure the property is restored to its pre-DMS condition.
- Coordinate with the North Central Texas Public Works Emergency Response Team (PWERT) and other local jurisdictions in the activation of Memorandums of Understanding (MOUs) for additional Public Works resources as needed.

2.4.2 Emergency Management

- Activate the EOC and manage the EOC throughout response and recovery.
- Request needed resources through mutual aid agreements or the State of Texas Assistance Request (STAR) process.
- Review and update the plan.
- Coordinate mitigation and preparedness activities.
- Coordinate training and exercises.
- Conduct after action briefings and develop after action reports and improvement plans following exercises and real incidents.

2.5 Interdepartmental Coordination

With the Public Works Department acting as the lead department in the clean-up effort, various additional departments within the City will have specific duties that will assist in the recovery effort. An account of the primary roles and responsibilities for each department has been summarized in the following section.

2.5.1 City Attorney

- Review debris management contracts prior to signature by the City Council.
- Assist the City Secretary's Office in developing the Declaration of Disaster in response to a disaster affecting the City.
- Coordinate with Code Enforcement to enforce existing nuisance abatement laws.

2.5.2 City Manager's Office

- Responsible for day-to-day management of the City.
- Coordinate response and recovery activities through the EOC.
- Provide the Mayor and City Council with information regarding the progress of the debris removal effort.
- Approve activation of standby contracts for emergency debris clearance, collection, and monitoring.

2.5.3 City Secretary's Office

- Prepare necessary declaration of disaster documents for signature by the Mayor and City Council.
- Provide administrative support to the Mayor and City Council.

2.5.4 Communications and Media Relations

- Develop public information messages related to debris operations.
- Update the City website with current information regarding debris management operations.
- Update and monitor social media (Facebook, Twitter, and Next Door) posts regarding debris operations.
- Address inquiries from the news media.
- Conduct news briefings as needed.
- Address rumors and misinformation.

2.5.5 Community Development

- Conduct post-disaster safety inspections on homes and commercial structures.
- Coordinate with the Building Officials Association of Texas (BOAT) as needed for support in conducting structural and safety assessments.
- Reassess homes and commercial structures to ensure repairs are made according to standards.

2.5.6 Finance

- Establish an account code for tracking disaster response and recovery expenses.
- Send department representative to the EOC to assist in tracking disaster response/recovery hours, expenses, and equipment use.
- Coordinate with FEMA, the Texas Department of Public Safety (DPS) Coordinator, Emergency Management, and Public Works, regarding Project Worksheet (PW) development.
- Procure goods needed for response and recovery in accordance with the City's emergency purchasing policy.
- Coordinate with Public Works to contract with needed vendor services.
- Ensure that purchases and contracts are conducted in accordance with state and federal guidelines.

2.5.7 Fire Department

- Provide preliminary damage and blocked roads information to dispatch.
- Report downed power lines and/or damaged gas lines to utility companies through dispatch.
- Conduct fire suppression, emergency medical services, and public fire safety duties.
- Contain hazardous materials spills and coordinate with responsible party or contractor for clean-up. Request local mutual aid HAZMAT Teams for support as needed.

2.5.8 Information Services

- Provide geographic information system (GIS) mapping services to support debris management operations including:
  - Jurisdictional boundaries
  - Locations of hazards
  - Location of Public Works assets
  - Status of debris operations
  - Other information as needed

2.5.9 Mayor and City Council

- Manage all legislative and governing activities of the City.
- Approve and sign contracts and various documents throughout the debris removal operation.
- Communicate with constituents regarding the status of debris operations and address concerns.

2.5.10 Parks and Recreation

- Assist in emergency roadway clearing activities through use of Community Services equipment, staff, and contractors (e.g., tree trimming companies) as needed.
- Provide parks to serve as potential DMS locations.
- Oversee the clearance of debris from City parks.

2.5.11 Police Department

- Provide protection of public and private property.
- Provide situational awareness to the EOC.
- Coordinate with the Tarrant County Medical Examiner's Office in death investigations.
- Establish perimeter security and coordinate with other law enforcement agencies in the investigation of debris-generating incidents caused by a criminal and/or terrorist act.
- Enforce any curfews enacted by City Council.
- Take enforcement actions regarding illegal dumping as a result of the debris-generating incident.
- Abate nuisances in accordance with code enforcement ordinances.

2.6 County Offices

2.6.1 Tarrant County Office of Emergency Management

- Establish and maintain the County EOC to serve affected jurisdictions.
- Coordinate the utilization of County resources to meet local resource requests.
- Forward resource requests that the County is unable to fill to the regional Disaster District Committee (DDC).

2.6.2 Tarrant County Commissioner Offices

- Clear and repair county roads.
- Address needs and concerns of precinct constituents.

2.6.3 Tarrant County Office of the Medical Examiner

- Determine the cause and manner of death for sudden and unexpected deaths occurring within Tarrant and Denton Counties.

2.6.4 Tarrant County Public Health Department

- Monitor the health status of the community.

- Determine if debris poses a threat to the public health and safety.
- Issue guidance to the public regarding possible public health threats.

2.7 State Agencies

2.7.1 Texas Animal Health Commission (TAHC)

- Assist the City in the disposition of dead animals.

2.7.2 Texas Commission on Environmental Quality (TCEQ)

- Oversee and approve DMS selection and closure.
- Provide guidance in managing and disposing of debris from a disaster.
- Provide regulatory assistance to local governmental and other entities in debris management operations, relating to compliance with environmental laws, to enable them to be eligible for FEMA reimbursement.

2.7.3 Texas Department of State Health Services (DSHS) Region 2/3

- Monitor the health status of the community.
- Monitor and coordinate environmental health activities.
- Determine if debris poses a public health threat.
- Issue guidance to the public regarding public health threats and provide assistance to affected communities as needed.
- The DSHS Asbestos Program is tasked with regulating and enforcing asbestos regulations in the State of Texas.

2.7.4 2-1-1 Texas, Texas Health and Human Services Commission (HHSC)

- Serve as a resource to the City to help provide information to the public regarding debris management operations.

2.7.5 Texas Division of Emergency Management (TDEM)

- Coordinate resource requests for state assets, i.e., the National Guard or other State agencies or from neighboring Disaster Districts.

2.7.6 Texas General Land Office (GLO)

- Provide assistance in the removal of derelict vessels and coordinate debris removal from publicly owned beaches and State-owned submerged lands.

- Manage recovery grants through the U.S. Department of Housing and Urban Development (HUD).

2.7.7 Texas Department of Transportation (TxDOT)

- Conduct emergency road clearing activities immediately after a natural disaster and the "first pass" of debris removal on all state and federal roads.

2.7.8 Texas Historical Commission (THC)

- Coordinates post-event disaster management site application to ensure compliance with Section 106 of the National Historic Preservation Act as administered through Title 36 of the Code of Federal Regulations and compliance with the Antiquities Code of Texas and its implementing regulations.

2.8 Federal Agencies

2.8.1 Federal Emergency Management Agency (FEMA)

- Provide guidance to the City regarding debris eligibility and the FEMA reimbursement process.
- Develop PWs for the City's debris clean-up operations.
- Oversee any private property clean-up, should this be declared.

2.8.2 Federal Highway Administration (FHWA)

- Fund debris clearance and removal on federal aid highways through the Emergency Relief (ER) Program for an incident not declared a major disaster or emergency by the President under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, or an incident declared a major disaster or emergency by the President under that act if the debris removal is not eligible for assistance under Section 403, 407, or 502 of that act.

2.8.3 Natural Resources Conservation Service (NRCS)

- Provide assistance through the Emergency Watershed Protection (EWP) Program in debris clean-up for runoff retardation or soil erosion prevention that causes impairment in a watershed and is an imminent threat to life or property.

2.8.4 Office of Inspector General (OIG)

- Conduct an aggressive and ongoing audit effort designed to ensure that disaster relief funds are spent appropriately while identifying fraud, waste, and abuse as early as possible.

2.8.5 U.S. Army Corps of Engineers (USACE)

- Assist local jurisdictions in debris removal operations following catastrophic incidents as well as provide assistance in assessing and restoring critical infrastructure.

2.9 Private Enterprise

2.9.1 Debris Hauling Firm

- Clear and remove debris from jurisdiction roadways and waterways to make them passable immediately following a declared disaster.
- Conduct debris removal from the ROW.
- Decommission, demolish, and dispose of eligible non-regulated asbestos-containing material (non-RACM) structures on private property.
- Manage and operate DMS locations.
- Conduct debris reduction.
- Haul-out reduced materials to recycling/end use facilities.
- Remove hazardous leaning trees and hanging limbs.
- Removal of hazardous stumps.
- Remove white goods debris from the ROW.
- Coordinate the removal of household hazardous waste (HHW) from the ROW.
- Coordinate derelict vehicle removal and abandoned vehicle removal.
- Remove animal carcasses from areas designated by the jurisdiction.
- Communicate status of operations and supply chains as well as challenges and timelines to local officials.

2.9.2 Community Waste Disposal (Franchised Trash Hauler and Recycling)

- Conduct franchised trash collection and recycling services in coordination with the debris hauling firm.
- Conduct curbside collection of recyclable materials, transport the recyclable materials to a processing site and maintain established buyers or markets for the recyclables.

2.9.3 Debris Monitor Firm

- Perform truck certifications.
- Perform on-site, street-level debris monitoring at all collection sites.

- Conduct disposal monitoring to document the disposal of disaster debris at approved DMSs and at final disposal or end use locations.
- Support monitoring and documentation of hazardous tree removal and specialized debris removal programs such as waterways debris removal and private property debris removal.
- Audit debris hauler invoices and certify they are ready for payment by the City.

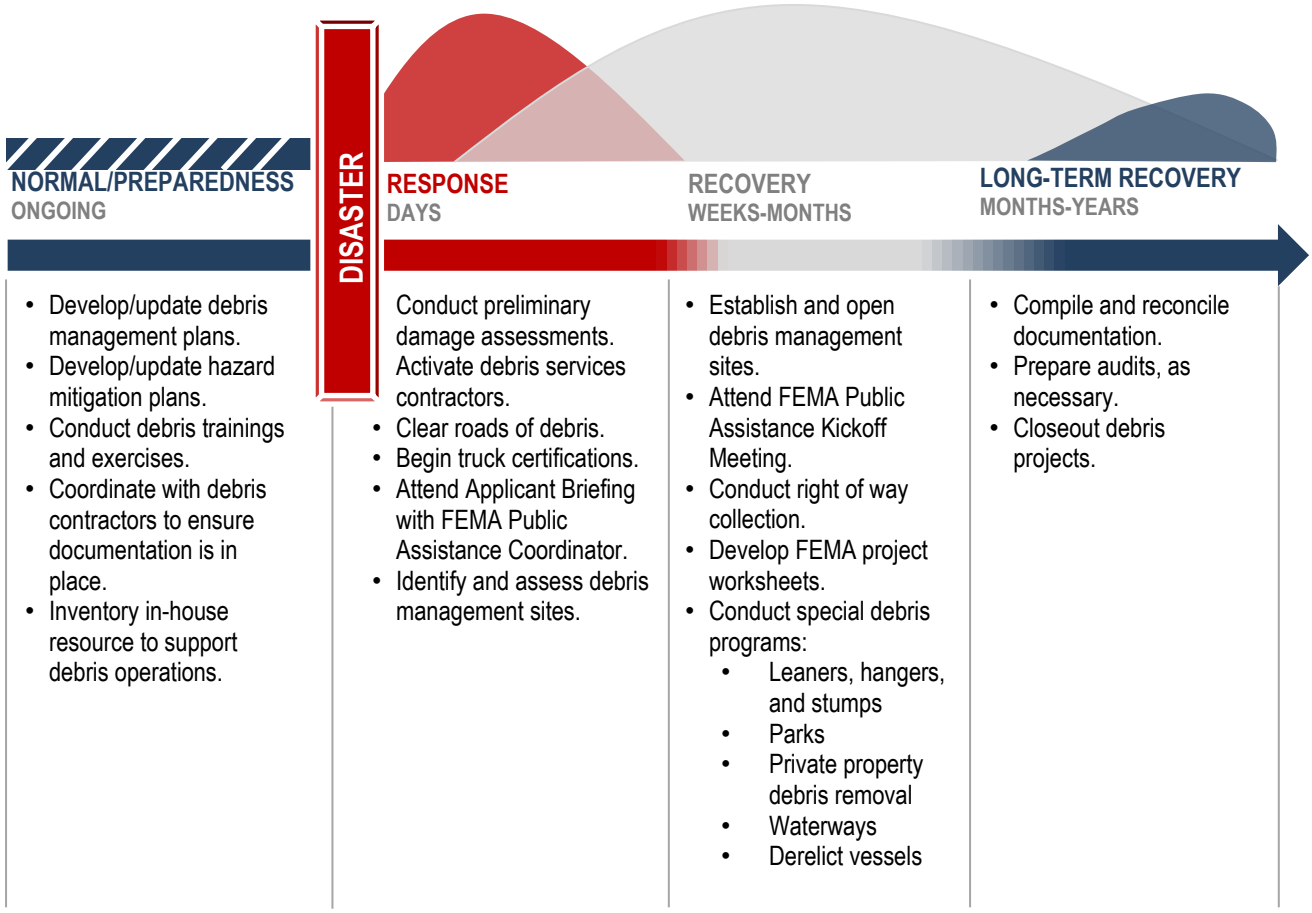
2.10 Nonprofit Organizations

- Assist residents unable to bring debris to the ROW.
- Assist the City in communicating instructions to populations with communication barriers.

Section 3
DEBRIS COLLECTION AND REMOVAL PLAN

This section provides guidance required for all phases of a debris-generating incident. For the purposes of this plan, four phases are discussed: Normal Operations, Pre-Incident Preparation, Post-Incident Response, and Post-Incident Recovery. Checklists for disaster debris management operations can be found in **Appendix B**. Figure 3.1 summarizes the phases of disaster debris management operations. The phases are described in detail in this section.

Figure 3-1: Disaster Recovery Timeline



3.1 Normal Operations

Normal Operations is the period of time when the City is not in any serious threat of a disaster incident. Tornadoes and severe thunderstorms can occur at any time but are most likely to take place throughout the spring and summer months in the southern portions of the United States.

However, the City's geographic location is in an area of the country commonly known as "Tornado Alley" due to the high number of storms that occur in this region year-round. Therefore, the City may experience tornadoes or other debris-generating incidents throughout the year, so it is imperative to maintain a constant state of preparedness throughout Normal Operations by reviewing and updating the plan annually.

The Normal Operations phase is the ideal time for the City to establish and/or review pre-positioned contracts with its monitoring firm and debris removal contractor(s) and review current local ordinances and their historical impact on debris removal operations. The Normal Operations period is also the ideal time for Emergency Management and lead City departments in debris recovery efforts to re-evaluate the roles and responsibilities of each department and other involved outside agencies. The purpose of this evaluation is to ensure that all impacted departments, municipalities, and external agencies maintain the capacity to fulfill their obligations in a timely and effective manner should a disaster strike the City. Once roles and responsibilities have been re-evaluated, a review and update of the plan should be conducted annually prior to severe weather season. Also, prior to severe weather season, a pre-season kickoff meeting should be held between the City and their pre-positioned monitoring firm and debris removal contractors. The Normal Operations Checklist is also provided in **Appendix B**.

3.1.1 Normal Operations Checklist

- Update contact lists.
- Evaluate DMS locations.
- Review road list and road maps.
- Establish and maintain pre-positioned contracts.
- Review State and FEMA guidance.

Update Contact Lists

Contact lists for staff should be updated periodically to reflect changes in personnel or contact information.

Evaluate DMS Locations

Locations identified to serve as DMS following a debris-generating incident should be re-evaluated annually to ensure they remain viable candidates for DMS operations. Likewise, additional DMS locations may be identified as the development and landscape of the City's progress over time. Both the TCEQ and the THC must approve the temporary storage of debris outside of a certified or properly licensed landfill. The City must submit a Request for Approval of Temporary Debris Management Site form to the TCEQ regional office, and a Disposal Site Evaluation and Registry form to the THC, for each site they plan to operate as a DMS prior to conducting DMS operations.

Review Road List and Road Maps

Changes or updates relating to road segments and applicable maintenance responsibility among local, state, and federal agencies are critical for reimbursement through the PA Grant Program and

the Federal Highway Administration-Emergency Relief (FHWA-ER) Program.[8] It is critical that the City review and update road lists and maps annually. Updated and accurate road lists and maps will assist in documenting debris removal operations and thereby assist the City during the reimbursement process.

Establish and Maintain Pre-Positioned Contracts

During times of normalcy, the City will establish and maintain pre-positioned contracts for debris monitoring and debris removal services. The procurement of such services will be compliant with the City's procurement practices and the procurement competition requirements specified in the Code of Federal Regulations – Title 44 Emergency Management and Assistance (44 CFR) Part 13.36. For additional guidelines regarding contracting, see **Appendix C**. **Appendix D** consists of a sample scope of work to aid in the evaluation and selection of debris removal contractors. See **Appendix E** for a list of contractors that have been pre-positioned by the City.

Review State and FEMA Guidance

Rules and regulations dictating operational procedures change periodically; therefore, the information in the plan should be updated annually to reflect such changes.

3.2 Pre-Incident Preparation

The City should begin pre-incident preparations when a potential debris-generating hazard is moving toward the City. However, because of the relatively short notice that most incidents have that could affect the City, the opportunity to make pre-incident preparations is limited. If it is feasible to employ pre-incident preparations, key City personnel and representatives of involved outside agencies as well as their staffs should be put on alert and maintain awareness that they may be required to work extended hours in adverse conditions.

The availability of pre-selected/pre-approved DMS locations will be evaluated by Emergency Management. A list of potential DMS locations can be found in **Appendix F**. Alternate locations will be considered by prioritizing potential alternate sites if one or more pre-approved sites are not available. A sample memorandum of understanding for use in establishing agreements with private landowners for use of their property for DMS can be found in **Appendix G.** City representatives should place the pre-positioned monitoring firm and debris removal contractors on standby.

City representatives should be familiar with 2 CFR Super Circular as part of the federal contracting requirements to receive federal awards: https://www.govinfo.gov/app/details/CFR-2014-title2-vol1/CFR-2014-title2-vol1-part200.

3.2.1 Pre-Incident Checklist

- Download most recent road list and relevant documents to a portable storage device.
- Alert key personnel and place monitoring firm and debris removal contractors on standby.
- Review plan with key personnel.

[8] FHWA Special Federal Aid Funding, https://www.fhwa.dot.gov/programadmin/erelief.cfm

- Issue pre-incident media press releases.

The checklist performed during pre-incident preparation is critical in assembling a coordinated response. The checklist is a valuable tool to ensure that proper steps are taken in a time of extreme duress. The Pre-Incident Checklist is also provided in **Appendix B**.

Download Most Recent Road List and Relevant Documents to a Portable Storage Device

The Public Works Department will acquire and download to a portable storage device the most recent street list and maps of the City prior to the debris-generating incident. Many of the computers and servers that store this information may be unavailable immediately following an incident. Having this information on-hand ensures that debris collection operates properly and commences in a timely manner. It is critical that the City provides updates of the road list to the monitoring firm as they become available.

Copies of the street list and maps should be stored with the Public Works Department in a safe location outside the projected path of the debris-generating incident.

Alert Key Personnel and Place Monitoring Firm and Debris Removal Contractors on Standby

Prior to a debris-generating incident, Emergency Management should contact key City personnel to inform them of information needed to begin the response and recovery process.

The debris monitoring firm and debris removal contractors should be put on alert that their contracts may be activated. (See **Appendix E** for contact information.) Discussions with the monitoring firm and debris removal contractors should address the following key issues:

- Availability and amount of assets that will be dedicated to debris removal operations;
- Estimated time of mobilization;
- Exchange of mobile contact information; and
- Identification of staging area(s) for truck certification.

Review Plan with Key Personnel

Once an initial meeting is scheduled with key contacts, the managers of debris operations, the monitoring firm, and debris removal contractors should review the DDMP. During the initial meeting, the Health and Safety Strategy located in **Appendix H** of this plan should also be reviewed by the City and modified/appended, as necessary.

3.2.2 Public Information Pre-Incident

The managers of debris operations and the Public Information Officer through the EOC will disseminate a message preparing residents for the potential debris removal operation. The message should assure the public that the City is prepared and has a plan in place to immediately respond to an incident. The message should also include information on City office closure times/dates (this should include information regarding garbage collection and City facilities). In addition, the

City should provide information on proper set-out procedures and estimates on when the clean-up process will begin. A draft message for this scenario is included in **Appendix I**.

3.3 Post-Incident Response

Immediately following the incident, roadways must be cleared of scattered debris, leaning trees, and other obstructions in roadways for emergency response vehicles. This specific operation is reimbursable by FEMA on a time and materials basis. It is critical that all types of equipment and the amount of time the equipment is used are documented with detail and accuracy. (Please note that the reimbursement criteria and duration for time and materials work is subject to change following a disaster.)

During this phase, the Public Works Department will initiate emergency road clearance activities. If necessary, the City may request additional resources for emergency road clearance operations from the debris removal contractor. Road clearance priorities are pre-established to allow access to critical public facilities such as fire stations, police stations, hospitals, shelters, emergency supply centers, and other critical facilities. Concurrent to emergency push operations, the City's debris removal contractors should perform necessary preparation work to open DMS locations.

3.3.1 Emergency Road Clearance Priorities

Certain roads will require priority for emergency road clearance operations. Priority roads are deemed as such based on many considerations, including size, proximity to adjacent citizen populations, Police and Fire Department locations, and ingress/egress capabilities for the community. The list of priority roads is within **Appendix J.**

3.4 Post-Incident Response Checklist

The following Response Checklist is critical in assembling a coordinated response. The checklist is a valuable tool to ensure that proper steps are taken in a time of extreme duress. The Response Checklist is also provided in **Appendix B**.

- Conduct damage assessments.
- Establish a DMOC.
- Activate monitoring firm and debris removal contractors.
- Begin emergency roadway debris clearance.
- Begin truck certification.
- Prepare DMS based on concentration of debris.
- Conduct meetings/briefings with key personnel.
- Review debris volume and collection cost assessment.
- Request contact information and meeting with FEMA Public Assistance Program Delivery Manager (PA PDMG).

- Issue media press release.

3.4.1 Conduct Damage Assessment

Damage assessments are necessary to determine the extent and the location of the debris. Windshield surveys of affected areas of the City should be taken and used to communicate critically damaged areas to the EOC. If possible, additional aerial surveys should be conducted by helicopter or drone to obtain an aerial view of damaged areas within the City. Often, aerial surveys are available through debris removal contractors independently surveying affected areas to determine asset levels and configuration.

3.4.2 Establish a Debris Management Operations Center

To effectively manage debris operations, a DMOC may be established. From the DMOC, key strategies and functions of debris management operations will be coordinated in collaboration with other City departments with a role in debris management as well as the debris monitor and debris hauler. In addition, the DMOC will also be the hub for information regarding the status of debris management operations with information flowing in from field operations staff, processed in the DMOC, and then used to provide situational awareness regarding debris management operations to the EOC. The Public Works Department will provide the necessary staffing to operate the DMOC with support from other City departments as needed. A City staff member will be selected to serve as the Debris Manager to lead City debris operations and direct DMOC activities. The responsibilities of the Debris Manager are listed in Section 2.3.1 of this plan.

In addition to operating the DMOC, the City will assign one or more Public Works liaisons to report to and coordinate with the EOC. The role of the Public Works Liaison will be to relay status updates and facilitate resource requests for debris management operations.

3.4.3 Activate Monitoring Firm and Debris Removal Contractors

The Debris Manager, working in coordination with Emergency Management and City leadership, will utilize the damage assessments to determine whether to activate the monitoring firm and debris removal contractors. Once the monitoring firm and debris removal contractors are activated, each contractor should review an updated street list, debris collection zone map found in **Appendix K**, and the Health and Safety Strategy found in **Appendix H**. The monitoring firm and debris removal contractors should begin logistical coordination and equipment ramp-up immediately upon receiving a Notice to Proceed.

Monitoring Function

Upon activation, the monitoring firm deploys staff to support truck certification, collection, and disposal monitoring functions. The monitoring firm will orient employees with operational procedures and refresh staff with the field training program on current debris removal eligibility, FEMA requirements, City debris removal contract requirements, and safety procedures. Collection monitors must carefully document debris collection information to demonstrate eligibility and ensure proper debris removal contractor payments and FEMA reimbursement. The documentation should include:

- Applicant name
- Location of debris, including full address and zone
- Time and date of collection
- Name of contractor
- Name and unique employee monitor number
- Truck certification number
- Truck capacity (disposal site monitor will fill out load call [percentage] information)
- Debris classification
- Disaster declaration number

Debris Removal Contractor Function

Upon activation, the debris removal contractor mobilizes staff and equipment to the incident location. Equipment will be certified as required by the monitoring firm. Regarding DMS locations, site preparation, including logistical setup and tower construction, will begin. The contractor will orient subcontractors with operational procedures and refresh staff with current debris removal eligibility, FEMA requirements, City debris removal contract requirements, and safety procedures.

3.4.4 Begin Emergency Roadway Debris Clearance

The City will commence with road clearance or "cut and toss" activities. These operations should first focus on major arteries leading to storm shelters, hospitals, fire stations, police stations, supply points, and other critical locations throughout the City. A list of priority roads for the City can be found in **Appendix J**. A list of force account equipment that can be used for road clearing and debris collections can be found in **Appendix L**.

3.4.5 Begin Truck Certification

Truck certification is the most important function in initiating a debris removal operation. Accuracy and documentation of all measurements is critical. All debris removal trucks hauling debris under volumetric contracts with the City must have their capacity and dimensions measured, photographed, and documented on a truck certification form. The debris monitoring contractor can conduct truck certification services. See **Appendix M** for truck certification and other documents that might be used in debris operations. Each debris removal truck will be assigned a unique number for debris tracking and invoice reconciliation purposes. Truck certifications should contain:

- Unique truck number
- Driver name
- Driver phone number
- License number, state issued, and expiration

- Tag number, state issued, and expiration
- Vehicle measurements
- Pictures of the vehicle

3.4.6 Prepare Debris Management Sites Based on Concentration of Debris

The Debris Manager, the monitoring firm, and debris removal contractors will meet to discuss the opening and operation of pre-identified DMS locations. Before DMS preparation begins, the City will obtain DMS approval from TCEQ. The following items should be taken into consideration when opening and operating DMS:

Qualification Criteria

- Current availability
- Duration of availability
- Ingress/egress
- Concentration of debris relative to each site
- Geographic location within the City

Potential DMS locations have been identified and are listed in **Appendix F** of this plan.

Reduction Method

- **Chipping and Grinding –** Using this method, vegetative debris is chipped or ground and typically results in a reduction ratio of 4:1. The leftover mulch is either hauled to a final disposal facility or recycled. Chipping and grinding are the City's first choice for debris reduction.
- **Incineration –** The open burning of vegetative debris requires approval from the Fire Department and the TCEQ due to air quality concerns. The burning of vegetative debris typically results in a reduction ratio of 20:1. The leftover ash may be hauled to a final disposal facility or be incorporated in a land application.
- **Crushing –** The crushing of vegetative debris is the least effective reduction method and results in a reduction ratio of 2:1. Crushing is an appropriate reduction method for C&D debris that cannot be recycled.

Recycling of Debris

Common recyclable materials that are a result of a debris-generating incident include wood waste, metals, and concrete. The following are potential uses for each of the materials:

- **Wood Waste** – Vegetative debris that is reduced through chipping or grinding results in leftover mulch. The remaining mulch can be used for agricultural purposes or fuel for industrial heating. For the mulch to be viable in agricultural purposes the end user typically has a size requirement and requests mulch is as clean as possible of plastics and dirt.

- **Metals** – Metal debris such as white goods, aluminum screened porches, etc. that may result from a debris-generating incident can be recycled. Certain metals such as aluminum and copper are highly valuable to scrap metal dealers.
- **Concrete** – Concrete, asphalt, and other masonry products that may become debris as a result of a debris-generating incident can be crushed and potentially used for road construction projects or as trench backfill.

There is a multitude of information available regarding the recycling and selling of solid waste debris. An example of such resource is the Southern Waste Information eXchange, Inc. website (http://www.wastexchange.org), which is a nonprofit clearinghouse with information regarding the recycling of solid waste. The TCEQ also maintains information on resources for recycling on its website at https://www.tceq.texas.gov/p2/recycle. **Appendix E** contains a list of possible end users for recyclable debris.

DMS Preparation

After a review of the availability and suitability of DMS, the debris removal contractor can begin site preparation. As part of the preparation, baseline data should be gathered from the site to document the state of the land before debris is deposited. The following action items are recommended to compile baseline information:

- **Photograph the Site –** Digital photos should be taken to capture the state of the site before debris reduction activities begin. Photos should be updated periodically throughout the project to document the progression of the site.
- **Record Physical Features –** Records should be kept detailing the physical layout and features of the site. Items such as existing structures, fences, landscaping, etc., should be documented in detail.
- **Historical Evaluation –** The past use of the site area should be researched and documented. Issues relating to historical or archeological significance of the site should be cleared with the state historical preservation agency.
- **Sample Soil and Water –** If possible and deemed necessary, soil, and groundwater samples will be taken before debris reduction activities commence. Samples will help ensure the site is returned to its original state. Typically, soil and groundwater samples should be analyzed for total Resource Conservation and Recovery Act (RCRA) metals, volatile organic compounds, and semi-volatile organic compounds using approved Environmental Protection Agency (EPA) methods.

The Debris Manager and monitoring firm will oversee the debris removal contractor's activities to ensure that they follow their contractual obligations, environmental standards, and act in the best interest of the City and its residents. TCEQ will be contacted to provide final approval under an emergency declaration for the DMS locations.

Disposal Monitoring

The primary function of the monitoring firm regarding disposal monitoring is to document the disposal of disaster debris at approved DMS and final disposal locations. Disposal Monitors perform quality assurance/quality control (QA/QC) checks on all load tickets and haul-out tickets

to ensure that information captured by collection monitors is complete. This QA/QC includes but is not limited to:

- Inspection of truck placards for authenticity and signs of tampering;
- Verification that placard information is documented properly; and
- Verification that all required fields on the load ticket have been completed.

Afterwards, the Disposal Monitor will document the amount of debris collected by making a judgment call (or load call) on vehicle fullness (typically on a percentage basis). The percentage documented for each debris removal vehicle is later applied to the calculated cubic yard capacity of the vehicle to determine the amount of debris collected. The Disposal Monitor's responsibilities include but are not limited to:

- Completing and physically controlling load tickets;
- Ensuring debris removal trucks are accurately credited for their loads;
- Ensuring trucks are not artificially loaded;
- Ensuring hazardous waste is not mixed in with loads;
- Ensuring all debris is removed from the debris removal trucks before exiting the DMS or final disposal site; and
- Ensuring only debris specified within the City's scope of work is collected.

In addition to the responsibilities listed above, final disposal site monitors are also tasked with the following:

- Ensuring all debris is disposed at a properly permitted landfill; and
- Matching landfill receipts and/or scale house records to haul-out tickets.

An inspection tower must be provided so the Disposal Monitor can see down in the truck beds to conduct load calls. A scissor jack made be used for this purpose or an inspection tower can be constructed. The inspection platform of the tower must be constructed at a minimum height of ten (10) feet from surrounding grade to finish floor level, have a minimum eight (8) feet by eight (8) feet of usable floor area, be covered by a roof with two (2) feet overhangs on all sides, and be provided with appropriate railings and a stairway. The platform must be enclosed, starting from platform floor level and extending up four (4) feet on all four (4) sides. Provision of an inspection tower can be delegated to a contract debris hauler firm if one is procured by the City. The dimensions listed above can also be found in the Sample Debris Hauler Request for Proposals found in **Appendix D.**

3.4.7 Conduct Meetings/Briefings with Key Personnel

Coordination meetings and briefings with key personnel should be conducted to update the status of the road clearance efforts, DMS openings, contractor asset ramp-up, and pertinent public information for press releases.

Daily meetings should be held each morning in the City at a location determined by the City and include key personnel from the City, monitoring firm, and debris removal contractors. The purpose

of daily meetings is to focus on daily objectives and include a discussion of operational progress, safety, and best practices moving forward. During the meeting, the City will also review real time statistics and completion maps that reflect operations through the end of the previous day.

3.4.8 Review Debris Volume and Collection Cost Assessment

The City's Debris Manager, monitoring firm, and debris removal contractors will meet to review the debris volume and collection cost assessment. The topics of discussion in this meeting may include but are not limited to:

- Amount of debris generated (total CYs);
- Type of debris generated (vegetative, C&D, or other miscellaneous debris);
- Number and estimated date of arrival for assets (trucks, loaders, monitoring personnel);
- Estimated number of DMS locations necessary;
- Preliminary scope of debris removal efforts; and
- Estimated cost of the debris removal efforts.

Following this meeting, the City and/or monitoring firm will begin to collect required documentation for the development of FEMA PWs.

3.4.9 Request Contact Information and Meeting with FEMA Public Assistance Program Delivery Manager

Emergency Management should immediately request, through TDEM, a meeting with the designated FEMA PA PDMG for the disaster. During this meeting, the City will:

- Summarize the City's debris removal operations to date;
- Review debris and cost estimates for the City;
- Review any Disaster-Specific Guidance (DSG) documents issued by FEMA;
- Examine the City's debris removal plan;
- Provide contact information for all monitoring firm and debris removal contractors and key personnel; and
- Determine additional information the PDMG will need to generate PWs for the City. For FEMA to generate a Category A debris removal, and debris monitoring PW it will require the following information:
  - Copy of the debris removal contractor contract(s);
  - Copy of the debris monitoring firm contract(s);
  - Information on the procurement process of the debris removal and monitoring contracts;
  - Address (if available) and global positioning system (GPS) coordinates for all DMS;

- Debris volume and costs estimates (using USACE model and damage assessment reports);
- Monitoring cost estimate (based on budgeted labor hours); and
- Brief debris removal plan overview.

3.4.10 Public Information Post-Incident

A press release will be issued to various media sources and posted to the City's website as well as the City's social media sites within the first 3 days following the debris-generating incident. The content of the press release will be to reassure and comfort the public that the City is responding to the incident and has activated the monitoring firm and debris removal contractor to begin debris removal activities. Sample public information messages are located in **Appendix I**.

3.5 Post-Incident Recovery

For the purpose of debris management, the post-incident recovery phase is marked by the debris removal contractor collecting and reducing debris from the public ROW.

Concurrent to the commencement of ROW debris removal operations, the City should evaluate the need for contract debris removal on private property, parks, and waterways. As noted in the Disaster Recovery Timeline (Figure 3-1), these specialized debris removal operations typically do not begin until roughly 30–60 days following a debris-generating incident. Specialized debris removal operations are often governed by DSG and require some level of FEMA pre-validation. However, if the City determines that there is an immediate and imminent threat to public health and safety, these programs can be expedited.

The following Recovery Checklists are critical in expediting and ensuring proper steps are taken during the debris removal process. The Post-Incident Recovery Checklists are also included in **Appendix B**. The Post-Incident Recovery Checklists are subdivided into the following time periods:

- 2 Days – 2 Weeks
- 2 Weeks – 1 Month
- 1 Month – 3 Months
- 3 Months – Project Completion

3.5.1 Post-Incident Recovery Checklist: 2 Days – 2 Weeks

- Open DMS.
- Prioritize roads/areas.
- Issue press release regarding segregation of debris.
- Begin ROW debris removal.
- Perform parks damage assessment.

- Begin environmental monitoring program of DMS.
- Coordinate with external agencies.
- Initiate discussions with FEMA.
- Obtain FEMA guidance for gated community and private property debris removal.

Open Debris Management Sites

DMS will be opened, beginning with sites closest to the most heavily impacted areas of the City. Monitoring towers will be located at the ingress and egress of the DMS. Monitoring towers will be high enough so that tower monitors can verify the contents of the debris removal trucks.

Prioritize Roads/Areas

After reviewing damage assessments and the concentration of debris within the City, areas that sustained more extensive damage may need to be prioritized, subdivided into smaller work zones and recorded in the City's GIS data.

Issue Press Release Regarding Segregation of Debris

Issue second press release regarding segregation of vegetative, C&D, white goods, electronics, Household Hazardous Waste (HHW), and household garbage.

Begin ROW Debris Removal

The City will direct the debris removal contractors to proceed with curbside collection. Curbside collection entails residents piling their disaster-related debris along the ROW. It is critical that residents segregate their debris in categories such as vegetative, C&D, HHW, electronics, and white goods. This will help prevent the contamination of debris loads and expedite the clean-up process. To assist the City in an "all-hazards approach" to debris removal efforts, the processes for HHW, and white goods debris removal are outlined below.

HHW Debris Removal

HHW includes gasoline cans, aerosol spray cans, paint, lawn chemicals, batteries, fire extinguishers, fluorescent lamps, household electronics, etc.

HHW removal is eligible for FEMA reimbursement if the debris is a result of the debris-generating incident and removed from publicly maintained property and roadways whose maintenance is the responsibility of the City. HHW should be collected separately and disposed of or recycled at a properly permitted facility. Collection of HHW can be conducted internally or contracted out on a unit rate basis. The City will take the following steps regarding HHW removal:

- Communicate to City residents the eligibility of HHW following an incident. It is important that residents separate HHW from other debris, such as vegetative, C&D, etc., to ensure that HHW does not enter the debris stream at DMS locations.
- Decide whether to establish HHW drop-off sites to augment or replace HHW curbside collection. Doing so helps ensure proper disposal of HHW. Measures should still be taken jointly by the debris removal contractor and the monitoring firm to identify, segregate, and dispose of intermingled HHW at DMS locations.

- Interface with the TCEQ. Describe the HHW collection program and permitted facilities to be used for disposal or recycling.

White Goods Debris Removal

White goods include refrigerators, freezers, air conditioners, heat pumps, ovens, ranges, washing machines, clothes dryers, etc.

White goods debris removal is eligible for FEMA reimbursement if the debris is a result of the debris-generating incident and removed from publicly maintained property and roadways whose maintenance is the responsibility of the City. White goods debris that contains ozone-depleting refrigerants, mercury, or compressor oils need to have such materials removed by a certified technician before recycling. All state and federal laws should be followed regarding the final disposal of removed refrigerants, mercury, or compressor oils. Collection of white goods can be conducted internally or contracted out on a unit rate basis. The following action items are recommended to the City with regard to white goods removal:

- Communicate the eligibility of white goods to residents following an incident. It is important that residents separate white goods from other debris to ensure that white goods are not mixed with C&D or vegetative debris during collection.
- Interface with TCEQ. Describe the white goods collection program and permitted facilities to be used for disposal of recovered refrigerants, mercury, or compressor oils. Identify the processes to be used in processes white goods.

Vegetative Debris

Vegetative debris consists of whole trees, tree stumps, tree branches, tree trunks, and other leafy material. Depending on the size of the debris, the collection of vegetative debris may require the use of flatbed trucks, dump trucks, and grapple loaders.

Most vegetative debris consists of large piles of tree limbs and branches that are piled on the public ROW by the residents. The City will determine the number of times debris is collected before normal collection activities are resumed. The City will consult with FEMA regarding the number of passes that may be required to complete disaster debris removal.

Vegetative debris is bulky and consumes a significant volume of landfill space if buried. To minimize the use of landfill space, it is prudent to reduce the volume of vegetative debris before burying. Vegetative debris may be reduced by as much as 75 percent of its volume by mulching or grinding and as much as 90 percent of its volume through burning.

A hazardous tree or stump may be collected individually, while downed or fallen debris is collected from ROWs or at a designated collection center. Tree and stump collection prices are typically based on the size of the tree or stump and charged by unit. Other fallen or downed material is usually billed by weight (tons) or volume (CYs).

Electronic Waste

Electronic waste (e-waste) includes televisions, desktop and laptop computers, computer attachments, stereo equipment, tablets, cell phones, and other electronic devices.[9]

[9] Planning for Natural Disaster Debris, EPA, April 2019

E-waste debris removal is eligible for FEMA reimbursement if the debris is a result of the debris-generating incident and removed from publicly maintained property and roadways whose maintenance is the responsibility of the City.

Older television and computer monitors using a cathode ray tube can contain an average of four pounds of lead. Newer flat-screen televisions and monitors may have backlighting that contains mercury. These and other electronic devices may also contain lithium-ion batteries, chromium, cadmium, beryllium, nickel, zinc, and brominated flame retardants that must be handled properly and cannot be disposed of in landfills.[10] There are organizations that can accept e-waste for recycling. Resources for e-waste can be found in **Appendix E** of this plan and at the TCEQ electronics recycling webpage at https://www.tceq.texas.gov/p2/recycle/electronics.

Load Tickets

For the debris categories outlined above, pre-printed load tickets will be used as reimbursement documentation for the City. An example of a load ticket is in **Appendix M**. The top portion of the ticket will be filled out by the collection monitor at the beginning of each load. The address field will be completed when the debris removal contractor has completed work. The collection monitor will also ensure the debris removal contractor is working within the scope of the contract with the City. The load ticket will then be given to the debris removal vehicle driver to turn in to the Disposal Monitor upon arrival at the DMS or final disposal site. The Disposal Monitor will complete the remaining portion of the load ticket. Load tickets may also be processed through electronic automated systems. The Disposal Monitor documents the amount of debris collected by making a judgment call reflecting the vehicle's fullness (typically on a percentage basis). The percentage documented for each debris removal vehicle is later applied to the calculated cubic yard capacity of the vehicle to determine the amount of debris collected.

Perform Parks Damage Assessment

The Parks and Recreation Department and monitoring firm must identify vegetative hazards that require removal within City parks. Current eligibility criteria include:

- Leaning trees 2 feet in diameter or greater;
- Hanging limbs 2 inches in diameter or greater; and
- Uprooted stumps 2 feet in diameter or greater.

From a FEMA reimbursement perspective, eligibility criteria for cut work are extremely sensitive to the size and scale of the disaster. When surveying damages, it is extremely important for the City and its monitoring firms and debris removal contractors to be fully cognizant of all DSG.

Begin Environmental Monitoring Program of DMS

Throughout the duration of the project, data should be collected for use in the remediation and close-out of the DMS. Collected data should be compared to previous data to establish any remediation actions necessary to return the site to its original state. The following items should be included in an environmental monitoring program:

[10] Ibid

- **Sketches of Site Operations** – During the course of the project, operations at the DMS may expand, condense, or shift. Changes to the site should be documented along with the locations of debris reduction activity. The sketches and documentation will assist in determining areas of concern that may need additional sampling and testing during site closure.
- **Documentation of Issues at the Site** – Meticulous records should be kept documenting issues such as petroleum spills, hydraulic spills, or the discovery of HHW within debris at the site. This documentation will assist in the remediation of the site.

Coordinate with External Agencies

The City will coordinate with TxDOT, Tarrant County, and other relevant agencies to ensure all City road segments are moving forward with debris removal operations. TxDOT is responsible for emergency road clearing activities and first pass debris removal on all state and federal roads within the City.

Initiate Discussions with FEMA

It is critical that the Debris Managers and the monitoring firm clearly communicate debris removal plans and operations with FEMA. Clear communication fosters a coordinated effort that enhances the transparency of the operation for auditors and ensures maximum FEMA reimbursement.

Obtain FEMA Guidance for Gated Community and Private Property Debris Removal

Eligibility of gated community and private property debris removal will be determined by FEMA on a case-by-case basis following an incident. Typically, the debris and devastation must be so widespread that debris removal from private property is a "public interest." Under current PA Program guidelines, the City must show that the private property debris constitutes an immediate threat to life, public health, or safety, or to the economic recovery of the community at large.

For private property debris removal to be eligible for reimbursement the City must submit a written request to the FEMA Federal Coordinating Officer before private property debris removal operations begin. The request will include the following information:

- **Immediate Threat Determination** – The City must provide documentation from the Texas DSHS or equivalent public health authority that debris on private property is a threat to public health and safety.
- **Documentation of Legal Responsibility** – The City must demonstrate that it has the legal authority to enter private property and gated communities and accepts the responsibility to abate all-hazards, regardless of whether or not a federal disaster declaration is made.
- **Indemnification** – The Applicant must indemnify the Federal Government and its employees, agents, and contractors from any claims arising from the removal of debris from private property.

If private property debris removal is authorized and considered for the City, the following documentation will be required by FEMA:

- **Right-of-Entry and Hold Harmless Agreements** – The City will execute signed right-of-entry (ROE) and hold harmless agreements (HHA) documents with private property owners

holding the federal government harmless from any damages caused to private property. A sample ROE/HHA agreement is included in **Appendix N**. The City may execute ROE and HHA forms prior to a disaster under the condition that the ROE and HHA form do not reference a particular incident or disaster number. The sample ROE/HHA provides a stipulation that the property owner will report to the City any insurance settlements paid to the property owner for debris removal on the property that has been performed at government expense. This will aid the City in recouping the costs of debris removal from private property.

- **Photos** – It is in the interest of the City to photograph conditions of private property before and after debris removal is completed. The photos will assist in the verification of address and scope of work on the property.
- **Private Property Debris Removal Assessment** – The assessment will be a property-specific form to establish the scope of eligible work on the property. The assessment can be in the form of a map or work order if the scope of work can be clearly identified.
- **Documentation of Environmental and Historic Review –** Debris removal efforts on private property must comply with all review requirements under 44 CFR (specifically parts 9: Floodplain Management and Protection of Wetlands and 10: Environmental Considerations).

3.6 Post-Incident Recovery Checklist: 2 Weeks – 1 Month

- Maintain and evaluate ROW clean-up.
- Begin ROW stump removal, as necessary.
- Open additional DMS, as necessary.
- Continue daily meetings with FEMA.
- Begin debris removal from private property and gated communities.
- Communicate project close-out to residents via press release.

3.6.1 Maintain and Evaluate ROW Clean-up

Information on debris collection (vegetative, C&D, white goods, HHW, etc.) and completion progress will be documented by the monitoring firm and provided to the City on a daily basis. To ensure proper record keeping and reimbursement from all appropriate agencies, it is important for the City to announce the completion of first pass.

3.6.2 Begin ROW Stump Removal as Necessary

Following initial ROW debris removal efforts, the City and monitoring firm may determine a significant threat remains to the public in the form of hazardous stumps along the ROW. Before ROW stump removal operations commence, all applicable DSG criteria or FEMA Publication 104-009-2 for eligibility should be reviewed. FEMA's Recovery Policy for Hazardous Stump Extraction and Removal Eligibility is included in **Appendix O**. Also, as of the publication of this plan, FEMA Publication 104-009-2 defines a stump as hazardous if all of the following criteria are met:

- The stump has 50 percent or more of the root-ball exposed;
- The stump is greater than 2 feet or larger in diameter when measured 2 feet from the ground;
- The stump is located on a public ROW; and
- The stump poses an immediate threat to public health and safety.

3.6.3 Open Additional Debris Management Sites as Necessary

If the initial DMS are approaching maximum capacity, additional DMS may need to be prepared. The same procedures taken to open and monitor the initial DMS should be applied to any additional DMS the City may utilize.

3.6.4 Continue Daily Meetings with FEMA

It is critical that the City maintain strong communication with their assigned FEMA representatives. The daily meetings help to ensure maximum coordination and assist to expedite resolving any operational problems that may occur.

3.6.5 Begin Debris Removal from Private Property and Gated Communities

If approved, debris removal from private property and gated communities should begin.

3.6.6 Public Information Post-Incident Recovery

The project close-out press release should focus on clarifying any ineligible debris confusion and communicating a debris set-out deadline to minimize illegal dumping. Protocol for leaners and hangers and private property/gated community debris removal programs, if applicable, should be communicated at this time. Depending on the severity of the debris-generating incident, project close-out may be further away.

3.7 Post-Incident Recovery Checklist: 1 Month – 3 Months

- Maintain and evaluate ROW clean-up – vegetative and C&D.
- Begin ROW leaners and hangers program.
- Initiate haul-out.
- Progress to weekly meetings with FEMA.

3.7.1 Maintain and Evaluate ROW Clean-up – Vegetative and C&D

Information on debris collection and completion progress will be documented by the monitoring firm and provided to the City on a daily basis. During this period, the City should announce the completion of the second pass and establish a deadline for residents to set-out debris on the ROW

as well as a deadline for the City's debris removal contractor to complete the third pass. In a smaller debris-generating incident, the second pass could be announced earlier.

3.7.2 Begin ROW Removal of Hazardous Limbs and Trees

A hazardous limbs and trees program should be initiated if it is determined that a significant threat remains to the public in the form of leaning trees and hanging limbs along the ROW. To ensure maximum reimbursement, all threats must be identified and verified against DSG criteria for eligibility prior to the commencement of cut work. It is important to note the City debris removal contractors may require lead time to transport specialty vehicles, equipment, and labor force to commence leaner/hanger work. Currently, FEMA Publication 104-009-2 provides the following guidance on eligibility requirements for hazardous limbs, trees, and stumps.

Tree Removal – A damaged tree is considered hazardous and eligible if the tree has a diameter of 6 inches or greater measured 4.5 feet above ground level, and the tree:

- Has a split trunk;
- Has a broken canopy; or
- Is leaning at an angle greater than 30 degrees.

Broken Limb or Branch Removal – Broken limbs and branches are eligible for removal if they are 2 inches or larger in diameter (measured at the point of break) and pose an immediate threat. An example is a broken limb or branch hanging over improved property or public-use areas such as sidewalks, playgrounds, or trails. It is important to note that only the minimum cut necessary to remove the hazard is eligible for reimbursement. In addition, FEMA will not fund the removal of broken limbs or branches on private property unless the follow criteria are met:

- The limbs or branches extend over the public ROW;
- The limbs or branches pose an immediate threat; and
- The Applicant removes the hazard from the public ROW (without entering private property).

Unit Rate Tickets

Unit rate tickets will be used as reimbursement documentation for the leaners/hangers program. An example of a unit rate ticket is located in **Appendix M**. To ensure maximum reimbursement, debris monitors will use GPS devices to document the GPS coordinates of tree or hanger removals and take digital photos of the work done.

3.7.3 Initiate Haul-Out

At this point in the post-incident recovery process, reduced debris from DMS will be hauled to a final disposal site or recycled through one of the markets listed in **Appendix E**. Generally, for final disposal purposes, the most environmentally responsible and cost-effective method is for the City to recycle reduced debris. Any remaining reduced debris that cannot be recycled should be disposed of at permitted landfills with consideration to the cost structure of associated tipping fees.

It is important that the City and monitoring firm ensure the debris removal contractor attains proper disposal tipping fee information. **Appendix M** contains a sample haul-out ticket that will be used by the monitoring firm as reimbursement documentation for the City.

3.7.4 Progress to Weekly Meetings with the FEMA

Although strong communication with assigned FEMA representatives is still important, at this point in the debris removal operation, meetings can move to a weekly timeframe. The weekly meetings will still be critical in ensuring maximum coordination.

3.8 Recovery Checklist: 3 Months – Project Completion

- Complete all debris recovery activities.
- Identify ineligible debris on ROW.
- Complete the disposal of reduced debris.
- Close-out and remediate DMS.
- Conduct project close-out meetings with FEMA and external agencies.

3.8.1 Complete all Debris Recovery Activities

The debris removal contractors will identify and remove all remaining eligible debris piles.

Identify Ineligible Debris on ROW

Once ineligible debris on the ROW is identified, the City should proceed in one of two ways:

- Hold individual homeowners responsible for the disposal of ineligible debris.
- Utilize internal equipment for disposal of the ineligible debris.
- Task the debris removal contractor with the removal of ineligible debris and incur the associated cost. This debris should be hauled directly to a final disposal landfill or transfer station to reduce associated handling costs.

Complete the Disposal of Reduced Debris

Before project closure, remaining reduced debris at DMS should be recycled or hauled to a local landfill for final disposal. See **Appendix E** for locations of landfills.

Close-Out and Remediate Debris Management Sites

TCEQ must be contacted before final closure of the DMS to ensure all required actions are taken. Generally, DMS locations must be returned to their original environmental state. Restoration of the DMS includes removing all remnants of operations and the remediation of any contamination that may have occurred during operations. A final sample of environmental data should be collected to ensure the site is returned to its original state. Final closure of the DMS will require

written notice to TCEQ. The results of any required environmental samples should be included with the written notice.

Conduct Project Close-Out Meetings with FEMA and External Agencies

Prior to the project close-out meeting, the City will receive detailed data from the monitoring firm regarding their debris removal operations. The City, in conjunction with the monitoring firm, will compile all contractor invoices, contracts, and other documentation supporting debris removal operations in preparation for the project close-out meeting.

Section 4
ENVIRONMENTAL CONSIDERATIONS AND OTHER REGULATORY REQUIREMENTS

The information described in this section identifies the regulatory requirements and guidance for local governments engaging in debris clean-up operations. The City should review the regulatory information on an annual basis not only to familiarize themselves with the governing statutes but to also identify any changes to the regulations and guidelines. The City will coordinate with Tarrant County, state, and federal officials to ensure compliance with environmental and other regulatory standards.

4.1 Federal Regulations and Guidance

4.1.1 National Environmental Policy Act (NEPA)

NEPA regulations can be found in CFR Parts 1500 – 1508. The act requires that FEMA consider the environmental impacts of proposed actions and reasonable alternatives to those actions. The U.S. Department of Homeland Security publishes NEPA requirements and provides a decision-making process that FEMA must follow to fund a project.

4.1.2 Resource Conservation and Recovery Act (RCRA)

RCRA governs the disposal of solid waste and hazardous waste. The act also provides planners with greater awareness of environmental considerations and regulations for dealing with disaster debris. Additional information about RCRA is at http://www.epa.gov/rcra.

4.1.3 National Historic Preservation Act (NHPA)

In conducting debris operations, the City must consider how such operations will affect historic properties. Historic properties include buildings or groups of buildings, structures, objects, landscapes, archeological sites as well as properties listed in or eligible for inclusion in the National Register of Historic Places. Section 106 of the NHPA requires FEMA to consider how a project might affect such properties.

4.1.4 Endangered Species Act

Projects must be examined to ensure they will not jeopardize the continued existence of any threatened or endangered species (listed species) and critical habitats. FEMA must consult with the U.S. Fish and Wildlife Service and the NOAA Fisheries to ensure the conservation of listed species.

4.1.5 Clean Water Act (CWA)

The Clean Water Act provides regulations for the discharges of pollutants in the waters of the United States. According to the CWA it is unlawful to discharge any pollutant from a specific

source into navigable waters without the appropriate CWA permits from the U.S. Army Corps of Engineers or State Regulatory Agency.

4.1.6 Clean Air Act (CAA)

The CAA seeks to protect air quality through the reduction of smog and atmospheric pollution. Air compliance measures in debris management operations may include air monitoring and dust abatement.

4.1.7 National Emission Standard for Hazardous Air Pollutants (NESHAP)

Provides standards for demolition of structures containing asbestos as well as the disposal and reporting of asbestos. The Texas DSHS Asbestos Program is tasked with enforcing asbestos regulations in the State of Texas.

4.1.8 Executive Order 11990, Protection of Wetlands

Executive Order 11990, Protection of Wetlands, requires federal agencies to minimize or avoid activity that adversely affects wetlands and encourage the preservation and enhancement of the beneficial functions of wetlands.

4.1.9 Executive Order 12898, Environmental Justice

Executive Order 12898 requires federal agencies to identify and address any disproportionately high and adverse human health or environmental effects on minority and low-income populations as a result of their actions.

4.1.10 EPA Publication EPA A530-K-08-001, Planning for Natural Disaster Debris

The Planning for Natural Disaster Debris publication discusses management of debris from natural disasters such as hurricanes, earthquakes, tornadoes, floods, wildfires, and winter storms. The document is designed to assist planners in the beginning stages of the planning process or to help a planner revise an existing Debris Management Plan. It provides planners with greater awareness of environmental protectiveness when dealing with disaster debris.

Under the current federal system, FEMA coordinates response and recovery efforts for all presidential declared disasters. FEMA provides guidance documents for local governments regarding disaster planning and response.

4.1.11 FEMA Publication FP 104-009-2 – PA Program and Policy Guide 2016

The Public Assistance Program and Policy Guide overviews FEMA PA Program protocols immediately following a disaster. The PA Program provides the basis for the federal/local cost-sharing program. This document describes entities eligible for reimbursement under the PA

Program, documentation necessary to ensure reimbursement, and special considerations about which local governments should be aware to maximize eligible activities.

An electronic version of FEMA Publication 104-009-2 is available at http://www.fema.gov/public-assistance-policy-and-guidance

4.1.12 Disaster-Specific Guidance

DSG is a policy statement issued in response to a specific post-event situation or need in a state or region. Each DSG is issued a number and is generally referred to along with its numerical identification.

These guidance documents typically relate to authorization of private property clean-up, clean-up of stumps and payment for that, or notification of large projects. Staff should be aware of any new DSG issued by FEMA following an event.

4.2 State of Texas Regulatory and Technical Assistance

4.2.1 Texas Solid Waste Disposal Act

Texas Health and Safety Code, Title 5, Subtitle B, Chapter 361
The Texas Solid Waste Disposal Act outlines state regulations regarding the management of solid waste including accounting for hazardous wastes that are generated.

4.2.2 Texas Commission on Environmental Quality (TCEQ)

The TCEQ issues emergency permits for debris incineration and advice and assistance for debris disposal. Assistance is also provided to local jurisdictions on the potential environmental impacts of debris removal and disposal operations.

4.2.3 Texas Department of State Health Services (DSHS)

DSHS provides assistance regarding health and safety issues in debris removal and disposal operations. The Asbestos Program under DSHS is tasked with enforcing asbestos regulations in the State of Texas.

4.2.4 Texas Historical Commission (THC)

The THC is responsible for review of any historical issues pursuant to Title 36 of the Code of Federal Regulations (36 CFR) Part 800.12. They also conduct a review of post-disaster DMS plan applications.

4.2.5 Texas Department of Transportation (TxDOT)

TxDOT is responsible for the design, construction, and maintenance of the state highway system. TxDOT acts as the lead agency for emergency roadway debris clearance, removal, and disposal efforts along state and federal highways.

4.2.6 Texas Animal Health Commission (TAHC)

The TAHC provides assistance to local jurisdictions regarding the disposition of dead animals following a disaster.

4.3 Other Relevant Regulations

The two primary directives developed by the federal government that provide for the authorization and use of federal funds to reimburse local governments for disaster-related expenses are the Robert T. Stafford Disaster Relief and Emergency Assistance Act, the CFR – Title 44 Emergency Management and Assistance, and the SRIA of 2013. A brief summary of these laws is provided below.

4.3.1 Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act)

The Stafford Act provides the authorization for the PA Program. The fundamental provisions of this act are as follows:

- Assigns FEMA the authority to administer federal disaster assistance;
- Defines the extent of coverage and eligibility criteria of the major disaster assistance programs;
- Authorizes grants to the states; and
- Defines the minimum federal cost-sharing levels.

4.3.2 Code of Federal Regulations (CFR): Title 44 – Emergency Management and Assistance

Procedural requirements for the PA Program operations are provided by 44 CFR. These regulations are designed to implement a statute based upon FEMA's interpretation of the Stafford Act. They govern the PA Program and outline program procedures, eligibility, and funding.

4.3.3 Title 2 CFR Part 200

Title 2 CFR Part 200 establishes regulations regarding administrative requirements, cost principles, and audit requirements.

4.3.4 Sandy Recovery Improvement Act (SRIA) of 2013

The law authorizes changes to the way FEMA may deliver federal disaster assistance to survivors**.** Key provisions of the act are as follows:

- Provides substantially greater flexibility in use of federal funds and less administrative burden if applicants accept grants based on fixed capped estimates, which may be provided by applicants' licensed engineer and validated by independent expert panel.
- Offers a package of cost share adjustments, reimbursement for force account, and retention of program from recycling to speed debris removal and encourage pre-disaster debris planning.
- Allows PA applicants for all disasters declared on or after October 30, 2012 an option to request binding arbitration for certain projects with an amount in dispute of over $1 million after first appeal, instead of pursuing a second appeal under FEMA's PA Program.

4.3.5 The Disaster Recovery Reform Act of 2018 (DRRA)

The DRRA was signed into law in October 2018. The reforms made by this law acknowledge the shared responsibility for disaster response and recovery, aim to reduce the complexity of FEMA, and build the nation's capacity for the next catastrophic event.

The law amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act through 56 distinct provisions that direct changes to FEMA policies and regulations. Key provisions of the DRRA related to debris management functions include the following:

Section 1215 – Management Costs

Expands the definition of management costs to include both direct and indirect administrative expenses by the state, local, tribal, or territorial (SLTT) government. It also requires FEMA to reimburse PA and Hazard Mitigation Grant Program (HMGP) management costs by the following amounts:

- PA – up to 12% of the total award amount
  - 7% for recipient
  - 5% for subrecipient
- HMGP – up to 15% of the total award amount
  - 10% for recipient
  - 5% for subrecipient

Section 1232 – Disaster Relief Hazards (Local Impact and Multiple Recent Disasters)

Direct the FEMA Administrator to give greater consideration to local impacts when the agency provides its recommendation to the President on whether to issue a Major Disaster Declaration. PA regulatory factors include estimated cost of assistance, localized impacts, insurance coverage in force, hazard mitigation, recent multiple disasters, and other federal assistance programs.

Section 1234 – National Public Infrastructure Pre-Disaster Hazard Mitigation

Authorizes the National Public Infrastructure Pre-Disaster Mitigation fund, which will be funded through the Disaster Relief Fund as a 6 percent set aside from estimated disaster grant expenditures. This allows for a greater investment in mitigation before a disaster. This new program is named Building Resilient Infrastructure and Communities (BRIC). BRIC has replaced the Pre-Disaster Mitigation program.

Section 1239 – Public Assistance Declaration Factors (Cost of Assistance Estimates)

Directs FEMA to reconsider all factors used to evaluate a request for a Major Disaster Declaration for PA, specifically the estimated cost of assistance (i.e., the per capita indicator).

Section 1235 – Additional Mitigation Activities (a – b)

a. **Resilience** – Ensures HMGP funding increases resilience to future damage, hardship, loss, or suffering.

b. **PA Codes and Standards** – Authorizes FEMA to provide Public Assistance funding to replace and restore disaster-damaged facilities to the latest published editions of relevant consensus-based codes and standards to ensure that facilities are restored in a manner that allows them to be resilient

Section 1241 – Post-Disaster Building Safety Assessment

Directs FEMA to develop guidance for building experts to use when they evaluate structures for safety and habitability after a disaster.

In November 2019, FEMA published the Post-disaster Building Safety Evaluation Guidance.

Section 1225 – Audit of Contracts

Prohibits FEMA from providing reimbursement to any state, local, tribal, or territorial government, or private nonprofit for activities made pursuant to a contract that purports to prohibit audits or internal reviews by the FEMA Administrator or the Comptroller General.

Section 1216 Section (c) – Statute of Limitations

Changes the beginning of the statute of limitations for recoupment of PA from state or local governments to run from the close-out of individual projects.

Section 5
PLAN MAINTENANCE

For this plan to maintain viability, the plan should be updated annually and personnel should be trained on the content prior to a disaster. Since FEMA updates debris operations program guidance throughout the year based on lessons learned from recent disasters, it is important to review the most recent guidance and incorporate those changes into the plan. This section explains the actions the City will take to ensure it is current and relevant.

5.1 Plan Review and Approval

The City will conduct an annual review of the DDMP. The plan will be updated based on organizational changes, new policies and guidance, and lessons learned from actual debris incidents. Changes made to the plan will be noted on a plan changes log as needed.

5.2 Training for Personnel

Personnel must be trained to ensure they are prepared to fulfill their role in a debris-generating emergency. The City will institute the following training for personnel with responsibilities in debris management:

General

- Personnel will be trained in their specific roles and responsibilities.
- Personnel will be trained in the ICS to the appropriate level for their position.
- All personnel with debris management responsibilities will participate in a briefing on safety policies and procedures.
- Personnel with responsibility for preparing documentation for reimbursement will receive training on the FEMA PA Program.
- Personnel operating equipment will be trained to operate any equipment they are responsible for competently and safely.

Debris Managers

- Debris Managers should be trained in the regulatory requirements for debris operations, including:
  - Health and safety
  - Environmental and historical preservation
  - Procurement
  - Federal disaster grant programs

- Considerations for individuals with disabilities and access and functional needs
- Damage assessment for debris

Finance and Administration

- Finance and Administration staff will be trained in regulatory requirements for debris operations including:
  - Procurement
  - Federal disaster grant program
  - Documentation needed for reimbursement of expenses.

5.3 Exercises

Exercises are essential to maintaining readiness and in determining the effectiveness of plans, personnel, and resources in responding to a debris-generating incident. Workshops and exercises will be conducted periodically to test the ability of the City to coordinate resources for debris operations.

Following exercises, an after-action report will be developed to document strengths and areas needing improvement. An improvement plan will be developed to list corrective actions, identify individuals or agencies responsible for completing the corrective actions, and establish a timeline for completion.

Section 6
ACRONYMS AND DEFINITIONS

44 CFR	Title 44 of the Code of Federal Regulations
BOAT	Building Officials Association of Texas
BRIC	Building Resilient Infrastructure and Communities
C&D	Construction and Demolition
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
City	City of Colleyville, Texas
CWA	Clean Water Act
CY	Cubic Yards
DDC	Disaster District Committee
DDMP	Disaster Debris Management Plan
DMOC	Debris Management Operations Center
DMS	Debris Management Site
DRRA	Disaster Recovery Reform Act of 2018
DPS	Department of Public Safety
DSG	Disaster-Specific Guidance
DSHS	Texas Department of State Health Services
EF	Enhanced Fujita
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
ER	Emergency Relief
E-Waste	Electronic Waste
EWP	Emergency Watershed Protection
FEMA	Federal Emergency Management Agency
FHWA-ER	Federal Highway Administration-Emergency Relief
GIS	Geographic Information Systems
GLO	Texas General Land Office
GPS	Global Positioning System
HAZMAT	Hazardous Materials

HHA	Hold Harmless Agreement
HHSC	Texas Health and Human Services Commission
HHW	Household Hazardous Waste
HMGP	Hazard Mitigation Grant Program
HUD	Housing and Urban Development
ICS	Incident Command System
MOU	Memorandums of Understanding
NEPA	National Environmental Policy Act
NESHAP	National Emission Standard for Hazardous Air Pollutant
NHPA	National Historic Preservation Act
NRCS	Natural Resources Conservation Service
NOAA	National Oceanic and Atmospheric Agency
PA	Public Assistance
PDMG	Program Delivery Manager
PW	Project Worksheets
PWERT	Public Works Emergency Response Team
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
ROE	Right-of-Entry
ROW	Right-of-Way
SLTT	State, Local, Tribal, or Territorial
SRIA	Sandy Recovery Improvement Act
Stafford Act	Robert T. Stafford Disaster Relief and Emergency Assistance Act
STAR	State of Texas Assistance Request
State	The State of Texas
TAHC	Texas Animal Health Commission
TCEQ	Texas Commission on Environmental Quality
TDEM	Texas Division of Emergency Management
THC	Texas Historical Commission
TxDOT	Texas Department of Transportation
USACE	United States Army Corps of Engineers

Applicant – State agency, local government, or eligible private nonprofit organization that intends on applying for FEMA PA grants.

Code of Federal Regulations: Title 44 – Emergency Management and Assistance – The Code of Federal Regulations – Title 44 Emergency Management and Assistance (44 CFR) provide procedural requirements for the PA Program operations. These regulations are designed to implement a statute based upon FEMA's interpretation of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act). They govern the PA Program and outline program procedures, eligibility, and funding

Construction and Demolition (C&D) Debris – FEMA Publication 104-009-2 defines C&D debris as damaged components of buildings and structures such as lumber and wood, gypsum wallboard, glass, metal, roofing material, tile, carpeting, and floor coverings, window coverings, plastic pipe, concrete, fully cured asphalt, heating, ventilation, and air conditioning systems and their components, light fixtures, small consumer appliances, equipment, furnishings, and fixtures. Current eligibility criteria include:

- Debris must be located within a designated disaster area and be removed from an eligible Applicant's improved property or ROW;
- Debris removal must be the legal responsibility of the Applicant; and
- Debris must be a result of the major disaster incident.

Debris Removal Contractor – The debris removal contractor is contracted by the City to remove and dispose of debris that is a result of a severe debris-generating incident.

Disaster-Specific Guidance (DSG) – DSG is a policy statement issued in response to a specific post-incident situation or need in a state or region. Each DSG is issued a number and is generally referred to along with their numerical identification.

FEMA Publication FP 104-009-2 – Public Assistance Program and Policy Guide (PAPPG) – Combines all Public Assistance policy into a single volume and provides an overview of the PA Program implementation process with links to other publications and documents that provide additional process details. It provides a general overview of the FEMA PA Program protocol immediately following a disaster. The PA Program provides the basis for the federal/local cost-sharing program. This document specifically describes the entities eligible for reimbursement under the PA Program, the documentation necessary to ensure reimbursement and any special considerations that local governments should be aware of to maximize eligible activities.

Force Account Labor – The use of the City's own personnel and equipment. Below force account labor information from Chapter 6, Section II of the PAPPG.

- For Permanent Work, both straight-time and overtime labor costs are eligible for both budgeted and unbudgeted employee hours. For Emergency Work, only overtime labor is eligible for budgeted employee hours. For unbudgeted employees performing Emergency Work, both straight-time and overtime labor are eligible. Overtime is time worked beyond an employee's scheduled working hours as defined by the Applicant's pre-disaster pay policy.
- Under the Alternative Procedures authorized by Section 428 of the Stafford Act, straight-time labor costs are eligible for budgeted employees conducting eligible debris removal (Category A) activities.
- The Applicant may assign an employee to perform work that is not part of the employee's normal job. For example, a police officer may clear debris. FEMA provides PA funding based

on the reassigned employee's normal pay rate, not the pay level appropriate to the work, because the Applicant's incurred cost is the employee's normal pay rate.

- Straight-time of a permanent employee funded from an external source (such as a grant from a federal agency or statutorily dedicated funds) is eligible if the employee is reassigned to perform eligible Emergency Work that the external source does not fund. FEMA must confirm that no duplication of funding exists prior to approval.
- The Applicant may need to temporarily replace an employee who is responding to the incident. Overtime costs for the backfill employee are eligible even if the backfill employee is not performing eligible work as long as the employee that he/she is replacing is performing eligible Emergency Work.
- Straight-time of essential employees called back to work from a budget-related furlough due to the declared incident is eligible if the costs are not budgeted.
- Second-level supervisors and above (e.g., commissioners, mayors, department directors, police and fire chiefs) are usually exempt employees. Therefore, overtime costs related to these types of employees are ineligible, unless the Applicant:
  - Demonstrates that the employee was directly involved with a specific project;
  - Normally charges that individual's time to specific projects regardless of Federal funding; and
  - Incurs overtime costs for the employee in accordance with a labor policy that meets the criteria in Chapter 6:II.A. Labor Policies.
- Extraordinary costs (such as call-back pay, night-time and weekend differential pay, and hazardous duty pay) for essential employees who are called back to duty during administrative leave to perform eligible Emergency Work are eligible if costs are paid in accordance with a labor policy that meets the criteria above.
- Administrative leave or similar labor costs incurred for employees sent home or told not to report due to emergency conditions are ineligible.

Hazardous Limb – A limb is hazardous if it poses a significant threat to the public. The current eligibility requirements for hazardous limbs according to FEMA Publication FP 104-009-2 are:

- The limb is greater than two inches in diameter;
- The limb is still hanging in a tree and threatening a public-use area; and
- The limb is located on improved public property.

Hazardous Stump – A stump is defined as hazardous and eligible for reimbursement if all of the following criteria are met:

- The stump has 50 percent or more of the root-ball exposed;
- The stump is greater than 2 feet in diameter when measured 2 feet from the ground;
- The stump is located on a public ROW; and
- The stump poses an immediate threat to public health and safety.

Hazardous Tree – A tree is considered hazardous when the tree's present state is caused by a disaster, the tree poses a significant threat to the public and the tree is six inches in diameter or greater, measured 4.5 feet from the ground. The current eligibility requirements for leaning trees according to FEMA Publication 104-009-2 are:

- The tree has a broken canopy;
- The tree has a split trunk;
- The tree is leaning at an angle greater than 30 degrees.

Household Hazardous Waste (HHW) – The RCRA defines hazardous waste as materials that are ignitable, reactive, toxic, or corrosive. Examples of HHW include items such as paints, cleaners, pesticides, etc. Due to the nature of hazardous waste certified technicians must be used to handle, capture, recycle, reuse, and dispose of hazardous waste. The eligibility criteria for HHW are as follows:

- HHW must be located within a designated disaster area and be removed from an eligible Applicant's improved property or ROW;
- HHW removal must be the legal responsibility of the Applicant; and
- HHW must be a result of the major disaster incident.

Monitoring Firm – The monitoring firm is an organization under contract with the City to monitor debris removal operations. The monitoring firm ensures the debris removal contractor is working within the scope of work contracted by the City and documents debris removal operations.

Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) – Provides the authorization of the PA Program. The fundamental provisions of this act are as follows:

- Assigns FEMA the authority to administer federal disaster assistance;
- Defines the extent of coverage and eligibility criteria of the major disaster assistance programs;
- Authorizes grants to the states; and
- Defines the minimum federal cost-sharing levels.

Sandy Recovery Improvement Act (SRIA) of 2013 – The law authorizes changes to the way FEMA may deliver federal disaster assistance to survivors**.** Key provisions of the act are as follows:

- Provides substantially greater flexibility in use of federal funds and less administration burden if applicants accept grants based on fixed capped estimates, which may be provided by applicants' licensed engineer and validated by independent expert panel.
- Offers a package of cost share adjustments, reimbursement for force account, and retention of program from recycling to speed debris removal and encourage pre-disaster debris planning.
- Allows PA applicants for all disasters declared on or after October 30, 2012 an option to request binding arbitration for certain projects with an amount in dispute of over $1 million after first appeal, instead of pursuing a second appeal under FEMA's PA Program.

Vegetative Debris – As outlined in FEMA Publication 104-009-2, vegetative debris consists of whole trees, tree stumps, tree branches, tree trunks, and other leafy material. Vegetative debris will

largely consist of mounds of tree limbs and branches piled along the public ROW by residents and volunteers. Current eligibility criteria include:

- Debris must be located within a designated disaster area and be removed from an eligible Applicant's improved property or ROW;
- Debris removal must be the legal responsibility of the Applicant; and
- Debris must be a result of a Presidentially declared major disaster incident.

White Goods – As outlined in FEMA Publication 104-009-2, white goods are defined as discarded household appliances such as refrigerators, freezers, air conditioners, heat pumps, ovens, ranges, washing machines, clothes dryers, and water heaters. White goods can contain ozone-depleting refrigerants, mercury, or compressor oils that the federal Clean Air Act prohibits from being released into the atmosphere. The Clean Air Act specifies that only certified technicians can extract refrigerants from white goods before they can be recycled. The eligibility criteria for white goods are as follows:

- White goods must be located within a designated disaster area and be removed from an eligible Applicant's improved property or ROW;
- White goods removal must be the legal responsibility of the Applicant; and
- White goods must be a result of the major disaster incident.

Appendix A
DEBRIS MANAGEMENT JOB AID CHECKLISTS

Debris Manager	
Position Description:	The Debris Manager oversees disaster debris management operations in accordance with the Disaster Debris Management Plan as well as local, regional, state, and federal regulations.
Reports To:	Public Works in the Emergency Operations Center
Responsibilities:	• Establish a Debris Management Operations Center (DMOC). • Activate contractors for debris clearing and debris monitoring services. • Establish the Incident Command Structure for debris management operations. • Coordinate with Purchasing staff to activate contractors for debris clearing and debris monitoring services. • Establish priorities for debris management operations. • Collaborate with federal, state, and other agency representatives. • Provide updates to Public Works in the EOC regarding debris management operations. • Ensure photo and/or video of temporary debris management sites are taken prior to site set-up. • Review and approve public information messages regarding debris operations. • Coordinate with Finance in the tracking of debris management costs. • Coordinate the demobilization of debris management operations.

Safety Officer	
Position Description:	The Safety Officer ensures debris management operations are conducted in a safe manner program.
Reports To:	Debris Manager
Responsibilities:	• Create a safety plan. • Ensure safety messages are developed and briefings are conducted. • Exercise emergency authority to stop and prevent unsafe acts during debris operations. • Revise Incident Management Plans for safety considerations. • Investigate accidents and near misses. • Participate in planning meetings. • Review and approve the medical plan.

Street Clearing Task Force Leader	
Position Description:	The Street Clearing Task Force Leader oversees street clearing operations immediately following a disaster to ensure emergency vehicles and utility restoration crews can access and traverse roads in conducting emergency response operations.
Reports To:	Debris Manager
Responsibilities:	• Stage and ready resources immediately prior to an expected incident to ensure they will be fueled and ready to activate in the event they are needed to clear debris off jurisdiction streets. • Oversee street clearing immediately following a debris generating incident. • Coordinate local and contract resources to clear streets of debris in accordance with established objectives and priorities. • Track the progress of street clearing operations. • Provide regular updates to the Debris Manager regarding the status of operations. • Coordinate with the Safety Officer assigned to the incident to ensure street clearing operations are conducted in a safe manner. • Ensure all hours, expenses and equipment use is accurately documented.

Debris Collection and Disposal Task Force Leader	
Position Description:	The Debris Collection and Disposal Task Force Leader oversees debris collection and disposal operations.
Reports To:	Debris Manager
Responsibilities:	• Coordinate with local and contract resources to stage and ready resources immediately prior to an expected incident to ensure these will be fueled and ready to activate in the event they are needed to collect debris. • Coordinate with the Debris Monitoring Contractor to conduct truck certifications. • Coordinate local and contract resources to conduct debris collection operations in accordance with established objectives and priorities. • Coordinate with the Debris Monitoring Contractor to conduct collection, DMS and disposal site monitoring. • Activate DMS locations as needed in coordination with relevant departments and agencies. • Coordinate with Environmental Health to conduct soil sampling at DMS locations prior to and after closure of DMS. • Coordinate with local labor and contractors to ensure debris is recycled or disposed of in accordance with regulatory guidelines. • Coordinate local and contract resources to conduct special debris operations including dangerous trees, privately owned vehicles and vessels, waterway debris removal, parks debris removal, and private property debris removal in accordance with FEMA authorization and guidelines. • Track the progress of debris collection, recycling and disposal in coordination with the Debris Monitoring contractor. • Provide regular updates to the Debris Manager regarding the status of operations. • Coordinate with the Safety Officer to ensure debris collection and disposal operations are conducted in a safe manner. • Ensure all hours, expenses and equipment use are accurately documented.

Environmental Health Task Force Leader	
Position Description:	The Environmental Health Task Force Leader monitors the impacts of debris operations and liaises with regional, State and Federal environmental agency representatives.
Reports To:	Debris Manager
Responsibilities:	• Liaise with regional, State and Federal environmental agencies and contractors to monitor the environmental impacts of debris management operations including air, soil and asbestos monitoring. • Coordinate with the Debris Collection and Disposal Task Force Leader, or designee, to conduct soil sampling at DMS locations prior to and after closure of DMS. • Track the progress of environmental monitoring and testing operations and document results. • Provide regular updates to the Debris Manager regarding the status of environmental monitoring operations. • Coordinate with the Safety Officer to ensure environmental monitoring operations are conducted in a safe manner. • Ensure all hours, expenses and equipment use is accurately documented.

Debris Clearing Task Force	
Position Description:	The Debris Clearing Task Force conducts street clearing immediately following a disaster to ensure emergency vehicles and utility restoration crews can access and traverse roads in conducting emergency response operations.
Reports To:	Street Clearing Task Force Leader
Responsibilities:	• Coordinate with the Street Clearing Task Force Leader on clearing streets of debris in accordance with established objectives and priorities. • Report any hazardous conditions such as downed power lines, hazardous materials spills and natural gas leaks to the proper authorities as well as the Street Clearing Task Force Leader. • Track the progress of the Task Force in street clearing operations. • Provide updates as required to the Street Clearing Task Force Leader regarding the status and progress of the team. • Obey the health and safety policy and follow health and safety guidance in conducting street clearing operations. • Ensure all hours, expenses and equipment use are accurately documented.

Debris Removal Teams	
Position Description:	The Debris Removal Teams conduct debris collection and disposal operations.
Reports To:	Debris Collection and Disposal Task Force Leader
Responsibilities:	• Coordinate with the Debris Collection and Disposal Task Force Leader and the monitoring contractor to collect debris and deliver it to the appropriate location for reduction, recycling, or disposal in coordination with the debris monitoring firm. • Report any hazardous conditions such as downed power lines, hazardous materials spills, and natural gas leaks to the proper authorities as well as the Debris Collection and Disposal Task Force Leader. • Provide updates as required to the Debris Collection and Disposal Task Force Leader regarding the status and progress of the Debris Removal Team. • Obey the health and safety policy and follow health and safety guidance in conducting debris removal, reduction, and disposal operations. • Ensure all hours, expenses and equipment use are accurately documented.

Appendix B
DEBRIS MANAGEMENT CHECKLISTS

Normal Operations Checklist			
Task Description	**Date Assigned**	**Assigned To**	**Date Completed**
Update contact and equipment lists.			
Evaluate DMS locations.			
Review road lists and road maps.			
Establish and maintain pre-positioned contracts.			
Review State and FEMA guidance.			

Pre-Incident Checklist			
Task Description	**Date Assigned**	**Assigned To**	**Date Completed**
Download most recent road list and relevant documents to a portable storage device.			
Alert key personnel and place monitoring firm and debris removal contractors on stand-by.			
Review Disaster Debris Management Plan with key personnel			
Issue pre-event media press releases.			

Response Checklist			
Task Description	**Date Assigned**	**Assigned To**	**Date Completed**
Conduct damage assessment.			
Establish a Debris Management Operations Center (DMOC)			
Activate monitoring firm and debris removal contractors.			
Conduct environmental sampling of DMS prior to use.			
Photograph and / or video DMS prior to use.			
Begin emergency roadway debris clearance.			
Begin truck certification.			
Prepare DMS based on concentration of debris.			
Conduct meetings/briefings with key personnel.			
Review debris volume and collection cost assessment.			
Request contact information and meeting with FEMA Public Assistance Program Delivery Manager (PA PDMG).			
Issue media press release.			

Recovery Checklist: 2 Days – 2 Weeks			
Task Description	**Date Assigned**	**Assigned To**	**Date Completed**
Open DMSs.			
Prioritize roads/areas.			
Issue press release regarding segregation of debris.			
Begin ROW debris removal.			
Perform parks damage assessment.			
Begin program of environmental monitoring of DMSs.			
Coordinate with external agencies.			
Initiate discussions with FEMA.			
Obtain FEMA guidance for gated community and private property debris removal.			

Recovery Checklist: 2 Weeks – 1 Month			
Task Description	**Date Assigned**	**Assigned To**	**Date Completed**
Maintain and evaluate ROW cleanup.			
Begin ROW stump removal as necessary.			
Open additional DMSs as necessary.			
Continue daily meetings with FEMA.			
Begin debris removal from private property and gated communities.			
Communicate project close-out to residents via press release.			

Recovery Checklist: 1 Month – 3 Months			
Task Description	**Date Assigned**	**Assigned To**	**Date Completed**
Maintain and evaluate ROW cleanup – vegetative and C&D.			
Begin ROW leaners and hangers program.			
Initiate haul-out.			
Progress to weekly meetings with FEMA.			

Recovery Checklist: 3 Months – Project Completion			
Task Description	**Date Assigned**	**Assigned To**	**Date Completed**
Complete all debris recovery activities.			
Identify ineligible debris on ROW.			
Complete the disposal of reduced debris.			
Close out and remediate DMSs.			
Conduct environmental sampling of site.			
Photograph and /or video site.			
Conduct project close-out meetings with FEMA and external agencies.			

Appendix C
DEBRIS CONTRACTOR CHECKLIST AND GUIDELINES

The Disaster Debris Contract Checklist was designed to guide the City of Colleyville, Texas in contracting disaster debris services. The checklist provides a step-by-step process to procuring disaster debris services that complies with current federal standards and best practices. The checklist includes the steps to solicit bids, review proposals, and select an appropriate contractor. The checklist was developed using guidance set forth by the Federal Emergency Management Agency (FEMA) and the provisions of Title 2 Code of Federal Regulations (CFR) Part 200 General Procurement Standards.

Tabs A and B, attached to this document, provide additional details on procurement policies:

- Tab A: 2 CFR Parts 200.317 – 200.326
- Tab B: Checklist for Reviewing Procurements Under Grants by Non-Federal Entities (States, local and tribal governments, Institutions of Higher Education, Hospitals, and Private Non-Profit Organizations)

Table 1: Disaster Debris Contract Checklist

Task	Responsibility	Completion Date
Pre-Disaster Tasks		
Solicit a request for proposals for disaster debris services (see Debris Hauler Sample Request for Proposals (Appendix D) for specific contract provisions).		
The solicitation for prequalified contractors should include: ■ Adequately defined scope of work ■ All potential debris types ■ Anticipated haul distances ■ Potential size of debris events ■ Hourly labor, equipment and material price schedule ■ Performance bond requirements		
Qualify bidders by requesting documentation of the following: ■ Licenses ■ Financial stability ■ Proof of insurance ■ Bonding capability ■ Description of related experience and capabilities including total verified cubic yards removed and processed ■ References including jurisdiction name, point of contact, email address and phone number ■ Description of health and safety plan including operation plan at debris management site(s).		
Contractors that have been declared debarred by the Office of Federal Contract Compliance Programs (OFCCP) **should not be considered.** A complete list of federally disbarred contractors can be found in the System for Award Management (SAM) dataset at www.sam.gov. Check the status of prequalified contractors in the SAM database **at the time of the disaster**.		

Task	Responsibility	Completion Date
■ Go to the SAM Database at https://www.sam.gov/portal/public/SAM/. ■ Under the Search Records tab, enter a DUNS number, CAGE code or Business Name to search for the contractor you are interested in pre-qualifying. ■ Note any exclusions listed for the contractor that may prohibit federal assistance for debris services. ■ Print the screen with the results and file in records.		
Ensure compliance with the jurisdiction's procurement procedures.		
Ensure compliance with applicable state and local procurement laws and regulations.		
Ensure compliance with federal procurement laws and standards identified in 2 CFR 200 (see Tab A).		
Ensure competition (see the provisions in Section 200.319 Competition in Tab A for specific requirements regarding competition).		
Provide a clear and definitive scope of work.		
Develop a cost analysis to demonstrate cost reasonableness **for any contract or contract modification where price competition is lacking**.		
Ensure opportunities for minority and women-owned businesses and firms whenever possible. Require prime contractors to utilize minority and women-owned businesses as scope allows per the provisions laid out in 2 CFR 200.		
Document the process and rationale the jurisdiction followed in making procurement decisions.		
The jurisdiction's legal counsel should conduct a review of the procurement process and any potential contracts to be awarded to ensure compliance with all federal, state, and local requirements.		
Establish procedures to address protests and disputes related to contract awards.		
Compile all documentation related to the procurement and file in a secure location that can be accessed for future review.		

PROCUREMENT STANDARDS

§200.317 Procurements by states.

When procuring property and services under a Federal award, a state must follow the same policies and procedures it uses for procurements from its non-Federal funds. The state will comply with §200.322 Procurement of recovered *materials* and ensure that every purchase order or other contract includes any clauses required by section §200.326 Contract provisions. All other non-Federal entities, including subrecipients of a state, will follow §§200.318 General procurement standards through 200.326 Contract provisions.

§200.318 General procurement standards.

(a) The non-Federal entity must use its own documented procurement procedures which reflect applicable State, local, and tribal laws and regulations, provided that the procurements conform to applicable Federal law and the standards identified in this part.

(b) Non-Federal entities must maintain oversight to ensure that contractors perform in accordance with the terms, conditions, and specifications of their contracts or purchase orders.

(c)(1) The non-Federal entity must maintain written standards of conduct covering conflicts of interest and governing the actions of its employees engaged in the selection, award and administration of contracts. No employee, officer, or agent may participate in the selection, award, or administration of a contract supported by a Federal award if he or she has a real or apparent conflict of interest. Such a conflict of interest would arise when the employee, officer, or agent, any member of his or her immediate family, his or her partner, or an organization which employs or is about to employ any of the parties indicated herein, has a financial or other interest in or a tangible personal benefit from a firm considered for a contract. The officers, employees, and agents of the non-Federal entity may neither solicit nor accept gratuities, favors, or anything of monetary value from contractors or parties to subcontracts. However, non-Federal entities may set standards for situations in which the financial interest is not substantial or the gift is an unsolicited item of nominal value. The standards of conduct must provide for disciplinary actions to be applied for violations of such standards by officers, employees, or agents of the non-Federal entity.

(2) If the non-Federal entity has a parent, affiliate, or subsidiary organization that is not a state, local government, or Indian tribe, the non-Federal entity must also maintain written standards of conduct covering organizational conflicts of interest. Organizational conflicts of interest means that because of relationships with a parent company, affiliate, or subsidiary organization, the non-Federal entity is unable or appears to be unable to be impartial in conducting a procurement action involving a related organization.

(d) The non-Federal entity's procedures must avoid acquisition of unnecessary or duplicative items. Consideration should be given to consolidating or breaking out procurements to obtain a more economical purchase. Where appropriate, an analysis will be made of lease versus purchase alternatives, and any other appropriate analysis to determine the most economical approach.

(e) To foster greater economy and efficiency, and in accordance with efforts to promote cost-effective use of shared services across the Federal Government, the non-Federal entity is encouraged to enter into state and local intergovernmental agreements or inter-entity agreements where appropriate for procurement or use of common or shared goods and services.

(f) The non-Federal entity is encouraged to use Federal excess and surplus property in lieu of purchasing new equipment and property whenever such use is feasible and reduces project costs.

(g) The non-Federal entity is encouraged to use value engineering clauses in contracts for construction projects of sufficient size to offer reasonable opportunities for cost reductions. Value engineering is a systematic and creative analysis of each contract item or task to ensure that its essential function is provided at the overall lower cost.

(h) The non-Federal entity must award contracts only to responsible contractors possessing the ability to perform successfully under the terms and conditions of a proposed procurement. Consideration will be given to such matters as contractor integrity, compliance with public policy, record of past performance, and financial and technical resources. See also §200.213 Suspension and debarment.

(i) The non-Federal entity must maintain records sufficient to detail the history of procurement. These records will include, but are not necessarily limited to the following: rationale for the method of procurement, selection of contract type, contractor selection or rejection, and the basis for the contract price.

(j)(1) The non-Federal entity may use a time and materials type contract only after a determination that no other contract is suitable and if the contract includes a ceiling price that the contractor exceeds at its own risk. Time and materials type contract means a contract whose cost to a non-Federal entity is the sum of:

(i) The actual cost of materials; and

(ii) Direct labor hours charged at fixed hourly rates that reflect wages, general and administrative expenses, and profit.

(2) Since this formula generates an open-ended contract price, a time-and-materials contract provides no positive profit incentive to the contractor for cost control or labor efficiency. Therefore, each contract must set a ceiling price that the contractor exceeds at its own risk. Further, the non-Federal entity awarding such a contract must assert a high degree of oversight in order to obtain reasonable assurance that the contractor is using efficient methods and effective cost controls.

(k) The non-Federal entity alone must be responsible, in accordance with good administrative practice and sound business judgment, for the settlement of all contractual and administrative issues arising out of procurements. These issues include, but are not limited to, source evaluation, protests, disputes, and claims. These standards do not relieve the non-Federal entity of any contractual responsibilities under its contracts. The Federal awarding agency will not substitute its judgment for that of the non-Federal entity unless the matter is primarily a Federal concern. Violations of law will be referred to the local, state, or Federal authority having proper jurisdiction.

[78 FR 78608, Dec. 26, 2013, as amended at 79 FR 75885, Dec. 19, 2014; 80 FR 43309, July 22, 2015]

§200.319 Competition.

(a) All procurement transactions must be conducted in a manner providing full and open competition consistent with the standards of this section. In order to ensure objective contractor performance and eliminate unfair competitive advantage, contractors that develop or draft specifications, requirements, statements of work, or invitations for bids or requests for proposals must be excluded from competing for such procurements. Some of the situations considered to be restrictive of competition include but are not limited to:

(1) Placing unreasonable requirements on firms in order for them to qualify to do business;

(2) Requiring unnecessary experience and excessive bonding;

(3) Noncompetitive pricing practices between firms or between affiliated companies;

(4) Noncompetitive contracts to consultants that are on retainer contracts;

(5) Organizational conflicts of interest;

(6) Specifying only a “brand name” product instead of allowing “an equal” product to be offered and describing the performance or other relevant requirements of the procurement; and

(7) Any arbitrary action in the procurement process.

(b) The non-Federal entity must conduct procurements in a manner that prohibits the use of statutorily or administratively imposed state, local, or tribal geographical preferences in the evaluation of bids or proposals, except in those cases where applicable Federal statutes expressly mandate or encourage geographic preference. Nothing in this section preempts state licensing laws. When contracting for architectural and engineering (A/E) services, geographic location may be a selection criterion provided its application leaves an appropriate number of qualified firms, given the nature and size of the project, to compete for the contract.

(c) The non-Federal entity must have written procedures for procurement transactions. These procedures must ensure that all solicitations:

(1) Incorporate a clear and accurate description of the technical requirements for the material, product, or service to be procured. Such description must not, in competitive procurements, contain features which unduly restrict competition. The description may include a statement of the qualitative nature of the material, product or service to be procured and, when necessary, must set forth those minimum essential characteristics and standards to which it must conform if it is to satisfy its intended use. Detailed product specifications should be avoided if at all possible. When it is impractical or uneconomical to make a clear and accurate description of the technical requirements, a “brand name or equivalent” description may be used as a means to define the performance or other salient requirements of procurement. The specific features of the named brand which must be met by offers must be clearly stated; and

(2) Identify all requirements which the offerors must fulfill and all other factors to be used in evaluating bids or proposals.

(d) The non-Federal entity must ensure that all prequalified lists of persons, firms, or products which are used in acquiring goods and services are current and include enough qualified sources to ensure maximum open and free competition. Also, the non-Federal entity must not preclude potential bidders from qualifying during the solicitation period.

[78 FR 78608, Dec. 26, 2013, as amended at 79 FR 75885, Dec. 19, 2014]

§200.320 Methods of procurement to be followed.

The non-Federal entity must use one of the following methods of procurement.

(a) Procurement by micro-purchases. Procurement by micro-purchase is the acquisition of supplies or services, the aggregate dollar amount of which does not exceed the micro-purchase threshold (§200.67 Micro-purchase). To the extent practicable, the non-Federal entity must distribute micro-purchases equitably among qualified suppliers. Micro-purchases may be awarded without soliciting competitive quotations if the non-Federal entity considers the price to be reasonable.

(b) Procurement by small purchase procedures. Small purchase procedures are those relatively simple and informal procurement methods for securing services, supplies, or other property that do not cost more than the Simplified Acquisition Threshold. If small purchase procedures are used, price or rate quotations must be obtained from an adequate number of qualified sources.

(c) Procurement by sealed bids (formal advertising). Bids are publicly solicited and a firm fixed price contract (lump sum or unit price) is awarded to the responsible bidder whose bid, conforming with all the material terms and conditions of the invitation for bids, is the lowest in price. The sealed bid method is the preferred method for procuring construction, if the conditions in paragraph (c)(1) of this section apply.

(1) In order for sealed bidding to be feasible, the following conditions should be present:

(i) A complete, adequate, and realistic specification or purchase description is available;

(ii) Two or more responsible bidders are willing and able to compete effectively for the business; and

(iii) The procurement lends itself to a firm fixed price contract and the selection of the successful bidder can be made principally on the basis of price.

(2) If sealed bids are used, the following requirements apply:

(i) Bids must be solicited from an adequate number of known suppliers, providing them sufficient response time prior to the date set for opening the bids, for local, and tribal governments, the invitation for bids must be publicly advertised;

(ii) The invitation for bids, which will include any specifications and pertinent attachments, must define the items or services in order for the bidder to properly respond;

(iii) All bids will be opened at the time and place prescribed in the invitation for bids, and for local and tribal governments, the bids must be opened publicly;

(iv) A firm fixed price contract award will be made in writing to the lowest responsive and responsible bidder. Where specified in bidding documents, factors such as discounts, transportation cost, and life cycle costs must be considered in determining which bid is lowest. Payment discounts will only be used to determine the low bid when prior experience indicates that such discounts are usually taken advantage of; and

(v) Any or all bids may be rejected if there is a sound documented reason.

(d) Procurement by competitive proposals. The technique of competitive proposals is normally conducted with more than one source submitting an offer, and either a fixed price or cost-reimbursement type contract is awarded. It is generally used when conditions are not appropriate for the use of sealed bids. If this method is used, the following requirements apply:

(1) Requests for proposals must be publicized and identify all evaluation factors and their relative importance. Any response to publicized requests for proposals must be considered to the maximum extent practical;

(2) Proposals must be solicited from an adequate number of qualified sources;

(3) The non-Federal entity must have a written method for conducting technical evaluations of the proposals received and for selecting recipients;

(4) Contracts must be awarded to the responsible firm whose proposal is most advantageous to the program, with price and other factors considered; and

(5) The non-Federal entity may use competitive proposal procedures for qualifications-based procurement of architectural/engineering (A/E) professional services whereby competitors' qualifications are evaluated and the most qualified competitor is selected, subject to negotiation of fair and reasonable compensation. The method, where price is not used as a selection factor, can only be used in procurement of A/E professional services. It cannot be used to purchase other types of services though A/E firms are a potential source to perform the proposed effort.

(e) [Reserved]

(f) Procurement by noncompetitive proposals. Procurement by noncompetitive proposals is procurement through solicitation of a proposal from only one source and may be used only when one or more of the following circumstances apply:

(1) The item is available only from a single source;

(2) The public exigency or emergency for the requirement will not permit a delay resulting from competitive solicitation;

(3) The Federal awarding agency or pass-through entity expressly authorizes noncompetitive proposals in response to a written request from the non-Federal entity; or

(4) After solicitation of a number of sources, competition is determined inadequate.

[78 FR 78608, Dec. 26, 2013, as amended at 79 FR 75885, Dec. 19, 2014; 80 FR 54409, Sept. 10, 2015]

§200.321 Contracting with small and minority businesses, women's business enterprises, and labor surplus area firms.

(a) The non-Federal entity must take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible.

(b) Affirmative steps must include:

(1) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

(2) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

(3) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;

(4) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises;

(5) Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce; and

(6) Requiring the prime contractor, if subcontracts are to be let, to take the affirmative steps listed in paragraphs (1) through (5) of this section.

§200.322 Procurement of recovered materials.

A non-Federal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

[78 FR 78608, Dec. 26, 2013, as amended at 79 FR 75885, Dec. 19, 2014]

§200.323 Contract cost and price.

(a) The non-Federal entity must perform a cost or price analysis in connection with every procurement action in excess of the Simplified Acquisition Threshold including contract modifications. The method and degree of analysis is dependent on the facts surrounding the particular procurement situation, but as a starting point, the non-Federal entity must make independent estimates before receiving bids or proposals.

(b) The non-Federal entity must negotiate profit as a separate element of the price for each contract in which there is no price competition and in all cases where cost analysis is performed. To establish a fair and reasonable profit, consideration must be given to the complexity of the work to be performed, the risk borne by the contractor, the contractor's investment, the amount of subcontracting, the quality of its record of past performance, and industry profit rates in the surrounding geographical area for similar work.

(c) Costs or prices based on estimated costs for contracts under the Federal award are allowable only to the extent that costs incurred or cost estimates included in negotiated prices would be allowable for the non-Federal entity under Subpart E—Cost Principles of this part. The non-Federal entity may reference its own cost principles that comply with the Federal cost principles.

(d) The cost plus a percentage of cost and percentage of construction cost methods of contracting must not be used.

§200.324 Federal awarding agency or pass-through entity review.

(a) The non-Federal entity must make available, upon request of the Federal awarding agency or pass-through entity, technical specifications on proposed procurements where the Federal awarding agency or pass-through entity believes such review is needed to ensure that the item or service specified is the one being proposed for acquisition. This review generally will take place prior to the time the specification is incorporated into a solicitation document. However, if the non-Federal entity desires to have the review accomplished after a solicitation has been developed, the Federal awarding agency or pass-through entity may still review the specifications, with such review usually limited to the technical aspects of the proposed purchase.

(b) The non-Federal entity must make available upon request, for the Federal awarding agency or pass-through entity pre-procurement review, procurement documents, such as requests for proposals or invitations for bids, or independent cost estimates, when:

(1) The non-Federal entity's procurement procedures or operation fails to comply with the procurement standards in this part;

(2) The procurement is expected to exceed the Simplified Acquisition Threshold and is to be awarded without competition or only one bid or offer is received in response to a solicitation;

(3) The procurement, which is expected to exceed the Simplified Acquisition Threshold, specifies a "brand name" product;

(4) The proposed contract is more than the Simplified Acquisition Threshold and is to be awarded to other than the apparent low bidder under a sealed bid procurement; or

(5) A proposed contract modification changes the scope of a contract or increases the contract amount by more than the Simplified Acquisition Threshold.

(c) The non-Federal entity is exempt from the pre-procurement review in paragraph (b) of this section if the Federal awarding agency or pass-through entity determines that its procurement systems comply with the standards of this part.

(1) The non-Federal entity may request that its procurement system be reviewed by the Federal awarding agency or pass-through entity to determine whether its system meets these standards in order for its system to be certified. Generally, these reviews must occur where there is continuous high-dollar funding, and third party contracts are awarded on a regular basis;

(2) The non-Federal entity may self-certify its procurement system. Such self-certification must not limit the Federal awarding agency's right to survey the system. Under a self-certification procedure, the Federal awarding agency may rely on written assurances from the non-Federal entity that it is complying with these standards. The non-Federal entity must cite specific policies, procedures, regulations, or standards as being in compliance with these requirements and have its system available for review.

§200.325 Bonding requirements.

For construction or facility improvement contracts or subcontracts exceeding the Simplified Acquisition Threshold, the Federal awarding agency or pass-through entity may accept the bonding policy and requirements of the non-Federal entity provided that the Federal awarding agency or pass-through entity has made a determination that the Federal interest is adequately protected. If such a determination has not been made, the minimum requirements must be as follows:

(a) A bid guarantee from each bidder equivalent to five percent of the bid price. The "bid guarantee" must consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of the bid, execute such contractual documents as may be required within the time specified.

(b) A performance bond on the part of the contractor for 100 percent of the contract price. A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.

(c) A payment bond on the part of the contractor for 100 percent of the contract price. A "payment bond" is one executed in connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the contract.

§200.326 Contract provisions.

The non-Federal entity's contracts must contain the applicable provisions described in Appendix II to Part 200—Contract Provisions for non-Federal Entity Contracts Under Federal Awards.

Appendix D
SAMPLE REQUEST FOR PROPOSAL FOR DISASTER DEBRIS CLEARANCE AND REMOVAL SERVICES

Request for Proposals
Disaster Debris Clearance and Removal Services

RFP NUMBER: XXXXXX

Proposal Deadline:

Date

Time

Request for Proposals
for
Disaster Debris Clearance and Removal Services

Introduction

FEMA encourages municipalities to identify disaster debris clearance and removal service providers prior to an emergency. With this in mind, the City of Colleyville, Texas (City) wishes to contract with one or more firms to provide services related to collection, reduction, recycling, hazardous waste management, demolition, processing, hauling, and final disposition of disaster-related debris. If the City activates more than one firm after a disaster, firms will be assigned clear territories (via dividing the City into grids) for their work to be performed and firms will need to contain their work to their assigned areas.

1 PROPOSAL OUTLINE AND CONTENT

To simplify the review process and to obtain the maximum degree of comparability, the proposal must follow the outline set forth below and, at a minimum, contain the information requested. Proposers are encouraged to include additional relevant information. At Proposers discretion, brochures may accompany required proposal materials; however, brochures will not be considered as substitution for other written requirements.

1.1 Proposal Format

The proposal must be typewritten and the original clearly marked and signed in blue ink. Legibility, clarity, and completeness are important and essential. Proposals must include labels that identify the sections of the proposal.

1.2 Letter of Transmittal

The letter of transmittal should be limited to two (2) pages and should include:

1.2.1 A brief statement of the Proposer's understanding of the work to be done.

1.2.2 The names, titles, addresses, and telephone numbers of the individuals who are authorized to make representations on behalf of the Proposer.

1.2.3 A statement that (1) the person signing the transmittal letter is authorized to legally bind the Proposer, (2) the proposal shall remain firm for a period of 180 days from the date of receipt of best and final offers, and (3) the proposal will comply with the requirements of this Request for Proposal ("RFP").

1.2.4 A statement indicating which vendor, if multiple vendors are proposing jointly, intends to act as prime point of contact for proposal evaluation questions and the delivery and maintenance of the vendors' proposed offerings.

1.3 Title Page

The title page should include the RFP subject and RFP number, the name and address of the Proposer, and the date of the proposal submission.

1.4 Table of Contents

The contents should be identified by section, description, and page number.

1.5 Certificate of Registration

The Proposer must furnish a "Certificate of Registration" that identifies the Proposer is authorized to conduct business in the State of Texas prior to the awarding of the contract.

1.6 Capabilities and Related Experience

Please provide a description of your organization's related experience and capabilities including a list of all projects completed within the last two years to include client references for each. Each Proposer must also provide a list of **all** debris removal, reduction, and disposal operations in excess of 500,000 cubic yards within the last ten years where the Proposer was the prime contractor and provide references for the communities where these operations took place. Each reference must include jurisdiction name, contact name,

e-mail address, phone number, and description of project. Proposers that do not meet these minimum qualifications will not be considered.

1.7 Qualifications of Key Personnel

Proposers must provide a listing of key personnel who would be assigned to the project, including their training (including FEMA courses/training completed), certifications, and years of experience. Proposers should also indicate which personnel will be primary contacts, which will be dedicated staff, and what role each staff member will play in execution of the contracted services.

1.8 Description of Work

Detailed requirements for describing the work to be performed, scope of services, and proposed costs are provided throughout this RFP.

1.9 Technical Proposal

Proposers should, at a minimum, provide the following information in the order listed below:

1.9.1 Proposer background, with specific detail regarding work on similar projects performed in excess of 500,000 cubic yards

1.9.2 Proposer technical experience regarding large-scale debris removal operations associated with tropical events, tornadoes, flooding, or other natural or manmade disasters

1.9.3 Organizational chart including proposed points of contact and a full-time project manager required to report to the City

1.9.4 Public information plan, including proposal of a Public Information Representative provided by the Proposer to interface with the City's Public Information Officer ("PIO")

1.9.5 Training (including FEMA courses/training) and professional experience (include all professional certifications) of proposed staff

1.9.6 A list of existing contracts, particularly those within the State of Texas

1.9.7 References from existing contracts and/or past clients (must include references from the successful completion of debris removal projects in excess of 500,000 cubic yards) within the past ten years

1.9.8 A list of Sub-Contractors, including primary operating location(s)

1.9.9 A one to two-page company profile with a brief description of the firm, capabilities, experience, contact information, website, and additional resources

1.9.10 Detailed listing of Proposer's equipment and resources highlighting equipment directly owned by the proposer

1.9.11 A mobilization and operations plan

1.9.12 Construction drawings for Occupational Health and Safety Administration (OSHA)-compliant temporary inspection towers

1.9.13 Anti-collusion statement

1.9.14 Proposer's equipment and resource list – Proposers shall submit a list of on-site and off-site equipment that will be available at the collection site or facility. The list should include all fire prevention, safety, personal protective equipment ("PPE"), and other equipment that the Proposer determines suitable or necessary for the project.

1.9.15 Spill and Fire Prevention Plan – Proposers shall submit spill prevention and fire prevention plans tailored to on-site activities at the debris management site ("DMS") or facility.

1.9.16 Contingency Plan – Proposers shall submit a format for a contingency plan and provide a description of notification procedures to the participants of on-site emergencies and evacuation of the participants in case of an emergency on site.

1.9.17 Employee Training Plan – Proposers shall submit a comprehensive training plan and detailed training outline for each position involved in debris removal and DMS(s) operations. Proposers should include copies of any training manuals.

1.9.18 Health and Safety Plan — Proposers shall submit information regarding their standard health and safety plan.

1.9.19 Description of Proposer's Safety Record – Proposers shall submit a listing of all warning notifications, violations, and/or citations received from pertinent federal and/or state agencies in the past three (3) years by the Proposer.

1.9.20 Third-Party Certification – Proposer shall submit a listing of all third-party certifications such as ISO 9000 Series, ISO 14000 Series, etc.

1.10 Safety

Proposer shall be solely responsible for maintaining safety at all work sites. Proposer shall take all reasonable steps to ensure safety for both workers and visitors to the site(s) to include traffic control. Proposer will also be solely responsible to ensure that all OSHA requirements are met and a safety officer assigned to the project for the duration of this contract.

1.11 Indemnification

In order to protect City from liabilities associated with on-site activities, transportation, and inherent Comprehensive Environmental Response Compensation and Liability Act ("CERCLA") involving disposal, the Proposer should supply its own labor and transportation, and dispose of waste at only EPA-permitted disposal facilities. The Proposer must agree to assume generator status and be responsible for preparing and signing all manifests related to the City's household hazardous waste collection and/or disposal facility.

Proposer agrees to and shall defend, indemnify, and hold City, their employees, officers, and legal representatives (collectively, "City") harmless for all claims, causes of action, liabilities, fines, and expenses (including, without limitation, attorney's fees, court costs, and all other defense costs and interest), for injury, death, damage, or loss to persons or property sustained in connection with or incidental to performance under this Agreement, including, without limitation, those caused by:

1. Proposer's and/or its agents', employees', officers', directors', or Proposer's Sub-Contractors' actual or alleged negligence or intentional acts or omissions;

2. City and Proposer's actual or alleged concurrent negligence, whether Proposer is immune from liability or not; and
3. City and Proposer's actual or alleged strict products liability or strict statutory liability, whether Proposer is immune from liability or not.

Proposer shall defend, indemnify, and hold City harmless during the term of this Agreement and for four (4) years after this Agreement terminates. Proposer shall not indemnify City for City's sole negligence.

1.12 Release

Proposer, its predecessors, successors, and assigns hereby release, relinquish, and discharge City, its agents, employees, officers, and legal representatives from any liability arising out of City's sole and/or concurrent negligence and/or City's strict products liability or strict statutory liability for any injury, including death or damage to persons or property, where such damage is sustained in connection with or arising out of performance under this contract.

1.13 Insurance Requirements

Proposer shall obtain and maintain insurance coverage in effect during the term of this Agreement as set forth below and shall furnish certificates of insurance showing City as an Additional Insured, in duplicate form, prior to the beginning of the Agreement. Each policy, except those for Worker's Compensation and Employer's Liability, must (1) name City as Additional Insured party on the original policy and all renewals or replacements, and (2) contain an endorsement that the policy is primary to any other insurance available to the Additional Insured with respect to claims arising under the Agreement. Proposer's failure to maintain the required insurance coverage at any time during the contract period may be grounds for City to suspend the contract and to withhold payment until insurance coverage is satisfactory. The issuer of any policy shall have a certificate of authority to transact insurance business in the State of Texas or have a Best's rating of at least A and a Best's Financial Size Category of Class VII or better, according to the most current edition of the Best's Key Rating Guide, Property-Casualty United States.

Standard insurance policies and minimum amounts required are as follows:

1. Commercial General Liability insurance for bodily and personal injury (including death) and property damage
    a. Each occurrence not less than $1,000,000
    b. General aggregate not less than $2,000,000
    c. The coverage shall include (but not be limited to) personal injury liability, premises/operations, and products/completed operations
2. Workers' Compensation and Employer's Liability Insurance
    a. Employers' Liability insurance of $1,000,000 per occurrence
    b. Workers' Compensation as required by statute
3. Automobile Liability (for vehicles Proposer uses in performing under the Agreement, including Employer's Owned, Non-Ownership, and Hired Auto Coverage) with broad

pollution liability endorsement and MCS-90 endorsement

a. Combined Single Limit of $1,000,000 per occurrence

4. Environmental Impairment Liability and/or Pollution Liability

   a. $3,000,000 per occurrence or claim and $3,000,000 aggregate

5. Excess Liability

   a. $3,000,000 per occurrence and $3,000,000 aggregate

6. Other Insurance

   a. If requested by City, Proposer shall furnish adequate evidence of Social Security and Unemployment Compensation Insurance, to the extent applicable to Proposer's operations under the Agreement.

Defense costs are excluded from the face amount of the policy. Aggregate limits are per 12-month policy period unless otherwise indicated.

All of the insurance required to be carried by the Proposer hereunder shall be by policies that require on their face, or by endorsement, that the insurance carrier waive any rights of subrogation to recover against City and shall give thirty (30) days written notice to City before they may be cancelled or materially changed. Within such thirty (30)-day period, Proposer covenants that it will provide other suitable policies in lieu of those about to be cancelled or materially modified, or non-renewed, so as to maintain in effect the coverage required under the provisions hereof. Failure or refusal of the Proposer to obtain and keep in force the above-required insurance coverage shall authorize City, at its option, to terminate the Agreement at once. Proposer shall give written notice to City within five (5) days of the date on which total claims by any party against Proposer reduce the aggregated amount of coverage below the amounts required by the Agreement.

Proposer shall pay all insurance premiums, and City shall not be obligated to pay any premiums. Proposer shall be responsible for and bear any claims or losses to the extent of any deductible amounts and waives any claim it may have for the same against City.

If any part of the work is sublet, similar insurance shall be provided by or on behalf of the Sub-Contractor to cover their operations, and evidence such as insurance, satisfactory to City shall be furnished by the Proposer. In the event a Sub-Contractor is unable to furnish insurance in the limits required under the Agreement, the Proposer shall endorse the Sub-Contractor as an Additional Insured on his policies excluding Workers' Compensation and Employer's Liability.

Only unaltered original insurance certificates endorsed by the underwriter are acceptable. Photocopies are unacceptable.

1.14 Financial Assurance

Proposer must submit the most current, unqualified, audited financial statement or U.S. Securities and Exchange Commission ("SEC") Form 10K for the proposing organization. Proposals submitted without the most current certified financial statement or SEC Form 10K shall be considered non-compliant with the RFP.

1.15 Performance Bonds

To ensure faithful performance, the Contractor shall provide to the City and maintain a Proposal Bond in the sum of $500,000 for the duration of the Agreement. The Contractor's Proposal Bond shall be due upon signing of the Contract by the Contractor.

(a) In the event the Contractor is notified by the City to commence disaster services in the form of a Notice to Proceed and Purchase Order ("PO"), the Contractor shall provide a Performance and Payment Bond to the City within seven days. If the Performance and Payment Bond is not received within seven days, the Contractor shall forfeit their Proposal Bond.
(b) The Performance and Payment Bond shall be in an amount at least equal to the estimated price of the work in the PO as determined by the City and in such form and with such securities acceptable to the City. The City may require the Contractor to furnish other bonds, in such form and with such sureties as it may require. If the PO is increased by a change order, the Contractor shall be responsible to ensure that the Performance and Payment Bond has been amended accordingly and of copy of the amendment shall be provided to the City's Debris Manager. The maximum amount of any Bond shall not exceed ten million dollars.
(c) A Performance and Payment Bond shall be issued for each PO. Performance and Payment Bonds must be maintained until the PO has been completed and approved by the City. Upon the successful completion of PO work, the Performance and Payment Bonds shall be released by the City.
(d) If the Surety on any bond furnished by the Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in the State of Texas or it ceases to meet the requirements imposed by the City, the Contractor shall within five (5) calendar days substitute another Bond and Surety, both of which shall be acceptable to the City.
(e) If the Contractor cannot obtain another Bond and Surety within (5) calendar days, the City shall accept, and the Contractor shall provide an irrevocable letter of credit drawn on a Texas bank until the Bond and Surety can be obtained.

1.16 Liquidated Damages

Should the Contractor fail to complete requirements set forth in this scope of work, the City shall suffer damage. The amount of damage suffered by the City is difficult, if not impossible to determine at this time, therefore the Contractor shall pay the City, as liquidated damages, the following:

(a) The Contractor shall pay the City, as liquidated damages, $5,000.00 per calendar day of delay to mobilize in the City with the resources requested by the City, within seventy-two (72) hours of being issued a PO.
(b) The Contractor shall pay the City, as liquidated damages, $1,000.00 per load of disaster debris collected in the City that is not disposed of at a City approved DMS or City Designated Final Disposal Site. Application of liquidated damaged does not release the Contractor of all liability associated with hauling and depositing material to an unauthorized location.
(c) The Contractor shall pay the City, as liquidated damages, $100.00 per incident where the Contractor fails to sufficiently clean collection site(s) so that no loose leaves and small

debris in excess of one-bushel basket remain, no debris is left on the road surface and no single piece of debris larger than six (6) inches remains on site. Application of liquidated damages does not release the Contractor from the responsibility of sufficiently cleaning collection site(s).

(d) The Contractor shall pay the City, as liquidated damages, $500.00 per incident where the Contractor fails to repair damages that are caused by the Contractor. Application of liquidated damages does not release the Contractor from the responsibility of resolving, repairing or paying for damages.

(e) If Contractor personnel, including their subcontractors, are documented collecting debris from areas that are not listed in a PO (i.e. private property, vacant lots, land clearing debris), then liquidated damages shall be assessed at $1,000.00 per incident. An incident shall entail each individual property as identified by a property identification number.

(f) If Contractor personnel, including its subcontractors, leave their assigned area prior to completion of the work specified in the PO, "cherry pick" debris within their assigned area or collect debris from outside of their assigned area, then liquidated damages shall be assessed at $1,000.00 per occurrence. In the event of leaving an assigned area prior to completion of work specified in the PO, the liquidated damage shall be assessed at $5,000.00 per day until work has resumed in the assigned area.

(g) At each vegetative debris management site, if grinding is selected as a volume reduction alternative, the Contractor shall be required to grind a minimum of 200-300 cubic yards per hour per grinder during operating hours. The Contractor and City may agree to a different rate if needed. The new established rate shall then be the performance standard for a specific PO. The minimum rate shall be achieved no later than the third calendar day after receipt of the mobilization PO. Liquidated damages shall be assessed at $10,000.00 per calendar day for any day in which the minimum processing rate is not met, unless non-compliance is due to insufficient debris amounts being delivered to the site.

(h) All work, including site restoration of debris management sites, prior to close-out shall be completed within 30 calendar days after receiving notice from the City that the last load of debris has been delivered, unless the City initiates additions or deletions to the agreement by written POs. Subsequent changes in completion times shall be equitably negotiated by both parties pursuant to applicable state and federal laws. Liquidated damages shall be assessed at $2,000.00 per calendar day for any time over the maximum allowable time established.

(i) All work for the collection of debris from public roads, rights-of-way and other areas as directed by the City in POs shall be completed on or before the recorded completion date. Liquidated damages shall be assessed at $5,000.00 per calendar day for any day in which the recorded completion date has not been achieved to the satisfaction of the City.

(j) Failure of the Contractor to meet the required specifications listed in a PO or meet any deadline specified herein or listed in a PO shall result in liquidated damages as specified in each PO.

The amounts specified above are mutually agreed upon as reasonable and proper amount of damage the City should suffer by failure of the Contractor to complete requirements set forth in the scope of work.

1.17 Contract term

The initial contract term will be for five (5) years with an optional three (3) year and two (2) year extension allowing for a ten (10) year total contract term. Prices will be reviewed at each optional renewal and increased if necessary based on review of the consumer price index ("CPI").

1.18 Invoice Schedule

The Proposer will invoice the City for work completed no more frequently than every two weeks.

1.19 Retainage

The City will hold a 10% retainage on all Proposer invoices until satisfactory completion of the project and resolution of all damages.

2 TERMS AND DEFINITIONS

Definitions of key terms used in this RFP are provided below.

2.1 Approved Final Disposal Site

2.1.1 A final disposal site approved in writing by the City.

2.2 Authorized Representative

2.2.1 City employees and/or contracted individuals designated by the City or City debris manager.

2.3 Cleanup Crew

2.3.1 A group of individuals or an individual employed by Proposer to collect disaster debris.

2.4 Construction and Demolition ("C&D") Debris

2.4.1 Federal Emergency Management Agency ("FEMA") Publication 104-009-2, Public Assistance Program and Policy Guide, defines eligible C&D debris as damaged components of buildings and structures, such as lumber and wood, gypsum wallboard, glass, metal, roofing material, tile, carpeting and other floor coverings, window coverings, pipe, concrete, asphalt, equipment, furnishings, and fixtures. (Note: This definition of C&D debris is for disaster recovery purposes and is not the same definition commonly used in other solid waste documents.) Current eligibility criteria include the following:

a. Debris must be located within a designated area and be removed from an eligible applicant's improved property or right-of-way ("ROW").

b. Debris removal must be the legal responsibility of the applicant.

c. Debris must be a result of a major disaster.

2.5 Debris

2.5.1 Items and materials broken, destroyed, or displaced by a natural or human-caused federally declared disaster. Examples of debris include but are not limited to trees, C&D debris, and personal property.

2.6 Debris Management Site ("DMS")

2.6.1 A location to temporarily store, reduce, segregate, and/or process debris before it is hauled to a final disposal site. May also be referred to as a temporary debris management site ("TDMS") or temporary debris storage and reduction site ("TDSRS") or temporary debris staging and processing facility ("TDSPF").

2.7 Debris Manager

2.7.1 The City will designate a debris manager, who will provide oversight for all phases of debris removal operations.

2.8 Debris Removal

2.8.1 Picking up debris and taking it to a DMS, composting facility, recycling facility, permitted landfill, or other reuse or end-use facility.

2.9 Demolition

2.9.1 The act or process of reducing a structure, as defined by the State of Texas or local code, to a collapsed state. It contrasts with deconstruction, which is the taking down of a building while carefully preserving valuable elements for reuse.

2.10 Description of Designated Area

2.10.1 The designated area for debris removal is bounded by City limits and includes all public ROWs, easements, parks, and debris staging areas within the areas of the City. The Proposer will remove debris from municipal roadways at the direction of the City. The City may also authorize the Proposer to remove debris from Non-City roadways or other areas as directed in writing by the City.

2.10.2 All debris identified by City shall be removed. Proposer shall make up to two complete passes through the City's limits, removing all debris along each ROW. The City may or may not require the Proposer to perform a third pass. Partial removal of debris piles is strictly prohibited. The Proposer shall not move from one designated area to another designated area without prior approval from the City or its representative. Any eligible debris (such as fallen trees) that extends onto the ROW from private property shall be cut at the point where it enters the ROW, and the part of the debris that lies within the ROW shall be removed. The Proposer shall not enter onto private property during the performance of this contract unless specifically authorized in writing by the City.

2.10.3 Proposer shall deliver debris to DMS and final disposal sites that have been permitted to receive disaster debris and will adhere to all local, state, and federal regulations.

2.10.4 Debris shall be reasonably compacted into the hauling vehicle. No limbs or branches shall be allowed to protrude more than six (6) inches beyond the sides of the truck bed. Any debris extending above the top of the truck bed shall be secured in place to prevent it from falling off. Measures must be taken to prevent debris from blowing out of the hauling vehicle during transport to the disposal site.

2.10.5 All debris will be mechanically loaded. Hauling vehicles that are hand-loaded or that require mechanical assistance for dumping will not be permitted to dump at DMS(s), unless approved in advance by City.

2.10.6 Loose leaves and small debris in excess of one (1) bushel basket shall be removed within the designated area. No debris shall be left on the road surface. No single piece of debris larger than six (6) inches in any dimension shall be left on site. Hand crews and rakes will be required.

2.10.7 The Proposer will provide an on-site project manager to the City. The project manager shall provide the City with a telephone number at which the project manager can be reached throughout the project. The project manager will be expected to have daily meetings with City representatives. Daily meeting topics will include (but will not be limited to) volume of debris collected, completion progress, local coordination, and damage repairs. City may adjust the frequency of meetings. Proposer project manager must be available 24 hours-a-day, or as required by the City.

2.10.8 City does not warrant or guarantee the availability or use of any final disposal sites. Proposer must coordinate directly with owners of all final disposal sites. All final disposal sites must be approved in writing by City.

2.10.9 Proposer will remain legally responsible for the handling, reduction, and final haul-out and disposal of all reduced and unreduced debris from DMS sites. Payment for disposal costs (such as tipping fees) incurred by the Proposer at permitted disposal facilities, or other City-approved sites that meet local, state, and federal regulations for disposal, will be made at the cost incurred by the Proposer. The Proposer must furnish a copy of the invoice received by the disposal facility, all scale or load tickets issued by the disposal facility, and proof of Proposer payment to the disposal facility.

2.10.10 Proposer shall conduct the work so as not to interfere with the disaster response and recovery activities of federal, state, and local governments or agencies, or of any public utilities.

2.10.11 Proposer shall be capable of assembling, directing, and managing a workforce that can be fully operational in debris management operations in a maximum of seventy-two (72) hours or sooner, depending on the extent of the disaster. Operations must begin within seventy-two (72) hours of notification by the City. Depending on the category of the event, the City may request immediate mobilization.

2.10.12 Debris management activities reimbursed through federal disaster programs may occur in areas protected by the Endangered Species Act. For any project that requires a federal permit or receives federal funding is subject to Section 7 of the Endangered Species Act (see Section 2.13 Endangered Species Act). Proposer and City will comply with the findings of the Section 7 Endangered Species Act consultation, if applicable.

2.11 Disaster-Specific Guidance ("DSG")

2.11.1 A policy statement issued in response to a specific post-event situation or need in a state or region. Each DSG is issued a number and is generally referred to by its numerical identification.

2.12 Eligible

2.12.1 Qualifying for and meeting the most current stipulated requirements (at the time the written Notice to Proceed is issued and executed by the City to the Proposer) of the FEMA Public Assistance Grant Program, FEMA Publication 104-009-2 (additional information below),

and all current FEMA fact sheets, guidance documents, and DSGs. Eligible also includes meeting any changes in definition, rules, or requirements regarding debris removal reimbursement as stipulated by FEMA during the course of a debris removal project.

2.13 Endangered Species Act

2.13.1 Section 7 of the Endangered Species Act, *16 U.S.C. § 1536(a)(2)*, requires all federal agencies to consult with the National Marine Fisheries Service ("NMFS") for marine and anadromous species, or the U.S. Fish and Wildlife Service ("FWS") for fresh-water and wildlife, if they are proposing an action that may affect listed species or their designated habitat. "Action" is defined broadly to include funding, permitting, and other regulatory actions. (See *50 C.F.R. § 402.02*.)

2.13.2 Each federal agency is to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of a designated critical habitat. This is done through consultation. If such species may be present, the local government must conduct a biological assessment ("BA") to analyze the potential effects of the project on listed species and critical habitat to establish and justify an effect determination (assistance and coordination may be available from the State of Texas, especially with transportation projects). The federal agency reviews the BA and, if it concludes that the project may adversely affect a listed species or its habitat, it prepares a biological opinion. The biological opinion may recommend reasonable and prudent alternatives to the proposed action to avoid jeopardizing or adversely modifying the habitat.

2.14 FEMA Publication 104-009-2 Public Assistance Program and Policy Guide

2.14.1 This publication is specifically dedicated to the rules, regulations, and policies associated with public assistance programs and the debris removal process. Familiarity with this publication and any revisions can help a local government limit the amount of non-reimbursable expenses. The Public Assistance Program and Policy Guide provides the framework for the debris removal process authorized by the Stafford Act, including the following:

a. Eliminating immediate threats to lives, public health, and safety.

b. Eliminating immediate threats of significant damage to improved public or private property.

c. Ensuring the economic recovery of the affected community to the benefit of the community at large.

2.15 Grinding

2.15.1 Reduction of disaster-related vegetative debris through mechanical means into small pieces to be used as mulch or fuel. Grinding may also be referred to as chipping or mulching.

2.16 Hazardous Hanging Limbs

2.16.1 A limb that poses significant threat to the public. The current eligibility requirements for hazardous hangers according to FEMA Publication 104-009-2 are:

a. The limbs or branches extend over the public ROW;

b. The broken limbs or branches measure two inches or larger in diameter at the point of breakage; and

c. The limbs or branches are still hanging in a tree and threatening a public use area, e.g. trails, sidewalks, golf cart path.

2.17 Hazardous Leaning Tree

2.17.1 A tree is considered hazardous if its condition was caused by the disaster; it is an immediate threat to lives, public health and safety, or improved property; it has a diameter of six (6) inches or greater measured 4.5 feet above ground level; and one or more of the following criteria are met (according to FEMA Publication 104-009-2):

a. The tree has a split trunk.

b. The tree has a broken canopy.

c. The tree is leaning at an angle greater than thirty (30) degrees.

2.18 Hazardous Stump

2.18.1 A stump is defined as hazardous and eligible for reimbursement if all the following criteria are met. The current eligibility requirements for hazardous hangers according to FEMA Publication 104-009-2 are:

a. The stump has fifty (50) percent or more of the root ball exposed.

b. The stump is 2 feet or larger in diameter when measured 2 feet from the ground.

c. The stump is located in a public ROW.

d. The stump poses an immediate threat to public health and safety.

Loose stumps (not attached to the ground) and stumps under two feet in diameter measured 2 feet from the ground and meeting the criteria 2.18.1 (a) (c) and (d) above will be removed as ROW Vegetative Debris as outlined in Section 3.2.

2.19 Historic Preservation

2.19.1 In certain instances, debris operations may occur in designated areas (for example, DMS locations or private property) that are subject to historical preservation rules and regulations.

2.20 Household Hazardous Waste ("HHW")

2.20.1 The Resource Conservation and Recovery Act ("RCRA") defines hazardous waste as materials that are ignitable, reactive, toxic, corrosive, or meet other listed criteria. Examples of eligible HHW include items such as paints, cleaners, pesticides, etc. The eligibility criteria for HHW are as follows:

a. HHW must be located within a designated area and be removed from an eligible applicant's improved property or ROW.

b. HHW removal must be the legal responsibility of the applicant.

c. HHW must be a result of a major disaster.

2.20.2 The collection of commercial disaster-related hazardous waste is generally not eligible for reimbursement. Commercial hazardous waste will only be collected by Proposer with written authorization from the City. Hazardous waste must be disposed of in accordance with all rules and regulations of local, state, and federal regulatory agencies.

2.21 Monitor

2.21.1 Person that observes day-to-day operations of debris removal crews and provides documentation of contract line items as well as QA/QC of documentation completed in the field. FEMA sets forth guidelines for eligibility. Eligibility determinations are not complete until they are reviewed by QA/QC staff prior to the approval of invoices. Monitor and Proposer must work together to ensure eligible work being performed meets the City's expectations ,contractual requirements, and complies with all applicable federal, state, and local regulations. May also be referred to as a field inspector.

2.22 Personal Protective Equipment (PPE)

2.22.1 Equipment worn to minimize exposure to a variety of hazards.

2.23 Recycling

2.23.1 The recovery or use of wastes as a raw material for making products of the same or different nature as the original product.

2.24 Refrigerant

2.24.1 Ozone-depleting compound that must be removed from white goods or other refrigerant-containing items prior to recycling or disposal.

2.25 Right-of-Entry (ROE)

2.25.1 As used by FEMA, the document by which a property owner confers to the City or its Proposer or the U.S. Army Corps of Engineers the right to enter onto private property for a specific purpose without committing trespass.

2.26 Right-of-Way (ROW)

2.26.1 The portions of land over which facilities such as highways, railroads, or power lines are built. It includes land on both sides of the facility up to the private property line.

2.27 Scale/Weigh Station

2.27.1 A scale used to weigh trucks as they enter and leave a landfill. The difference in weight determines the tonnage dumped and a tipping fee is charged accordingly. It also may be used to determine the quantity of debris picked up and hauled.

2.28 Tipping Fee

2.28.1 A fee charged by landfills or other waste management facilities based on the weight or volume of debris dumped. May also be referred to as a disposal fee.

2.29 Used Electronics

2.29.1 End-of-life electronics (typically televisions, computers, and related components) that have been damaged by the disaster. May also be referred to as e-waste.

2.30 Vegetative Debris

2.30.1 Damaged and disturbed trees, tree limbs, bushes, shrubs, brush, untreated lumber, and wood products.

2.30.2 Remains of standing trees that are clearly damaged beyond salvage.

2.31 White Goods

2.31.1 As outlined in FEMA Publication 104-009-2, eligible white goods are defined as discarded household appliances such as refrigerators, freezers, air conditioners, heat pumps, ovens, ranges, washing machines, dryers, and water heaters. White goods can contain ozone-depleting refrigerants, mercury, or compressor oils that the federal Clean Air Act prohibits from being released into the atmosphere. The Clean Air Act specifies that only qualified technicians can extract refrigerants from white goods before they can be recycled. The eligibility criteria for white goods are as follows:

a. White goods must be located within a designated area and be removed from an eligible applicant's improved property or ROW.

b. White goods removal must be the legal responsibility of the applicant.

c. White goods must be a result of a major disaster.

3 SCOPE OF WORK AND RATE SCHEDULE ITEMS

Proposer shall have the capacity to manage a major workforce with multiple Sub-Contractors and to cover the expenses of a major recovery prior to being paid by City. Established management teams must be in place. Proposer shall have the resources to provide the equipment and personnel necessary to cover a disaster. Upon activation by the City, the Proposer must have the capability to have equipment and operators on site within 72 hours to respond to the incident. Proposer shall have experience in five (5) debris removal, reduction, and disposal operations in excess of 500,000 cubic yards within the past ten (10) years where the Proposer was the prime Proposer.

It shall be Proposer's responsibility to load, transport, reduce, and properly dispose of all disaster-generated debris once City issues a Notice to Proceed to Proposer, unless otherwise directed in writing by City. The City reserves the right to utilize one or more Proposer's to remove debris efficiently. The City also reserves the right to utilize different contractors for various elements including, but not limited to, emergency road clearance, right of way debris removal, and DMS management.

It shall be Proposer's responsibility to load and transport debris according to the production rate schedule below.

a. Up to fifty thousand (50,000) cubic yards 10 calendar days from Notice to Proceed (NTP).
b. Up to one hundred fifty thousand (150,000) cubic yards 15 calendar days from NTP.
c. Up to two hundred fifty thousand (250,000) cubic yards 30 calendar days from NTP.
d. Up to five hundred thousand (500,000) cubic yards 60 calendar days from NTP.
e. Greater than five hundred thousand (500,000) cubic yards after 60 calendar days, one hundred fifty thousand (150,000) cubic yards every 15 calendar days thereafter.
f. The ability to be fully operational for the reduction and disposal of debris within 72-hours of initial NTP.

Payment for disposal costs (such as tipping fees) incurred by Proposer at a City-approved final disposal site that meets local, state, and federal regulations for disposal will be reimbursed by City as a pass-through cost. Prior to reimbursement by the City, Proposer must furnish an invoice in hard copy and electronic formats, all scale or load tickets issued by the disposal facility, and proof of Proposer payment to the disposal facility.

The scope of work under this contract includes the following elements:

3.1 Emergency Road Clearance

Under this contract, work shall consist of all labor, equipment, fuel, and miscellaneous costs necessary to clear and remove debris from City roadways and waterways to make them passable immediately following a declared disaster. All roadways designated by the City shall be clear and passable within a reasonable amount of time as overseen by the City. What constitutes a reasonable period for emergency push operations will be defined by the City at the time of a notice to proceed. Roadways will be cleared as directed by the City. The Proposer shall assist the City and its representatives in ensuring proper documentation of emergency road clearance activities by documenting the type of equipment and/or labor utilized (that is, certification), starting and ending times, and zones/areas cleared. Services performed under this contract element will be compensated

using a mutually agreed upon Hourly Labor and Equipment Price Schedule (Schedule 1).

3.2 ROW Vegetative Debris Removal

Under this contract, work shall consist of all labor, equipment, fuel, traffic control costs, toll costs, and other associated costs necessary to pick up and transport eligible disaster-related vegetative debris from the City ROW to a City-approved DMS or approved final disposal site in accordance with all federal, state, and local regulations.

3.2.1 Vegetative debris in the City ROW is defined as debris resulting from a hurricane or other natural or human-caused disaster, which has been or will be placed along public ROWs, easements, City parks, alleys, City debris staging areas, and other areas as designated by the City.

3.2.2 For the purposes of this contract, eligible vegetative debris that is piled in immediate proximity to the actual legal street ROW and that is accessible from the ROW line with loading equipment (that is, not behind a fence or other physical obstacle) will be deemed to be on the ROW, and is to be removed.

3.2.3 Proposer will remove vegetative debris as directed by the City.

3.2.4 Once the debris removal vehicle has been issued a load ticket from the City's authorized representative, the debris removal vehicle will proceed immediately to a City-approved DMS or final disposal site as specified by the City. The debris removal vehicle will not collect additional debris once a load ticket has been issued.

3.2.5 All Eligible debris will be removed from each location before proceeding to the next location, unless otherwise directed by City or its authorized representative.

3.2.6 Proposer must provide traffic control as conditions require or as directed by the City.

3.2.7 Entry onto private property for the removal of eligible vegetative debris will only be permitted when directed by the City or its authorized representative. City will provide specific ROE legal and operational procedures.

3.3 ROW C&D Debris Removal

Under this contract, work shall consist of all labor, equipment, fuel, traffic control costs, toll costs, and other associated costs necessary to pick up and transport eligible C&D debris from the City ROW to a City-approved DMS or final disposal site in accordance with all federal, state, and local regulations.

3.3.1 C&D debris in the City ROW is defined as disaster-generated debris that has been or will be placed along public ROW, easements, City parks, alleys, and City debris staging areas.

3.3.2 For the purposes of this contract, Eligible C&D debris that is piled in immediate proximity to the ROW and that is accessible from the ROW line with loading equipment (that is, not behind a fence or other physical obstacle) will be deemed to be on the ROW, and is to be removed.

3.3.3 Proposer will remove C&D debris from the ROW as directed by the City.

3.3.4 Once the debris removal vehicle has been issued a load ticket from the City's authorized representative, the debris removal vehicle will proceed immediately to a City-approved

DMS or final disposal site as specified by the City. The debris removal vehicle will not collect additional debris once a load ticket has been issued.

3.3.5 All Eligible debris will be removed from each location before proceeding to the next location, unless otherwise directed by the City or its authorized representative.

3.3.6 Proposer must provide traffic control as conditions require or as directed by the City.

3.3.7 Entry onto private property for the removal of Eligible C&D debris will only be permitted when directed by the City or its authorized representative. City will provide specific ROE legal and operational procedures.

3.3.8 C&D debris must be monitored for the collection, complete haul, and delivery at the approved DMS or final disposal sites. City or authorized representative will obtain the original copy of the disposal or scale ticket showing the inbound and outbound collection vehicle weights.

3.4 Demolition, Removal, Transport, and Disposal of Non-RACM Structures

Under this contract, work shall consist of all labor, equipment, fuel, traffic control costs, toll costs, and other associated costs necessary to decommission, demolish, and dispose of eligible non-regulated asbestos-containing material ("non-RACM") structures on private property within the jurisdictional limits of the City. Under this service, work will include asbestos-containing material ("ACM") testing, decommissioning, structural demolition, debris removal, and site remediation. Further, eligible debris generated from the demolition of non-RACM structures, as well as scattered C&D debris on private property, will be transported to a City-approved final disposal site in accordance with all federal, state, and local regulations.

3.4.1 Removal and transportation of demolished structures and scattered C&D debris on private property will be performed as identified by the City.

3.4.2 Entry onto private property will only be permitted when directed by the City. City will provide specific ROE legal and operational procedures.

3.4.3 Proposer is required to strictly adhere to all local, state, and federal regulations (such as obtaining demolition permits) for the demolition, handling, and transportation of non-RACM structures.

3.4.4 Decommissioning consists of the removal of all HHW, used electronics, white goods, and scrap tires from a non-RACM structure and disposal at a properly sanctioned facility in accordance with all applicable federal, state, and local regulations.

3.4.5 Any structurally unsound and unsafe structures will be identified and presented to the City for direction regarding decommissioning.

3.4.6 Removal and transportation of eligible non-RACM demolished structures and eligible scattered C&D debris on private property will be performed as directed in writing by the City's authorized representative.

3.4.7 Once the debris removal vehicle has been issued a load ticket from the City's authorized representative, the debris removal vehicle will proceed immediately to a City-approved final disposal site. The debris removal vehicle will not collect additional debris once a load ticket has been issued.

3.4.8 Entry onto private property for the removal of eligible C&D debris will only be permitted when directed in writing by the City or its authorized representative. City will provide specific ROE legal and operational procedures for private property debris removal programs if requested.

3.5 Demolition, Removal, Transport, and Disposal of RACM Structures

Under this contract, work shall consist of all labor, equipment, fuel, traffic control costs, toll costs, and other associated costs necessary to decommission, demolish, and dispose of eligible RACM structures on private property within the jurisdictional limits of the City. Under this service, work will include ACM testing, decommissioning, structural demolition, debris removal, and site remediation. Further, eligible debris generated from the demolition of structures, as well as eligible scattered C&D debris on private property, will be transported to a City-approved final disposal site in accordance with all federal, state, and local regulations.

3.5.1 Proposer is required to strictly adhere to all local, state, and federal regulatory requirements (such as obtaining demolition permits, fully encapsulated wrapping of debris, etc.) for the demolition, handling, and transportation of RACM structures.

3.5.2 Decommissioning consists of the removal and disposal of all HHW, e-waste, white goods, and scrap tires from an RACM structure at a properly sanctioned facility in accordance with all applicable local, state, and federal regulations.

3.5.3 Any structurally unsound and unsafe structures will be identified and presented to the City for direction regarding decommissioning.

3.5.4 Removal and transportation of eligible RACM demolished structures and eligible scattered C&D debris on private property will be performed as directed in writing by the City's authorized representative.

3.5.5 Once the debris removal vehicle has been issued a load ticket from the City's authorized representative, the debris removal vehicle will proceed immediately to a City-approved final disposal site that accepts RACM debris. The debris removal vehicle will not collect additional debris once a load ticket has been issued.

3.5.6 Entry onto private property for the removal of eligible C&D debris will only be permitted when directed in writing by the City or its authorized representative. City will provide specific ROE legal and operational procedures for private property debris removal programs if requested.

3.6 DMS Management and Operations

Under this contract, work shall consist of all labor, equipment, fuel, traffic control costs, toll costs, and other associated costs necessary to manage and operate DMS(s) for the acceptance, management, segregation, staging, and reduction of disaster debris. Reduction methods must be approved by the City prior to commencement of reduction activities. DMS layouts and ingress and egress plans must be approved by the City. City may provide Proposer with potential DMS(s). Proposer will be responsible for documenting the condition of the sites prior to their use as DMS(s), and for returning the DMS(s) to their original condition, abiding by all state and federal environmental regulatory requirements, and the following:

a. If City DMS locations are identified, the Proposer will be provided with the address, Global Positioning System ("GPS") coordinates, and estimated acreage of each DMS.
b. Based on the severity of the disaster, City may require Proposer to locate additional sites to be used as DMS(s). If private sites are identified to be leased, the Proposer may be tasked with executing the lease and could bill these costs to the City as a pass-through cost.
c. The Proposer will be responsible for conducting pre-condition baseline underground water and soil sampling and testing of DMS as well as comparable closeout sampling and testing.
d. DMS(s) operations and remediation must comply with all local, state, and federal safety and environmental standards. Proposer reduction, handling, disposal, and remediation operations must be approved in writing by the City.
e. City reserves the right to inspect the DMS(s), verify quantities, and review operations at any time.

3.6.1 Managing DMS location includes helping to obtain necessary local, state, and federal permits or approval and operating in accordance with all rules and regulations of local, state, and federal regulatory agencies, which may include but are not limited to the U.S. Environmental Protection Agency ("EPA"), Texas Commission on Environmental Quality ("TCEQ"), Texas Historical Commission, or other State and County agencies. Proposer shall also be responsible for all costs associated with third-party groundwater and soil testing.

3.6.2 Debris at the DMS(s) will be clearly segregated and managed independently by debris type (C&D, vegetative, white goods, and other scope of service items), program (ROW collection, private property debris removal, etc.), as outlined in Section 2.10 Description of Designated Area.

3.6.3 Proposer is responsible for maintaining the DMS(s) approach and interior road(s) for all weather conditions for the entire period of debris hauling, including provision of crushed concrete for any roads that require stabilization for ingress and egress.

3.6.4 Proposer is responsible for all associated costs necessary to provide DMS(s) traffic control (for example, traffic cones and staff with traffic flags).

3.6.5 Proposer is responsible for all associated costs necessary to provide DMS(s) dust control and erosion control (for example, an operational water truck, silt fencing, and other best management practices).

3.6.6 Proposer is responsible for providing twenty-four (24)-hour security at DMS(s).

3.6.7 Proposer will only permit Proposer vehicles and others specifically authorized by the City or its authorized representative on DMS locations.

3.6.8 Proposer is responsible for all associated costs necessary to provide DMS(s) utilities (for example, water, lighting, and portable toilets).

3.6.9 Proposer is responsible for all associated costs necessary to provide DMS(s) fire protection (for example, an operational water truck [sufficient and equipped for fire protection], fire breaks, and a site foreman).

3.6.10 Proposer is responsible for all associated costs necessary to provide qualified personnel, as well as lined containers or containment areas, for the segregation of visible HHW/contaminants that may be mixed with disaster debris. The cost associated with qualified personnel and lined containers/containment areas for HHW/contaminant segregation is reflected in this scope of work. The City will be responsible for disposing of HHW/contaminant material segregated and stored in lined containers at the DMS(s)

3.6.11 Proposer shall provide tower(s) from which the City or its authorized representative can make volumetric load calls. The tower provided by the Proposer will meet required minimum specifications, detailed in Section 3.20 Debris Site Tower Specifications.

3.6.12 Proposer is responsible for operating the DMS(s) in accordance with OSHA, EPA, and TCEQ guidelines.

3.6.13 Upon completion of haul-out activities, the Proposer shall restore the site to its original condition prior to site use at their own expense, abide by all local, state, and federal environmental regulatory requirements, and obtain a written release from the City or its authorized representative. Site remediation will include (but is not limited to) ensuring all debris, mulch, and other residual material is adequately removed, returning the original site grade and other physical features including sodding if necessary. Site remediation will also include returning all utilized sites to their original condition as verified through soil and groundwater samples. Site remediation will abide by all state and federal environmental regulatory requirements and is subject to final approval by the City and TCEQ. Site remediation does not include restoring fencing, concession stands, lighting, and other permanent structures that may have been demolished at the City's direction for DMS(s) operations.

3.7 DMS Management and Reduction by Grinding

Under this contract, work shall consist of all labor, equipment, fuel, and miscellaneous costs necessary to reduce disaster debris by grinding. Reduction methods are at the discretion of the City. Grinding must be approved by the City prior to commencement of reduction activities.

3.7.1 All unreduced disaster debris must be staged separately from reduced debris at the DMS(s).

3.7.2 Grinding activities must begin within seven days of the opening of the DMS with adequate equipment available to process the type of debris entering the site and prevent stockpiling of excess debris at the DMS.

3.7.3 Proposer must obtain City's approval to reduce C&D debris. If approved for reduction by the City, C&D debris must be reduced via grinding for the City to compensate the Proposer for reduction. Incineration, mauling or driving over C&D are not acceptable methods of C&D reduction.

3.8 DMS Management and Reduction by Incineration

Under this contract, work shall consist of all labor, equipment, fuel, and miscellaneous costs necessary to reduce disaster debris by incineration. Reduction methods (controlled open-air incineration and air curtain burning) are at the discretion of the City. Incineration must be approved by the City prior to commencement of reduction activities.

3.8.1 All unreduced disaster debris must be staged separately from reduced debris at the DMS(s).

3.9 Haul-Out of Reduced Debris from DMS to Final Disposal Site

Under this contract, work shall consist of all labor, equipment, fuel, traffic control costs, and associated costs necessary to load and transport reduced eligible material (such as ash, compacted C&D, or mulch) from a City-approved DMS(s) to a City-approved final disposal site in accordance with all local, state, and federal regulations.

3.9.1 All unreduced disaster debris must be transported to a final disposal site separately from reduced debris.

3.9.2 Proposer shall provide the name and address of each disposal site to be used along with the name and the telephone number of a responsible party for each site, prior to commencing the work.

3.9.3 Proposer shall not use any disposal site without the written consent of the City. All costs and fees associated with the disposal of debris shall be reviewed for reasonableness by the City prior to issuing any such authorization.

3.9.4 Proposer shall initiate and manage the execution of a written three-party agreement between the disposal site owner/operator, Proposer, and City for permission to post a City inspector at the site for verification of each load disposed.

3.9.5 Proposer shall provide a sufficient number of debris site towers and/or certified scales meeting City specifications to provide for the efficient delivery of waste streams without excessive wait times. The City shall decide what constitutes an excessive wait time. To the extent that the City determines that additional towers and/or scales are required, additional towers must be operational within forty-eight (48) hours of the City's request and certified scales must be operational within five (5) business days of the City's request.

3.9.6 At the completion of disposal operations, each disposal site will issue a written summary of the quantity, type, and origin of waste delivered.

3.9.7 Proposer shall not receive any payment from the City for haul-out or load tickets related to reduced or unreduced debris transported and disposed of at a final disposal site that was not approved by City.

3.10 Removal of Hazardous Leaning Trees and Hanging Limbs

Under this contract, work shall consist of all labor, equipment, fuel, traffic control costs, toll costs, and other associated costs necessary to remove all eligible hazardous leaning trees six (6) inches or greater in diameter, measured four and a half (4.5) feet from the base of the tree, and eligible hazardous hanging limbs two (2) inches or greater in diameter at the point of the break and in the City ROW. Further, debris generated from the removal of eligible hazardous leaning trees and eligible hazardous hanging limbs two (2) inches or greater in diameter at the point of the break and in the City ROW will be placed in the safest possible location on the City ROW and subsequently removed in accordance with Section 3.2 of this RFP. Eligible hazardous leaning trees less than six (6) inches in diameter, measured four and a half (4.5) feet from the base of the tree, will be flush cut, loaded, and removed in accordance with Section 3.2 of this RFP. The City will not compensate the Proposer for cutting leaning trees less than six (6) inches in diameter on a

unit rate basis. The collection of all eligible hazardous leaning trees and eligible hazardous hanging limbs must be performed on the same day as the cut work. If there is insufficient room for safe placement along the City ROW, then the Proposer must load the resulting debris as eligible hazardous leaning trees or eligible hazardous hanging limbs as they are removed.

3.10.1 Eligible hazardous leaning trees will be identified by the City or its authorized representative for removal. Removal and transportation of hazardous leaning trees six (6) inches or greater in diameter on the City ROW or private property will be performed as identified by the City or authorized representative. All disaster-specific eligibility guidelines regarding size and diameter of hazardous leaning trees will be communicated to the Proposer in writing by the City or authorized representative. For hazardous leaning trees to be removed and eligible for reimbursement, the tree must satisfy a minimum of one (1) of the following requirements:

a. The tree has a broken canopy.

b. The tree has a split trunk.

c. The tree has fallen or been uprooted within a public use area.

d. The tree is leaning at an angle greater than thirty (30) degrees.

3.10.2 Eligible hazardous hanging limbs will be identified by the City or its authorized representative for removal. Removal and placement of eligible hazardous hanging limbs two (2) inches or greater in diameter at the point of the break and on the City ROW or private property will be performed as identified by the City's authorized representative. All disaster-specific eligibility guidelines regarding size and diameter of limbs will be communicated to the Proposer in writing by the City's authorized representative. For hazardous hanging limbs to be removed and eligible for payment, the limb must satisfy the following requirements:

a. The limb is two (2) inches or greater in diameter at the point of the break.

b. The limb is still hanging in a tree and threatening a public use area.

c. The limb is located on improved public property.

3.11 Removal of Hazardous Stumps

3.11.1 Under this contract, work shall consist of all labor, equipment, fuel, traffic control costs, toll costs, and other associated costs necessary to remove all hazardous uprooted stumps two (2) feet or greater in diameter, measured 2 feet from the base of the tree, in the City ROW. Any voids not backfilled immediately following hazardous stump removal must have measures taken in order to protect public health and safety. Further, debris generated from the removal of eligible hazardous uprooted stumps in the City ROW will be placed in the safest possible location on the ROW and subsequently removed in accordance with Section 3.2 of this RFP. Stumps measured two (2) feet from the base of the tree and less than two (2) feet in diameter will be considered normal vegetative debris and will be removed in accordance with Section 3.2 of this RFP. City will not compensate Proposer for removing hazardous stumps less than two (2) feet in diameter on a unit rate basis and instead will be considered normal vegetative debris. The diameter of stumps less than two (2) feet will be converted into a cubic yardage volume based on the published FEMA

Stump Conversion Table (see Attachment 1, FEMA Stump Conversion Table) and will be removed under the terms and conditions of Section 3.2 of this RFP.

3.11.2 Eligible hazardous stumps will be identified by the City for removal. Removal and transportation of hazardous uprooted stumps in the City ROW and private property will be performed as identified by the City. All disaster-specific eligibility guidelines regarding size and diameter of hazardous stumps will be communicated to Proposer in writing by the City. For hazardous stumps to be removed and eligible for reimbursement, the stump must satisfy the following requirements:

a. Over fifty (50) percent of the tree crown is damaged or broken and heartwood is exposed.

b. Fifty (50) percent or more of the root ball is exposed.

c. The stump is on City ROW and poses an immediate threat to public health, safety, or welfare.

3.11.3 Stumps that are not attached to the ground will be considered normal vegetative debris and will be subject to removal under the terms and conditions of Section 3.2. Stumps with less than fifty (50) percent of the root ball exposed shall be flush cut to the ground. The stump portion of the tree will not be removed but the residual debris (that is, tree trunk) will be removed under the terms and conditions of Section 3.2. The cubic yard volume of the unattached stump will be based on the diameter conversion using the published FEMA Stump Conversion Table (see Attachment 1, FEMA Stump Conversion Table).

3.11.4 The City or its representative will measure and certify all stumps before removal.

3.11.5 Stumps shall only be collected after the City and the Proposer document and perform the following:

a. Location – Determine that the uprooted stump is located on improved public property or a public ROW. Record and document the location using photography, map depiction, and specific descriptive notations.

b. Size – Measure and record the diameter of the stump to be removed at the appropriate location.

c. Marking – Eligible stumps will be marked and uniquely numbered with green paint. Ineligible stumps will be marked with red paint.

d. Stump Worksheet – Hazardous Stump Worksheet provided by the monitoring firm(s) will be completed in full for each stump to capture the following information: (1) names and signatures of parties present; (2) physical location (street address, road cross streets, etc.); (3) stump number; (4) size of the stump; and (5) date of stump removal.

3.11.6 The unit stump price shall include (but not be limited to) stump extraction, stump cavity filling with compacted soils and installation of seed and/or sod, stump hauling, and stump reduction.

3.12 ROW White Goods Debris Removal

Under this contract, work shall consist of all labor, equipment, fuel, traffic control costs,

toll costs, and other associated costs necessary for the collection of white goods from the ROW, removal of refrigerants, transportation to a City-approved DMS, decontamination, and transportation to the City's approved final disposal site.

3.12.1 White goods containing refrigerants must first have such refrigerants removed by the Proposer's qualified technicians prior to mechanical loading. White goods can be collected without first having refrigerants removed if the white goods are manually placed into a hauling vehicle with lifting equipment so that the elements containing refrigerants are not damaged.

3.12.2 The removal, transportation, and disposal of white goods includes obtaining all necessary local, state, and federal handling permits, and operating in accordance with all local, state, and federal regulatory agencies.

3.12.3 There are no disposal fees for residential white goods.

3.13 Used Electronics

Under this contract, work shall consist of all labor, equipment, fuel, traffic control costs, toll costs, and other associated costs necessary for the removal, transportation, and proper disposal of eligible used electronics from the ROW to the City-approved final disposal site. Eligible used electronics includes (but is not limited to) disaster-damaged televisions, computers, computer monitors, and microwaves in areas identified and approved by the City. Proposer shall recycle or dispose of all eligible used electronics in accordance with all local, state, and federal regulations.

3.14 Household Hazardous Waste Removal, Transport, and Disposal

Under this contract, work shall consist of all labor, equipment, fuel, traffic control costs, toll costs, and other associated costs necessary for the removal, transportation, and disposal of HHW.

3.14.1 The removal, transportation, and disposal of HHW includes obtaining all necessary local, state, and federal handling permits and operating in accordance with all local, state, and federal regulations.

3.14.2 The collection methods shall include collection vehicles supplied by the Proposer, which shall be capable of transporting HHW materials from the curb to the approved final disposal sites. All hazardous waste collection personnel shall wear Level D PPE and carry a means of communication (for example, cell phone or radio) for safety and operational purpose. Proposer personnel shall observe all applicable safety requirements for the handling of HHW in accordance with applicable regulations. All HHW shall be examined prior to collection to ensure it is free of other more serious contaminants, including polychlorinated biphenyls ("PCB"). Such serious and non-qualifying non-HHW waste shall be noted and scheduled for separate recovery by the City or Proposer as directed by the City. Debris identified as HHW shall be collected and placed in poly bags for temporary storage during transport to the approved final disposal site.

3.14.3 Removal of HHW from DMS to approved final disposal site.

3.15 Abandoned Vessel and Vehicle Removal

Under this contract, work shall consist of all labor, equipment, fuel, traffic control costs,

toll costs, and other associated costs necessary for the removal and haul-out of eligible vessels and vehicles in areas identified and approved by the City. The removed eligible vehicles will be hauled to a City-approved staging area and subsequently disposed of by the appropriate regulatory agency.

3.15.1 The removal, transportation, and disposal required for abandoned vessel and vehicle removal includes obtaining all necessary local, state, and federal handling permits and operating in accordance with all local, state, and federal regulations.

3.16 Animal Carcass Removal and Disposal

Under this contract, work shall consist of all labor, equipment, fuel, traffic control costs, toll costs, and other associated costs necessary for the removal, transportation, and lawful disposal of dead animal carcasses in areas identified and approved by the City to an approved final disposal site.

3.16.1 The Proposer will coordinate activities with the appropriate local animal control agency.

3.16.2 The removal, transportation, and disposal of animal carcasses includes obtaining all necessary local, state, and federal handling permits and operating in accordance with all local, state, and federal regulations.

3.17 Other Debris Removal Work

Neither the Proposer nor any Sub-Contractor shall solicit work from private citizens or others to be performed in the designated work areas during the term of this Agreement. City reserves the right to require Proposer to dismiss or remove from the project any workers as the City deems necessary. Any debris removal vehicles dismissed from the project must have their issued placard removed and destroyed (additional information in Section 3.26 Documentation and Measurement).

3.18 Use of Local Resources

Proposer will be able to use their own Sub-Contractor resources to meet the obligations of the contract. FEMA encourages using local resources. The City will establish the extent to which Proposer must use local resources. It is expected that the awarded Proposer will encourage at least thirty (30) percent of Sub-Contractors are resources located within the disaster area, including but not limited to procuring supplies and equipment, awarding subcontracts, and employing workers at the City's discretion. Proposer will provide a list of Sub-Contractors with proposal submission.

3.19 Working Hours

Working hours of this contract shall only be during daylight hours, Monday through Sunday, or as otherwise directed by the City. No work outside these hours shall be allowed unless approved in advance by the City.

3.19.1 Proposer shall conduct debris removal operations that generate noise levels above that normally associated with routine traffic flow during daylight hours only. Work may be performed seven (7) days per week. Adjustments to work hours, as local conditions may dictate, shall be coordinated between the City and the Proposer. Unless otherwise directed, the Proposer must be capable of conducting volumetric reduction operations at DMS locations on a twenty-four-(24)-hour, seven-(7)-day-a-week basis.

3.20 Debris Site Tower Specifications

Proposer shall provide as many towers as designated by the City at each disposal site for the use of City representatives during their inspection of dumping operations.

3.20.1 If ingress and egress of the DMS(s) is of significant distance that the City or its authorized representative are unable to verify the entering and exiting trucks, Proposer may be required to provide a second tower.

3.20.2 The inspection platform of the tower shall be constructed at a minimum height of ten (10) feet from surrounding grade to finish floor level, have a minimum eight (8) feet by eight (8) feet of usable floor area, be covered by a roof with two (2) feet overhangs on all sides, and be provided with appropriate railings and a stairway. The platform shall be enclosed, starting from platform floor level and extending up four (4) feet on all four (4) sides. The expense incurred by the Proposer for the construction of towers is an overhead expense considered part of the Proposer's compensation under the terms and conditions of Section 5 Proposer Compensation.

3.20.3 Proposer shall provide a minimum of one (1) portable toilet at each dump site for the use of City authorized representatives during their inspection of dumping operations. The toilet shall be provided prior to start of any dumping operations and will be kept in a sanitary condition by the Proposer throughout dumping operations. The expense incurred by the Proposer for the operation of portable toilets is an overhead expense considered part of the Proposer's compensation under the terms and conditions of Section 5 Proposer Compensation.

3.20.4 Care shall be taken to place tower at a sufficient distance away from any reduction/dumping operations. If necessary, dumping operations may be temporarily suspended by the City due to unsuitable conditions at the tower.

3.21 Equipment

3.21.1 All trucks and other equipment must comply with all applicable local, state, and federal regulations. Any truck used to haul debris must be capable of rapidly unloading without the assistance of other equipment and must be equipped with a tailgate that will effectively contain the debris during transport and permit the truck to be filled to capacity.

3.21.2 Sideboards or other extensions to the bed are allowable provided they meet all applicable regulations, cover the front and both sides, and are constructed to withstand severe operating conditions. The sideboards are to be constructed of two (2)-inch by six (6)-inch boards or greater and not to extend more than two (2) feet above the metal bedsides. Trucks or equipment certified with sideboards must maintain such sideboards and keep them in good repair. To ensure compliance, equipment will be inspected by the City or authorized representative prior to its use by Proposer.

3.21.3 Trucks or equipment designated for use under this contract shall not be used for any other work during the working hours of this contract. Proposer shall not solicit work from private citizens or others to be performed in the designated area during the period of this contract. Under no circumstances will Proposer mix debris hauled for others with debris hauled under this contract.

3.21.4 Debris shall be reasonably compacted into the hauling vehicle. Any debris extending above the top of the bed shall be secured in place to prevent it from falling off. Measures must be taken to prevent debris from blowing out of the hauling vehicle during transport to an approved DMS or an approved final disposal site.

3.21.5 Equipment used under this contract shall be rubber tired and sized properly to fit loading conditions. Excessively large equipment (100 cubic yards and up) and non-rubber tired equipment must be approved for use on the road by the City.

3.21.6 Hand-loaded vehicles are prohibited unless pre-authorized in writing by the City following the event. All hand-loaded vehicles will receive an automatic fifty (50) percent deduction for lack of compaction.

3.21.7 Proposer shall supply a list of all equipment owned by the proposer with their proposal submittal.

3.22 Traffic Control

3.22.1 Proposer shall mitigate the effects of their operations on local traffic to the fullest extent practical. The Proposer is responsible for establishing and maintaining appropriate traffic controls in all work areas, including DMS(s) and debris collection sites.

3.22.2 Proposer shall provide, erect, and maintain all necessary barricades, suitable and sufficient lights, danger signals, signs, and other traffic control devices at all Proposer work areas to ensure the safety of vehicular and pedestrian traffic.

3.22.3 Proposer shall provide qualified flag personnel where necessary to direct the traffic and shall take all necessary precautions to protect the designated area and the safety of the public.

3.22.4 All work shall comply with all applicable local, state, and federal regulations governing personnel, equipment, and workplace safety. Any notification of a deficiency in traffic control or other safety items shall be immediately corrected by Proposer. No further work shall take place until the deficiency is corrected. Neither the City nor the City's authorized representative shall sign any additional load or unit rate tickets until the safety item is corrected.

3.22.5 Highways, streets, or parts of the designated area closed to through traffic shall be protected by effective barricades, and obstructions shall be illuminated during the hours from sunset to sunrise. Suitable warning signs shall be provided by the Proposer to properly control and direct traffic.

3.22.6 All barricades, warning signs, lights, temporary signals, other protective devices, flag persons, and signaling devices shall meet the minimum requirements established in the Manual on Uniform Traffic Control Devices for Streets and Highways, Part VI, prepared by the National Joint Committee on Uniform Traffic Control Devices and current at the time bids are received. Traffic control will conform to the State's most current roadway and traffic design standards and the Federal Highway Administration's ("FHWA") Manual on Uniform Traffic Control Devices ("MUTCD") for Streets and Highways. The foregoing requirements are to be considered as minimum and the Proposer's compliance shall in no way relieve the Proposer of final responsibility for providing adequate traffic control

devices for the protection of the public and Proposer's employees throughout the designated area.

3.23 Damage to Public or Private Property

3.23.1 All items damaged as a result of Proposer or Sub-Contractor operations (for example, sidewalks, seating, curbs, pipes, drains, water mains, pavement, mail boxes, and turf) shall be repaired or replaced by the Proposer, at their expense, in a manner prescribed by and at the sole satisfaction of the City. Proposer will be responsible for any invoices submitted to the City (such as by utility companies or landowners) that are determined to be the result of damage done by the Proposer. The City reserves the right to pay any such invoices and deduct the cost from the Proposer's invoice. Repairs or receipt of repairs shall be completed and submitted to the City prior to submission of the Proposer's invoice for work accomplished. If the Proposer fails to repair any damaged property, the City may have the work performed and charge the Proposer.

3.23.2 The Proposer shall restore all disturbed areas to their original condition, including re-grading, use of rye grass and permanent grass, and any other means necessary.

3.23.3 Proposer's failure to restore damage to public or private property to the satisfaction of the City will result in the City withholding retainage money in an amount sufficient to make necessary repairs.

3.24 Existing Utilities

3.24.1 Some trees and debris that are to be removed under this Agreement may be blocked or entangled with overhead and underground power, telephone, and television lines. In this case, it shall be Proposer's responsibility to coordinate directly with the utility owners to arrange for the removal of the debris without damage to the overhead and underground utility lines. The Proposer shall pay all such costs to the utility company for any adjustments.

3.24.2 The Proposer shall make the necessary repairs or pay all costs incurred to repair damaged utilities, as determined by the affected utility company. Repairs to all municipal and privately owned water and sewer facilities shall be made by the Proposer.

3.25 Environmental Protection

3.25.1 All chemicals of whatever nature used during project construction or furnished for project operations must be state and federally certified. Their use and disposal of all residues shall strictly comply with instructions.

3.25.2 Proposer shall, at their own expense, ensure that noise and dust pollution is minimized to comply with all local, state, and federal regulations and the approval of the City. Proposer shall comply in a timely manner with all directions of the City regarding the use of a water truck or other approved dust abatement measures.

3.25.3 Proposer shall comply with all laws, rules, regulations, and ordinances regarding environmental protection.

3.26 Documentation and Measurement

3.26.1 Prior to beginning any work, the City or its authorized representative shall clearly number each truck or piece of equipment hauling or loading debris with a placard. All vehicles must be certified by the City or its authorized representative prior to debris collection. If a vehicle is working under multiple contracts or for multiple communities, it must be re-certified by a City authorized representative each time it returns to work from other contracts or communities.

3.26.2 Proposer is responsible for ensuring that all Sub-Contractors maintain valid driver's licenses and equipment legally fit for travel on the road.

3.26.3 Proposer shall designate one project manager. The project manager shall provide the City with a telephone number at which the project manager can be reached throughout the project.

3.26.4 It is the City's preference to use an electronic system for load tickets. An Automated Debris Management System ("ADMS") or paper load tickets will be provided by the City or its authorized representative for recording volumes of debris removal. If an ADMS is used a copy of the electronic ticket will be printed for the vehicle operator at the dump site. If paper tickets are to be used each load ticket shall consist of one (1) original and four (4) carbon-copy duplicates and will be distributed as follows:

a. Load tickets will be issued by a City-authorized representative at the loading site. City will keep one (1) copy of the ticket and give four (4) copies to the vehicle operator. Upon arrival at the dump site, the vehicle operator will give the four (4) copies to the City-authorized representative at the dump site. Trucks with less than full capacities will be adjusted down by visual inspection; the City-authorized representative present at the dump site will make this determination. The City-authorized representative will validate, enter the estimated debris quantity, and sign the load tickets. City will keep the original copy and the three (3) remaining duplicate copies will be returned to the vehicle operator for the Proposer's records.

3.26.5 Proposer shall give written notice of the location for work scheduled twenty-four (24) hours in advance to the City.

3.27 Ownership of Debris

All debris residing in the City ROW and City-provided DMS(s) as a result of the disaster shall be the property of the City until final disposal at a properly permitted disposal site. Proposer shall be responsible for removing debris up to the point where debris can only be described as light litter and additional collection can be facilitated only by sweeping and raking. In addition to debris stored on the ROW as the result of road clearing, City will direct residents to place debris in segregated piles along the ROW, separated according to the waste category. There may be a need to perform some curbside separation of the different waste materials. Different waste materials will be collected in separate vehicles and may require disposal at different locations, which will be approved by the City. Any items requiring disposal at special sites shall be required to be monitored for the collection, complete haul, and delivery at the approved special site with the monitor obtaining an original copy of the disposal ticket showing inbound and outbound collection vehicle weights.

3.27.1 All bagged and bundled waste and debris smaller than two (2) inches in diameter and shorter than two (2) feet in length are outside the scope of this contract unless specifically directed by the City. Collection of municipal solid waste ("MSW") is outside the scope of this contract. All debris outside the scope of the contract handled by the Proposer shall become the property of the Proposer upon collection.

3.27.2 It is recognized that C&D debris might contain small amounts of asbestos, lead-based paints, treated wood, or similar materials. TCEQ may issue orders for the classification and disposition of all disaster debris. Based on the mandates of TCEQ and other applicable state and federal reimbursement agencies, the character and disposal of waste streams will be determined. The Proposer and City will establish a final disposal plan based on these mandates.

3.28 City Responsibilities

City responsibilities will vary depending on City needs and resources. The City, at a minimum, will be responsible for the following:

a. Coordinating collection activities with the Proposer

b. Completing the City service request form

c. Identifying suitable DMS activities

d. Promoting debris management activities

e. Providing educational materials

f. Submitting post-collection DMS(s) data reports to TCEQ

g. Recruiting and coordinating volunteers

h. Coordinating with local police, fire, emergency medical services ("EMS"), and other appropriate agencies

i. Providing emergency contact information

j. Executing the contract with selected Proposer(s)

k. Issuing a written Notice to Proceed at the appropriate time

4 EVALUATION AND SELECTION PROCESS

1. City will evaluate proposals using the following criteria:

   a. Proposal Requirements and Completeness of Proposal **5 points**

   b. References, Experience, Reputation, and Compliance **30 points**

   - Experience and reputation in managing debris removal and disposal projects within state and federal regulations and guidelines
   - Personnel experience and training
   - Financial stability

   c. Debris Management Services **25 points**

   - Degree of City liability in proposed debris management methods
   - Breadth of service and number of contracts the Proposer can successfully manage simultaneously
   - Debris management methods and commitment to City debris management preferences
   - Availability of preferred disposal methods (for example, types of materials planned for reuse and recycling)
   - Ability to ensure debris is collected, sorted, transported safely, and reduced appropriately
   - Ability to serve a wide range of project types (for example, permanent facility, one-day event, and mobile collection unit) and community types (for example, rural, urban, and suburban)

   d. Responsiveness of Proposal **20 points**

   - Demonstrated understanding of City and City needs
   - Demonstrated understanding of requirements of the RFP and contract
   - Quality of proposal and impressions of response as it relates to project
   - Additional services, ideas, or products that will benefit City

   e. Price **20 points**

   - Reasonableness of Cost

2. An evaluation team will review all proposals received to determine the extent to which they comply with the requirements herein. The evaluation team may include representatives from local governments, City, or others with relevant expertise.

3. If a proposal fails to meet a material RFP requirement, the proposal may be rejected. A deviation is material to the extent that the proposal is not in substantial accord with the solicitation. Material deviations cannot be waived. Immaterial deviations may cause a bid to be rejected.

4. Proposals containing false or misleading statements may be rejected if the City regards the information as intentionally misleading regarding a requirement of the RFP.

5. During the evaluation process, City may require a Proposer representative to answer questions regarding the proposal. Proposer's failure to demonstrate that the claims made in the proposal are true may be sufficient cause for deeming a proposal non-responsive.

5 CONTRACTOR COMPENSATION

Schedule 1
Hourly Labor, Equipment, and Material Price Schedule

(Scope of Service Item 1)

Equipment Type With Operator	Estimated Hours	Hourly Labor Rate	Total
Air Curtain Burner, Self-Contained System			
50’ Bucket Truck			
Crash Truck w/Impact Attenuator			
Dozer, Tracked, D3 or Equivalent			
Dozer, Tracked, D4 or Equivalent			
Dozer, Tracked, D5 or Equivalent			
Dozer, Tracked, D8 or Equivalent			
Dump Truck, 16 +/- CY			
Dump Truck, 20 +/- CY			
Dump Truck, 38 +/- CY			
Generator, 5.5 kW, List kW Capacity			
Generator, 200 kW, List kW Capacity			
Generator, 2,500 kW, List kW Capacity			
Light Plant with Fuel and Support			
Grader w/12’ Blade (Min. 30,000 LB)			
Hydraulic Excavator, 1.5 CY			
Hydraulic Excavator, 2.5 CY			
Knuckleboom Loader			
Lowboy Trailer w/Tractor			
Mobile Crane up to 15 Ton			
Pump, 95 HP (Minimum 25’ Intake and 200’ Discharge to Include Fuel and Support Personnel)			
Pump, 200 HP (Minimum 25’ Intake and 200’ Discharge to Include Fuel and Support Personnel)			
Pump, 650 HP (Minimum 25’ Intake and 200’ Discharge to Include Fuel and Support Personnel)			
Vac Truck (Mist Capacity), List Capacity			
Pickup Truck, 1 Ton			

Equipment Type With Operator	Estimated Hours	Hourly Labor Rate	Total
Skid-Steer Loader, 1,500 LB Operating Capacity (w/ utility grapple)			
Skid-Steer Loader, 2,500 LB Operating Capacity (w/ utility grapple)			
Compact Track Loader, 1,500 LB Operating Capacity (w/ utility grapple)			
Compact Track Loader, 2,500 LB Operating Capacity (w/ utility grapple)			
Tub Grinder, 800 to 1,000 HP			
Hydraulic Excavator, 1.5 CY (w/ thumb)			
Hydraulic Excavator, 2.5 CY (w/ thumb)			
Truck, Flatbed			
Articulated, Telescoping Scissor Lift for Tower, 15 HP/37 FT Lift			
Water Truck, 2500 Gal (Non-Potable, Dust Control and Pavement Maintenance)			
Wheel Loader, 3 CY, 152 HP			
Wheel Loader, 4.0 CY, 200 HP			
Wheel Loader-Backhoe, 1.5 CY, 95 HP			
Other – Please List			

Labor Category	Estimated Hours	Hourly Labor Rate	Hourly Labor Rate
Operations Manager w/Cell Phone and .5 Ton Pickup			
Crew Foreman w/Cell Phone and 1 Ton Equipment Truck w/Small Tools and Misc. Supplies in Support of Crew			
Tree Climber/Chainsaw and Gear			
Laborer w/Chain Saw			
Laborer w/Small Tools, Traffic Control, or Flag person			
Bonded and Certified Security Personnel			
Other – Please List			

Crew Category	Estimated Hours	Hourly Labor Rate	Total
Wheel Loader, 2.5 CY, 950 or Similar w/Operator, Foreman with Support Vehicle and Small Equipment, Laborer w/Chain Saw, and 2 Laborers w/Small Tools			
Other – Please List			

SCHEDULE 2 - UNIT RATE PRICE SCHEDULE

Reference to RFP Scope of Services Items 2 to 16. If a Proposer elects to "No Bid" individual service offerings, their proposal may be considered non-responsive by the City.

1	**ROW Vegetative Debris Removal** Work consists of the collection and transportation of eligible vegetative debris on the ROW or public property to City-approved DMS or City-approved final disposal site.	**Estimated Quantity**	**$ Per Cubic Yard**	**Total**	**$ Per Ton (Alternate)**
	0 to 15.99 miles	75,000			
	16 to 30.99 miles	120,000			
	31 to 60.99 miles	50,000			
	Greater than 61 miles	5,000			
2	**ROW C&D Debris Removal** Work consists of the collection and transportation of eligible C&D on the ROW or public property to City-approved DMS or City-approved final disposal site as approved by City.	**Estimated Quantity**	**$ Per Cubic Yard**	**Total**	**$ Per Ton (Alternate)**
	0 to 15.99 miles	25,000			
	16 to 30.99 miles	35,000			
	31 to 60.99 miles	15,000			
	Greater than 61 miles	1,000			

3	**Demolition, Removal, Transport and Disposal of Non-RACM Structures** Work consists of the decommissioning, demolition, and disposal of eligible Non-RACM structures on public or private property and hauling the resulting debris to City-approved final disposal site.	**Estimated Quantity**	**$ Per Cubic Yard**	**Total**	**$ Per Ton (Alternate)**
	0 to 15.99 miles	500			
	16 to 30.99 miles	500			
	31 to 60.99 miles	200			
	Greater than 61 miles	100			
4	**Demolition, Removal, Transport and Disposal of RACM Structures** Work consists of the decommissioning, demolition, and disposal of eligible RACM structures on public or private property and hauling the resulting debris to a City-approved final disposal site.	**Estimated Quantity**	**$ Per Cubic Yard**	**Total**	**$ Per Ton (Alternate)**
	0 to 15.99 miles	500			
	16 to 30.99 miles	500			
	31 to 60.99 miles	200			
	Greater than 61 miles	100			

5	**DMS Management and Operations** Work consists of managing and operating DMS for acceptance of eligible vegetative disaster-related debris. The costs associated with acquiring, preparing, leasing, renting, operating, and remediating land used as DMS is reflected in this bid.	**Estimated Quantity**	**$ Per Cubic Yard**	**Total**	**$ Per Ton (Alternate)**
		200,000			
6	**DMS Management and Reduction by Grinding** Work consists of managing and operating DMS for acceptance and reduction of eligible vegetative disaster-related debris through grinding. The costs associated with acquiring, preparing, leasing, renting, operating, and remediating land used as DMS is reflected in this bid.	**Estimated Quantity**	**$ Per Cubic Yard**	**Total**	**$ Per Ton (Alternate)**
		175,000			
7	**DMS Management and Reduction by Air Curtain Incineration** Work consists of managing and operating DMS for acceptance and reduction of eligible vegetative disaster-related debris through air curtain incinerators. The costs associated with acquiring, preparing, leasing, renting, operating, and remediating land used as DMS is reflected in this bid.	**Estimated Quantity**	**$ Per Cubic Yard**	**Total**	**$ Per Ton (Alternate)**
		25,000			
8	**Haul-Out of Reduced Debris to City-Approved Final Disposal Site** Work consists of loading and transporting reduced eligible disaster-related debris at City-approved DMS to City-designated final disposal site.	**Estimated Quantity**	**$ Per Cubic Yard**	**Total**	**$ Per Ton (Alternate)**
	0 to 15.99 miles	10,000			
	16 to 30.99 miles	15,000			
	31 to 60.99 miles	25,000			
	Greater than 61 miles	20,000			
9	**Removal of Hazardous Trees and Limbs**			**Total**	

Work consists of removing eligible hazardous trees or limbs and placing them on the safest possible location on the City ROW for collection under the terms and conditions of Scope of Services Item 2, Vegetative Debris Removal.	**Estimated Quantity**	**$ Per Tree**		
6-inch to 12.99-inch diameter	1,500			
13-inch to 24.99-inch diameter	1,000			
25-inch to 36.99-inch diameter	750			
37-inch to 48.99-inch diameter	300			
49-inch and larger diameter	100			
Hanger Removal (per Tree)	3,000			

SCHEDULE 2 - UNIT RATE PRICE SCHEDULE CONTINUED					
10	**Removal of Hazardous Stumps** Work consists of removing eligible hazardous stumps and transporting resulting debris from the ROW to an City approved DMS. Rate includes removal, backfill of stump hole, reduction, and final disposal. Stumps under 24" in diameter shall be paid at the Proposer's contracted rate for vegetative debris removal using the FEMA stump conversion table.	**Estimated Quantity**	**$ Per Stump**	**Total**	
	24.0-inch to 36.99-inch diameter	500			
	37-inch to 48.99-inch diameter	250			
	49-inch and larger diameter	50			
11	**ROW White Goods Debris Removal** Work consists of the removal of eligible white goods from the ROW to City-approved DMS site or City-approved facility for recycling. Proposer shall be responsible for recovering/disposing refrigerants as required by law, as well as unit decontamination in a contained area. Proposer shall also be responsible for the transportation of eligible white goods from the City-approved DMS to City-approved facility for recycling.	**Estimated Quantity**	**$ Per Unit**	**Total**	
	Refrigerators and freezers requiring refrigerant recovery and decontamination	250			
	Washers, dryers, stoves, ovens, AC units, and hot water heaters	500			
12	**Used Electronics Removal** Work consists of the recovery and disposal of disaster-damaged televisions, computers, computer monitors, and microwaves unless otherwise specified in writing by the City.	**Estimated Quantity**	**$ Per Unit**	**Total**	
		250			

13	**Household Hazardous Waste Removal, Transport, and Disposal** Work consists of the collection, transportation, and disposal of HHW from the ROW to an City-approved permitted hazardous waste facility or MSW Type I landfill.	**Estimated Quantity**	**$ Per Pound**	**Total**	
		10,000			
14	**Abandoned Vehicle Removal** Work consists of the removal and transport of eligible abandoned vehicles.	**Estimated Quantity**	**$ Per Unit**	**Total**	
	Passenger Car	50			
	Single Axle	25			
	Double Axle	25			
15	**Abandoned Vessel Removal** Work consists of the removal and transport of eligible abandoned vessels.	**Estimated Quantity**	**$ Per Unit**	**Total**	
	Vessels less than 20 linear feet	75			
	Vessels 21 linear feet and greater	50			
16	**Dead Animal Carcasses** Work consists of the recovery and disposal of dead animal carcasses.	**Estimated Quantity**	**$ Per Pound**	**Total**	
		50			
	Total	**$ _____**			

Appendix E
CONTRACTOR, DISPOSAL, AND RECYCLING CONTACTS

Table 1
Debris Hauling Firms

	Company Name	Company Contact	Phone	Email	Address
1					
2					

Table 2
Franchise Waste Haulers

	Company Name	Company Contact	Phone	Email	Address
1	Community Waste Disposal (CWD)	Customer Service	972-392-9300	customerservice@cwd.to	2010 California Crossing Road Dallas, TX 75220

Table 3
Debris Monitors

	Company Name	Company Contact	Phone	Email	Address
1					
2					

Table 4
Potential Final Disposal Locations

	Site Name	Type	Market	Operator	Location/Phone
1	Hunter Ferrell Landfill	1	Municipal solid waste	City of Irving	200 West Hunter Ferrell Road Irving, TX 972-721-8059
2	City of Grand Prairie Landfill	1	Municipal solid waste	City of Grand Prairie	1102 MacArthur Blvd. Grand Prairie, TX 972-287-8157
3	City of Arlington Landfill	1	Municipal solid waste, e-waste, appliances, scrap metal	Republic Services	800 Mosier Valley Road Euless, TX 76040 817-354-2300
4	Lewisville Landfill	4	Construction and demolition, concrete, asphalt	Republic Services	801 East College Street Lewisville, TX 972-436-4217
5	Camelot Landfill	1	Municipal solid waste, construction and demolition,	City of Farmers Branch	580 Huffines Blvd Lewisville, TX 75067 972-492-3888

	Site Name	Type	Market	Operator	Location/Phone
			concrete, medical waste, asphalt, contaminated soil.		
6	DFW Recycling and Disposal Facility	1	Municipal solid waste	Waste Management	1600 S Railroad St, Lewisville, TX 75057 (972) 316-2276
7	Fort Worth Southeast Landfill	1	Municipal solid waste	Republic Services	6288 Salt Rd Fort Worth, TX 76140 (817) 478-6462

Table 5
Recycling Resources

	Site Name	Market	Operator	Location/Pnone
1	City of Arlington Landfill	Municipal solid waste, e-waste, appliances, scrap metal	Republic Services	800 Mosier Valley Road Euless, TX 76040 817-354-2300
2	Living Earth Arlington	Tree limbs, brush, leaves, grass clippings, wood chips, animal manure, wood wastes, and sawdust.	Living Earth	800 Mosier Valley Road Euless, TX 76040 (214) 251-6957
3	Living Earth Southeast Fort Worth	Tree limbs, brush, leaves, grass clippings, wood chips, animal manure, wood wastes, and sawdust.	Living Earth	6288 Salt Rd Forest Hill, TX 76140 (214) 783-6055
4	United Electronic Recycling	Computers, network and communications equipment, TVs, monitors. wires, cables, household appliances, microwaves, and batteries. Note: Refrigerant must be removed from appliances prior to acceptance.	United Electronic Recycling	505 Airline Dr Coppell, TX 75019 (855) 837-8326
5	DFW Reclaimers, Inc.	Computers, laptops, servers, printers, monitors, telecommunications equipment, wires, cables, audio visual equipment, household appliances (refrigerant recovery fee applies if refrigerant to be removed)	DFW Reclaimers, Inc.	6016 Denton Highway, Suite 400 (Rear Warehouse) Watauga, TX 76148 817-291-1067

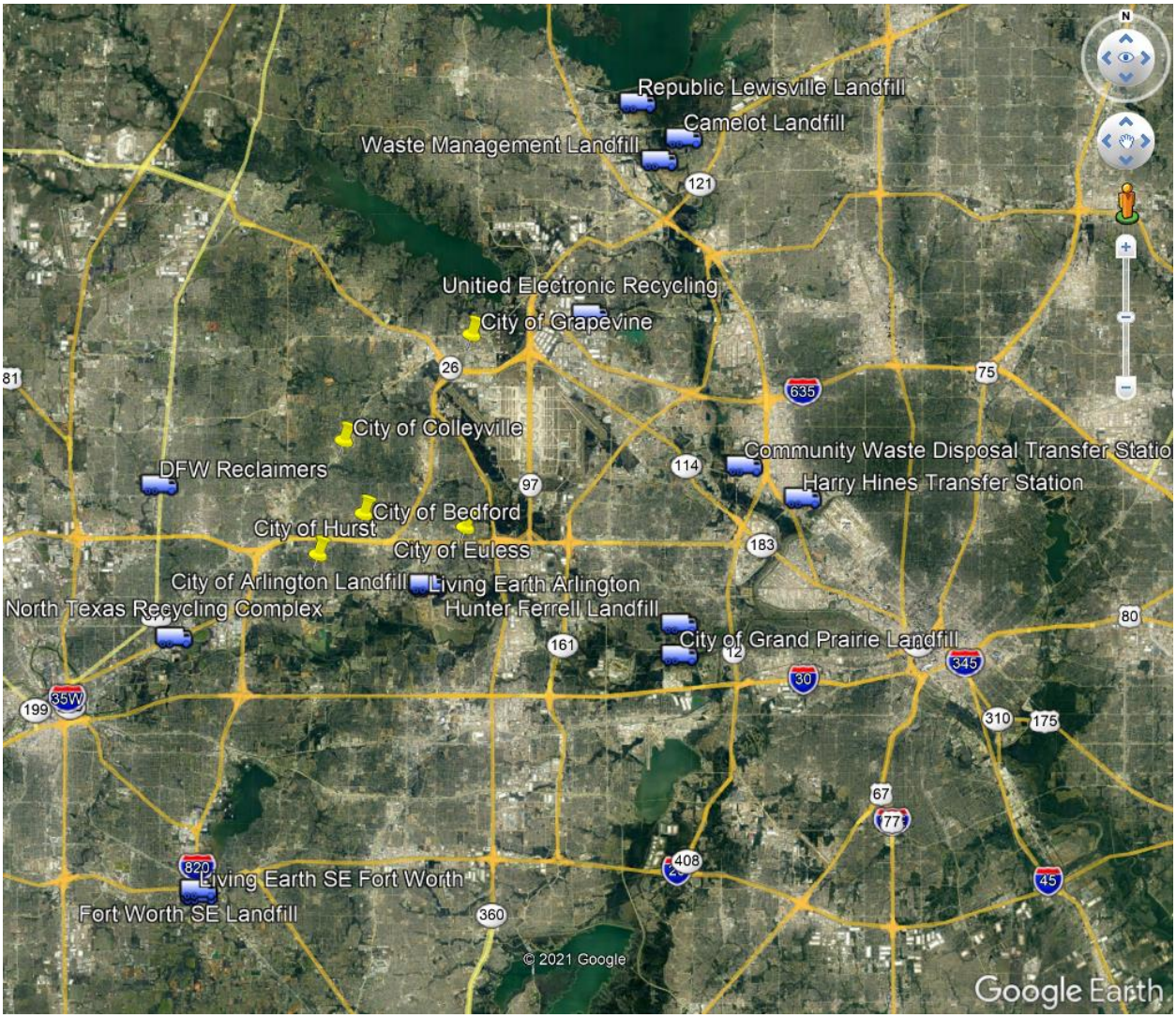
Table 6
Transfer Stations

	Site Name	Market	Operator	Location/Phone
1	Community Waste Disposal	Municipal solid waste, paper, glass, plastic, steel, aluminum, cardboard, and paperboard.	Community Waste Disposal	2010 California Crossing Road Dallas, TX
2	City of Dallas Northwest Transfer Station	Municipal solid waste, recyclables, electronics, scrap metal, and tires.	City of Dallas	9500 Harry Hines Blvd Dallas, TX

	Site Name	Market	Operator	Location/Phone
	North Texas Recycling Complex	Paper products, cardboard, glass, aluminum, and other materials	Republic Services	6100 Elliott Reeder Road Fort Worth, TX

Figure 1

Map of Landfills, Transfer Stations and Recycling Facilities



City of Colleyville, Texas

Disaster Debris Management Plan

Debris Management Site Report

April 2021

Table of Contents

SECTION 1
INTRODUCTION

The purpose of this report is to identify logistically effective locations throughout the City of Colleyville, Texas (City), to serve as debris management sites (DMS) following a debris-generating incident. A three-step process was used to identify DMS locations throughout the City. First, City staff identified potential sites as DMS locations. Second, representatives from the City and Tetra Tech, Inc., surveyed the sites identified by the City. The purpose of the surveys is to further investigate the appropriateness of each site and obtain information not available in jurisdiction records that would potentially preclude the use of the locations as DMS locations, including pre-existing structures, open water sources, wooded lots, or lack of ingress/egress. Finally, Tetra Tech developed this report with information and diagrams showing how each site can be used as a DMS.

Prior to using a DMS, the Texas Commission on Environment Quality (TCEQ) must be notified. They will consider the ability of these sites to protect public health; prevent land, air, and water pollution; and conserve natural, economic, and energy resources. They may also include DMS requirements such as control of odors and vectors, surface water run-on and run-off control, fencing, and adequate setbacks.

SECTION 2
CRITERIA FOR ELIGIBILITY

The following criteria were used to evaluate potential DMS locations:

A. Public-Owned Property

The advantage of using public-owned properties is eliminating potential costs associated with acquiring, leasing, or operating on private property. Privately owned property can be used by the City if there are no public-owned sites available. An agreement can be executed between the City and the private property owner to use the site as a DMS.

B. 5-Acre Requirement

Preference was given to public-owned properties that were at least 5 acres in size. Sites smaller than 5 acres received a reduction in DMS criteria ranking. Sites smaller than 5 acres are generally too small to properly accommodate debris staging and reduction operations but can be utilized if necessary.

C. Proximity to High Population Density

The proximity of the surveyed sites to neighborhoods, schools, businesses, high traffic thoroughfares, and other areas of high population density were carefully evaluated. DMS locations near high population densities increase traffic congestion and create logistical and safety hazards for the community, especially immediately following an incident.

D. Ingress/Egress

Safe and adequate ingress and egress of the sites along with efficient road access to routes leading to and from the sites are critical to ensure efficient operation and turnaround of debris collection vehicles.

E. Adherence to All Local, State, and Federal Rules, Regulations, and Ordinances

DMS operations must adhere to local, county, state, and federal rules and regulations, including those pertaining to environmental quality and noise control. Though some disposal regulations are lifted following a state of emergency, it is critical that all DMS operations meet Occupational Safety and Health Administration (OSHA) safety requirements as well as the operational procedures outlined by the TCEQ and any other relevant environmental regulatory agencies.

F. Proximity to Natural Running Water or Potable Water Wells

Before a DMS can be permitted for use, TCEQ must be notified and provide approval. The presence of any natural stream, creek, pond, or lake as well as any potable water wells can hinder the permitting of a property.

SECTION 3
DMS RANKING TIER CATEGORIES

Tier 1 Qualifications

- Public property
- Sufficient acreage to support debris storage and reduction activities
- Minimal to no site preparation requirements
- Well-drained; strong soil integrity
- Property topography is flat
- No open water sources
- Proximity to densely populated areas
- Centrally or strategically located to support debris collection zones
- Excellent ingress and egress to the site(s)
- Excellent supporting road infrastructure
- No observable or traceable environmental or historical issues
- Site(s) are secure or could be secured easily

Tier 2 Qualifications

- Public property or would require land use agreement with private/public landowner
- Ample acreage to support debris storage and reduction activities
- Minimal to moderate site preparation requirements (i.e., removal of fencing, bleachers, etc.)
- Property topography is flat or slightly hilly/bumpy
- No open water sources or water sources meet setback requirements
- Site(s) may be located on the outskirts or rural areas of the City
- Site(s) may not be sufficiently spaced to support debris collection zones
- Sufficient ingress and egress to the site(s)
- Sufficient supporting road infrastructure
- Site(s) may have some potential environmental or historical issues (i.e., 100-year flood plain)
- Site(s) could be secured with temporary fencing
- Moderate negative impact on community use of site during operations

Tier 3 Qualifications

- Private property
- Use of site(s) requires land agreements and/or has associated leasing costs
- Insufficient acreage to support debris storage and reduction activities
- Use of site(s) requires moderate to intense site preparation
- Property topography is slightly hilly/bumpy
- Site(s) contain open water sources
- Site(s) are located on the outskirts or rural areas of the City
- Location of site(s) does not support debris collection zones
- Insufficient ingress and egress to the site(s)
- Poor supporting road infrastructure
- Sites(s) have potential environmental or historical issues (i.e., Superfund Site)
- Site(s) require intensive effort/labor to be secured
- Significant impact on the community

Residential Drop-Off Sites

Residential drop-off (RDO) sites provide residents with an alternate means of disposing their disaster-generated debris. RDOs give residents the opportunity to self-haul their disaster debris to a jurisdiction-maintained and managed staging area for future pick-up by jurisdiction crews or contractors. Typically, these sites do not lend themselves for use as DMS locations due to their size, need for site preparation, or current land uses.

SECTION 4
DEBRIS MANAGEMENT SITE ANALYSIS

Using the criteria described above as well as data gathered during site surveys, the following locations are recommended as initial DMS locations.

Tier 1 Debris Management Sites

The Tier 1 DMS locations are best suited for activation for debris management operations following a disaster. Based on the guidance described in Federal Emergency Management Agency (FEMA) Publication 325 – Debris Management Guide, Tier 1 sites exhibit traits that allow these areas to easily become operational while minimizing negative impacts to the environment and community.

A. McPherson Park

McPherson Park is located at 240 West McDonwell School Road in Colleyville. The park is owned and maintained by the City of Colleyville. Park amenities include baseball fields, basketball courts, a garden, a splash pad, and a pavilion. The park also has a water feature with a fountain.

The areas of the park being considered for use as a DMS consist of 4 acres near the front of the park (closest to West McDonwell School Road) and 7.5-acres in the back of the park. The land in the park is slightly hilly and has a few trees that dot the landscape. The park is bordered by residences on all sides. In addition, there is a fire station on the south edge of the park.

There is access to electricity, water, and sewer, and there is lighting on the parking lots and driveway. The park has good drainage. Ingress for trucks hauling debris could be achieved via West McDonwell School Road. There is no site security or fencing. Given the proximity to residences, there is no buffer to aid in noise control. This will be a consideration in determining how DMS operations may disrupt residents and determining hours of operations.

The park could be used for construction and demolition as well as vegetative debris. Grinding could be used to reduce the vegetative debris. The park may also be used to temporarily store white goods until the refrigerant can be removed so the white goods can be recycled.

To prepare the park for DMS operations, temporary fencing will be needed to keep park-goers from entering DMS operation areas. See the site evaluation worksheet, DMS layout diagram, and photos starting on page 8.

Tier 2 Debris Management Sites

Based on the property investigations, Tier 2 sites lack some traits of Tier 1 sites or exhibit problems that would make them less attractive to use as DMS following a debris-generating incident. Criteria such as not being owned by the City, lack of size, site preparation

requirements, historical considerations, location within a 100-year flood plain, or designation as a Superfund site can contribute to a lower ranking.

Tier 2 sites should only be considered if Tier 1 sites are unavailable following an incident.

B. Reagan Park

Reagan Park is located at 703 West L.D. Lockett Road in Colleyville. The park is owned and maintained by the City of Colleyville. Park amenities include ball fields, batting cages, and equipment storage. The area of the park being considered for DMS operations is the ball fields, which occupy approximately 2.5 acres. Residences border the park to the west and east, a City-operated pump station lies to the north, and land belonging to the Federal Aviation Administration (FAA) is adjacent to the park to the south.

There is access to electricity, water, and sewer, and there is lighting for the fields. The park has good drainage. Ingress for trucks hauling debris could be achieved via West L.D. Lockett Road. There is no site security, but there is a gate that can be closed and locked to prevent vehicles from entering. Given the proximity to residences, there is no buffer to aid in noise control. This will be a consideration in determining how DMS operations may disrupt residents and determining hours of operations.

Given the limited acreage, DMS operations would be limited to vegetative debris at the park. Grinding could be used to reduce the vegetative debris. See the site evaluation worksheet, DMS layout diagram, and photos starting on page 11.

C. Public Works Yard

The Public Works Yard is located at 1601 Hall-Johnson Road in Colleyville. The Public Works Yard is owned and maintained by the City of Colleyville. The Public Works Yard houses Public Works offices and provides space for storage of equipment and supplies. Residences border the yard to the west, south, and east. A cemetery lies to the north across the street. The area of the yard being considered for DMS operations consists of approximately 2 acres.

There is access to electricity, water, and sewer, and there are lights on the building that point out toward the yard. There is no site security, but there is a gate that can be closed and locked to prevent vehicles from entering. Ingress for trucks hauling debris could be achieved via Hall-Johnson Road. There is a ditch that runs through the yard that drains into Little Bear Creek. Depending on what is stored on the property, it might be necessary to take measures to prevent run-off into the ditch. Given the proximity to residences, there is no buffer to aid in noise control. This will be a consideration in determining how DMS operations may disrupt residents and determining hours of operations.

Given the limited acreage, DMS operations would be limited to vegetative debris in the yard or a limited amount of construction and demolition debris. Grinding could be used to reduce the vegetative debris. See the site evaluation worksheet, DMS layout diagram, and photos starting on page 14.

SECTION 5
DEBRIS MANAGEMENT SITE EVALUATIONS

McPherson Park

DATE OF SITE INVESTIGATION: 3/11/2021

OWNERSHIP OF PROPERTY (CHECK ONE): Municipal Property ☒ County Property ☐ Private Property ☐

Other Ownership (describe) ☐ _____

PROPERTY NAME: McPherson Park

PROPERTY ADDRESS: 240 West McDonwell School Road, Colleyville, Texas 76034

COORDINATES: 32°54'16.96"N, 97°10'11.56"W

PROPERTY OWNER'S NAME: City of Colleyville

PROPERTY POINT OF CONTACT: Lisa Escobedo, Parks Director

PROPERTY POINT OF CONTACT PHONE NUMBER: 817-503-1183

PROPERTY POINT OF CONTACT E-MAIL ADDRESS: lescobedo@colleyville.com

ESTIMATED PROPERTY SIZE: Approximately 11.5 acres DMS (4 acres in front, 7.5 in back)

CHARACTERIZATION OF NEIGHBORING PROPERTIES	
EVALUATION FACTOR	**COMMENTS**
Property current land use	**A park with baseball fields, basketball courts, garden, splash pad, and a pavilion**
Any proposed future land uses	**There are currently no plans for additional development.**
Environmental considerations	**None**
Historical considerations	**None**
Located in a flood plain	**No**
Zoning considerations	**None**
Proximity to schools, churches, and community centers	**Residences on all sides plus a fire station south edge of the park**
Property topography	**Mostly flat**
Open water sources	**There is a water feature with fountain on the southeast edge of the park.**
Ground water wells	**None**
Access to electricity, sewer, and water	**Electricity, sewer, and water available**
Soil integrity	**Black clay**
Water sampling	**Water feature**
Surface water drainage	**Good drainage**
Prevailing wind direction	**Wind is most often from the south for 11 months, from February 4 to December 22. The wind is most often from the north for 1.4 months, from December 22 to February 4. (WeatherSpark.com)**
Ingress/egress	**From West McDonwell School Road**
Lighted area	**Only lighting is on parking lot and driveway**
Site security	**No security, no fences, and no cameras**

Buffer distance for noise control	**No buffer for noise control**
Property development	**No further development anticipated**
Property adjacent to airport/airfield	**No.**
Site able to handle large volume of trucks	**Yes**

SITE PREPARATION: High_____ Medium__X___ Low_____ (Some temporary fencing will be needed to keep park goers from entering DMS operation areas.)

SUITABILITY TO WET WEATHER: High__X___ Medium_____ Low_____

ABILITY TO SERVE A SPATIAL AREA: High__X___ Medium_____ Low_____

SITE ACCEPTABILITY FOR WHAT TYPE OF REDUCTION METHOD (CHECK APPLICABLE METHOD(S)):

Open Burning: No

Air Curtain Incineration: No

Grinding: Yes

THIS SITE IS RECOMMENDED FOR:

_____ C&D

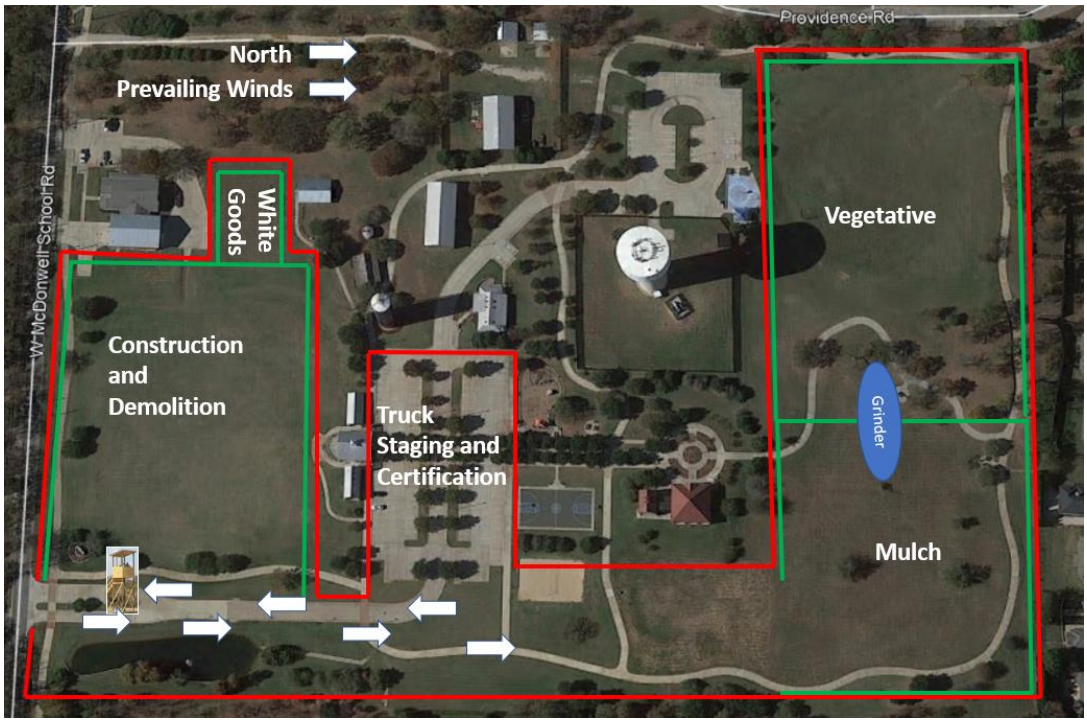
_____ Vegetative

___X__Both C&D and Vegetative

___X__White Goods

_____ Other (Describe:_____)

POTENTIAL LAYOUT OF SITE:



Photos of the McPherson Park

Reagan Park

DATE OF SITE INVESTIGATION: 3/11/2021

OWNERSHIP OF PROPERTY (CHECK ONE): Municipal Property ☒ County Property ☐ Private Property ☐

Other Ownership (describe) ☐ _____

PROPERTY NAME: Reagan Park

PROPERTY ADDRESS: 709 West L.D. Lockett Road, Colleyville, Texas 76034

COORDINATES: 32°53'27.15"N, 97°10'44.36"W

PROPERTY OWNER'S NAME: City of Colleyville, Texas

PROPERTY POINT OF CONTACT: Lisa Escobedo, Parks Director

PROPERTY POINT OF CONTACT PHONE NUMBER: 817-503-1183

PROPERTY POINT OF CONTACT E-MAIL ADDRESS: lescobedo@colleyville.com

ESTIMATED PROPERTY SIZE: Approximately 2.5 acres DMS area.

CHARACTERIZATION OF NEIGHBORING PROPERTIES	
EVALUATION FACTOR	**COMMENTS**
Property current land use	**Ball fields, batting cages, and equipment storage**
Any proposed future land uses	**None**
Environmental considerations	**None**
Historical considerations	**None**
Located in a flood plain	**No**
Zoning considerations	**None**
Proximity to schools, churches, and community centers	**Pump station to the north, Federal Aviation Administration (FAA) facility/equipment to the south, residences to the west and east.**
Property topography	**Flat**
Open water sources	**None**
Ground water wells	**None**
Access to electricity, sewer, and water	**Yes, there is access to water, electrical, and sewer.**
Soil integrity	**Black clay**
Water sampling	**NA**
Surface water drainage	**Good drainage**
Prevailing wind direction	**Wind is most often from the south for 11 months, from February 4 to December 22. The wind is most often from the north for 1.4 months, from December 22 to February 4 (WeatherSpark.com). I**
Ingress/egress	**From West L.D. Lockett Road**
Lighted area	**Lighting on fields**
Site security	**No site security but gates into the park can be locked**
Buffer distance for noise control	**No buffer.**
Property development	**No additional development anticipated**
Property adjacent to airport/airfield	**No**
Site able to handle large volume of trucks	**No**

SITE PREPARATION: High_____ Medium_____ Low__X__

SUITABILITY TO WET WEATHER: High____ Medium__X___ Low_____

ABILITY TO SERVE A SPATIAL AREA: High_____ Medium_____ Low__X___

SITE ACCEPTABILITY FOR WHAT TYPE OF REDUCTION METHOD (CHECK APPLICABLE METHOD(S)):

Open Burning: No

Air Curtain Incineration: No

Grinding: Yes

THIS SITE IS RECOMMENDED FOR:

_____ C&D

__X____Vegetative

_____Both C&D and Vegetative

_____White Goods

_____ Other (Describe_____)

POTENTIAL LAYOUT OF SITE:

Photos of Reagan Park DMS

Public Works Yard

DATE OF SITE INVESTIGATION: 3/11/2021

OWNERSHIP OF PROPERTY (CHECK ONE): Municipal Property ☒ County Property ☐ Private Property ☐

Other Ownership (describe) ☐ _____

PROPERTY NAME: Public Works Yard

PROPERTY ADDRESS: 1601 Hall-Johnson Road, Colleyville, Texas 76034

COORDINATES: 32°53'31.86"N 97°08'32.34"W

PROPERTY OWNER'S NAME: City of Colleyville, Texas

PROPERTY POINT OF CONTACT: Ray Silva-Reyes, Director of Public Works

PROPERTY POINT OF CONTACT PHONE NUMBER: 817-503-1096

PROPERTY POINT OF CONTACT E-MAIL ADDRESS: rsilvareyes@colleyville.com

ESTIMATED PROPERTY SIZE: Approximately 2 acres DMS

CHARACTERIZATION OF NEIGHBORING PROPERTIES	
EVALUATION FACTOR	**COMMENTS**
Property current land use	**Public works office, storage, and staging facility**
Any proposed future land uses	**No further development on the property anticipated.**
Environmental considerations	**There is a ditch in the yard that runs into Little Bear Creek.**
Historical considerations	**None**
Located in a flood plain	**No**
Zoning considerations	**None**
Proximity to schools, churches, and community centers	**Residencies border the property to the west, south, and east; cemetery lies to the north across the street.**
Property topography	**Slightly hilly**
Open water sources	**There is a ditch on the property that drains into Little Bear Creek.**
Ground water wells	**None**
Access to electricity, sewer, and water	**There is access to electricity, water, and sewer.**
Soil integrity	**Black clay.**
Water sampling	**None**
Surface water drainage	**Good drainage**
Prevailing wind direction	**Wind is most often from the south for 11 months, from February 4 to December 22. The wind is most often from the north for 1.4 months, from December 22 to February 4. (WeatherSpark.com)**
Ingress/egress	**From Hall-Johnson Road**
Lighted area	**There are lights on the building that point out toward the yard.**
Site security	**No security, but the yard is fenced, and the gate can be closed and locked.**
Buffer distance for noise control	**Very little distance for noise control. Residences are adjacent to the property.**
Property development	**The area being proposed for DMS is not developed but is used for storing dirt, rock, and other materials.**
Property adjacent to airport/airfield	**No**

Site able to handle large volume of trucks	**No**

SITE PREPARATION: High_____ Medium_____ Low__X___ (Depending on what is stored on the property, it might be necessary to take measures to prevent run off into the ditch.)

SUITABILITY TO WET WEATHER: High__X___ Medium_____ Low_____

ABILITY TO SERVE A SPATIAL AREA: High_____ Medium_____ Low___X__

SITE ACCEPTABILITY FOR WHAT TYPE OF REDUCTION METHOD (CHECK APPLICABLE METHOD(S)):

Open Burning: No

Air Curtain Incineration: No

Grinding: Yes

THIS SITE IS RECOMMENDED FOR:

_____ C&D

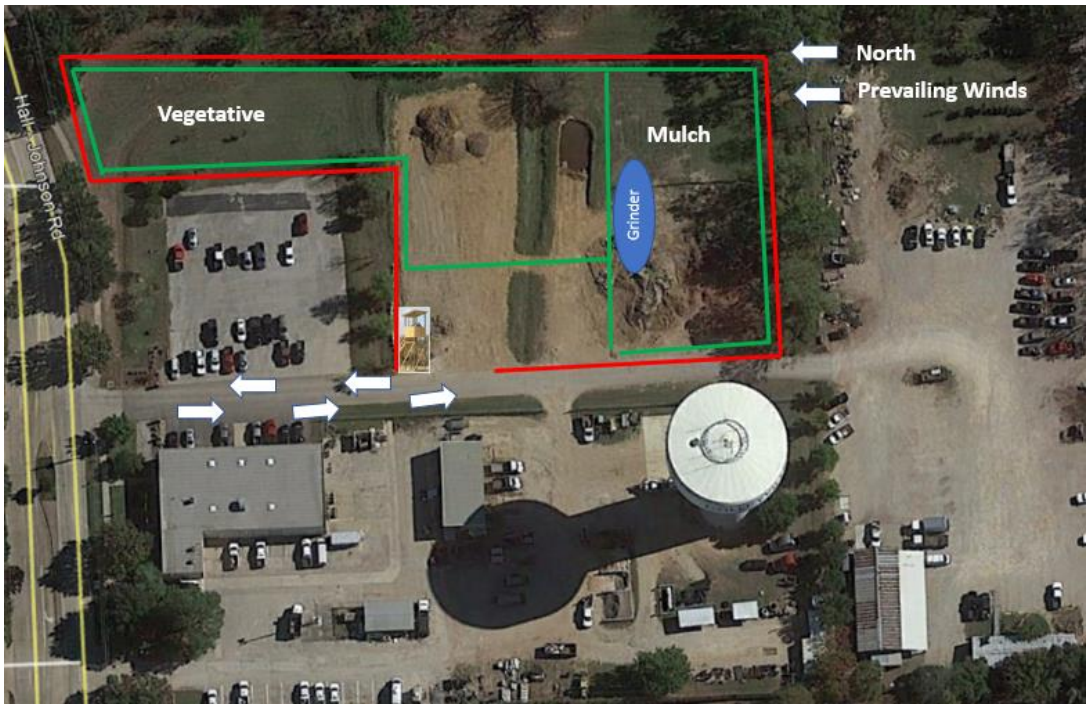
__X___Vegetative

_____Both C&D and Vegetative

_____White Goods

_____ Other (Describe_____)

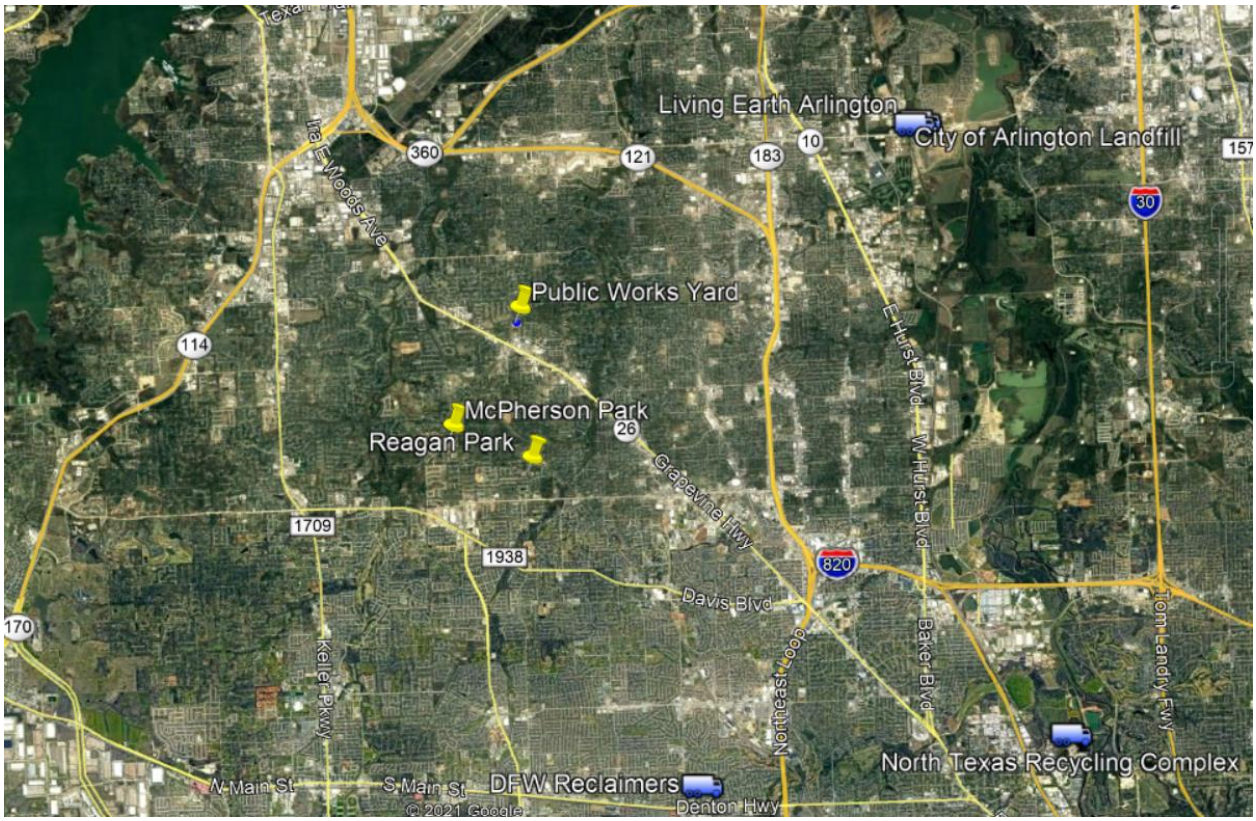
POTENTIAL LAYOUT OF SITE:



Photos of the Public Works Yard

SECTION 6
DEBRIS MANAGEMENT SITE AND LANDFILL MAP

Diagram Showing the DMS, Landfills, and Recycling Sites



Pushpin symbols represent DMS.

Truck symbols represent landfills or recycling sites.

Appendix G
SAMPLE DMS MEMORANDUM OF AGREEMENT

This Memorandum of Agreement made and entered into this _____ day of _____ 2020, by and between (hereinafter "OWNER"), and the City of Colleyville, Texas (hereinafter "(CITY") (collectively referred to hereinafter as "the Parties").

WHEREAS, the CITY has a debris management plan for the removal, reduction, and disposal of large volumes of debris from public property following large scale disasters; and

WHEREAS, pursuant to the CITY debris management plan, the CITY may or may not enter into an agreement with one or more contractor(s) to manage and operate the removal, reduction, and disposal of disaster generated debris depending on the severity of the incident; and

WHEREAS, OWNER is the owner of a tract of land in **JURISDICTION OF TRACT OF LAND** (hereinafter "the Property"), more particularly described in Exhibit A attached hereto; and

WHEREAS, the CITY has identified the Property owned by OWNER as a suitable location for a Debris Management Site ("DMS"), to be used by the CITY in the event of a disaster necessitating debris removal, reduction, and disposal; and

WHEREAS, the CITY and the OWNER have agreed to cooperate toward establishment of a DMS to be used by the CITY, or its designees, in the event of emergency assistance efforts requiring debris removal, reduction, and disposal in the City of Colleyville.

Now therefore, the Parties agree as follows:

I. PROPERTY

The Property, as shown and identified as DMS on Exhibit A, constitutes approximately ____ acres available for DMS operations. The physical location of the site is: _____ and is a portion of property owned by OWNER identified as: _____ Real Estate ID#: _____.

II. TERM

Subject to early termination as permitted by Section V herein below, this Agreement shall be for a term of _____ from the date of the Agreement without regard to the Commencement Date (as hereinafter defined).

III. AGREEMENT

OWNER, subject to the terms and conditions set forth herein, hereby agrees to the use of the Property by the CITY for purposes of staging, storing, reducing, and properly disposing of disaster generated debris following a natural or man-made event.

IV. CITY OBLIGATIONS

a. Obtain, or cause to be obtained, all required local, state, and federal permits for the operation of a DMS;

b. Install, or caused to be installed, if necessary, a temporary access road (of gravel, graded dirt, or other temporary material) for access of debris hauling vehicles to the Property;

c. Manage, or cause to be managed, the DMS during the entire period of CITY use;

d. Remove, or cause to be removed, all debris, vehicles, equipment, and temporary structures located on the property which were placed thereon by the CITY, its employees, agents, contractors, subcontractors, and representatives;

e. Restore, or cause to be restored, the property to the property's pre-use condition prior to the return of use of property to the OWNER;

f. Perform, or cause to be performed, soil testing and abatement of any hazards created on the property as a direct result of CITY use as required under local, state, and federal law prior to the closing of the debris site and return of use of the property to the OWNER;

g. Repair, or cause to be repaired, any damage to the property, including buildings and structures located on the property, caused as a direct result of CITY use of the property; in lieu of making or causing to make repair, the CITY may compensate OWNER for the cost of said repair upon agreement of both parties.

V. OWNER OBLIGATIONS

a. Take no action that renders the Property unusable as a temporary disaster debris disposal site as determined by the CITY;

b. Upon notification (either verbal or in writing) by the CITY of the CITY'S intent to make use of some or all of the Property as a DMS under the terms and conditions of this Agreement, to make as much of the Property as deemed necessary by the CITY immediately available to the CITY, and to immediately remove all personal property (including, but not limited to vehicles and equipment) from those portions of the Property identified by the CITY for use;

c. Not interfere in any manner with CITY-controlled debris management operations during the period of the CITY'S use of the Property under the terms and conditions of this Agreement.

VI. COMMENCEMENT DATE

The CITY will initiate DMS operations immediately preceding an event anticipated to generate debris within the CITY, or immediately following an event that generated debris within the CITY. The CITY will activate this Agreement through verbal notification to the OWNER, followed by written notification transmitted by United States mail as certified or registered mail, return receipt requested, postage paid, and addressed to OWNER. The "Commencement Date" shall be the date upon which notification is verbally provided by the CITY to OWNER.

VII. ASSIGNMENT

OWNER shall not sell or in any way assign, transfer, or encumber his control of the Property without prior written notification to the CITY.

VIII. COMPENSATION

The parties agree that no compensation will be rendered for the use of the Property by the CITY. The CITY, or its designee(s), shall be responsible for restoring the Property to its original state.

IX. DMS OPERATIONS

The CITY, or its designee(s), will establish, operate, and monitor Debris Management Site ("DMS") operations from the time of activation of this agreement through site restoration.

X. WORKING HOURS

Working hours for the DMS are only during daylight hours, seven days a week. Working hours may need to be adjusted to accommodate 24-hour operations depending on the severity of the incident.

XI. DEBRIS DISPOSAL

The CITY, or its designee(s), will properly, promptly and lawfully dispose of all waste, ash, and debris brought to or generated on the DMS.

XII. DEBRIS SOURCES

The debris stream entering the DMS may include debris generated in the unincorporated areas of _____ the CITY, areas within neighboring municipalities, and from road rights-of-way maintained by the Texas Department of Transportation (TXDOT). The CITY will coordinate with the TXDOT, and neighboring municipalities with regard to debris disposal at the CITY-operated DMS. The intention of this Agreement is to create an arrangement where TXDOT, and municipalities can deliver their debris to the DMS upon approval by the CITY and does not necessitate individual agreements between the OWNER and each entity.

XIII. NOTICES

Any notice or demand which by any provision of this agreement is required or allowed to be given by either party to the other shall be deemed to have been sufficiently given for all purposes when made in writing and sent in the United States mail as certified or registered mail, return receipt requested, postage paid, and addressed to the following respective addresses:

XIV. INDEMNIFICATION

The CITY agrees to indemnify and hold harmless OWNER from any claims, causes of action, administrative proceedings, and any and all other legal claims directly arising out of or relating to any damage, injury, loss, or other actions or omissions taken by CITY, its employees, agents, contractors, subcontractors, and representatives as a direct result of the CITY's use of the Property under the terms and conditions of the Agreement. The CITY shall not be liable for any damage, injury, loss, or other actions or omissions not taken by CITY, its employees, agents, contractors, subcontractors and representatives, including acts of third parties not operating at the direction of or under the control of CITY. Further, CITY shall not be liable for any injury, damage, or loss sustained by OWNER as a result of OWNER'S breach of the terms and conditions of this Agreement.

XV. TERMINATION

This Agreement shall be in effect from the last date written below until _____. This Agreement may be terminated by either party upon submission of a thirty-day advance written notice of termination. It is the intention of the Parties to discuss the renewal of this Agreement on an annual basis. Such renewals, if mutually agreed upon, shall be evidenced by an executed Supplemental Memorandum of Agreement. The Parties may choose to negotiate new or changed terms at the time of renewal.

OWNER: _____

_____

_____

CITY: _____

_____

_____

XVI. ENTIRE AGREEMENT

The OWNER and the CITY agree that this document constitutes the entire agreement between the two parties and may only be modified by a written mutual agreement signed by the parties. Modifications may be evidenced by facsimile signatures. Unless and until further modified, this agreement shall consist of this document and the following attachments or addenda: Exhibit A

XVII. GOVERNING LAW

Both parties agree that this Agreement shall be governed by the laws of the State of Texas.

This Agreement shall be effective on the date of the last signature below. CITY in witness whereof, the Parties have each executed this Agreement, this the ___ day of _____, **ENTER YEAR**.

OWNER

BY: _____
(Signature)

_____
(Print Name)

_____
(Title)

DATE: _____

Appendix G

CITY OF COLLEYVILLE

BY: _____
(Signature)

_____
(Print Name)

_____
(Title)

DATE: _____

WITNESS

BY: _____
(Signature)

_____
(Print Name)

_____
(Title)

DATE: _____

Appendix H
HEALTH AND SAFETY STRATEGY

Health and Safety Strategy

Purpose

The purpose of this health and safety strategy is to provide guidance regards to debris removal activities for the City of Colleyville, Texas (City). Ultimately, health and safety are the responsibility of City staff and contracted parties involved in debris removal activities. This document will outline some of the general steps necessary to provide a safe work environment for monitoring firm and debris removal contractors' employees. In addition, this document will identify some representative work hazards and the appropriate measures to reduce risk of injury.

1.0 Dissemination of Information

City staff with responsibilities in debris management as well as monitoring firm and debris removal contractors' project managers will be provided with this document and will be expected to disseminate the information and guidelines to their respective personnel. A copy of the document should be available for consultation. In addition, elements of the document will be reviewed periodically during the project to increase worker awareness.

2.0 Compliance

The monitoring firm and debris removal contractors' project managers are responsible for health and safety compliance of their respective personnel and subcontractors. Any crews or individuals that are not compliant shall be suspended from debris removal activities until the situation is remedied. Frequent offenders of safety policies and procedures will be dismissed from the project entirely.

3.0 Job Hazard Assessment

Though debris removal activities are fairly similar among events, assessing the particular hazards of each disaster is an important part of maintaining health and safety for the debris removal workers. At a minimum, the following areas of focus should be considered as part of job hazard assessment:

- **Disaster Debris** – Disasters that result in property damage typically generate large quantities of debris which must be collected and transported for disposal. The type of debris varies depending on the characteristics of the region (e.g., terrain, climate, dwelling and building types, population, etc.) and the debris-generating event (e.g. type, event strength, duration, etc.). In addition, the disaster debris produces a host of uneven surfaces, which must be negotiated.

- **Debris Removal** – Often the removal of disaster debris involves working with splintered, sharp edges of vegetative or construction material debris. Many disasters involve heavy rains or flooding. Consequently, disaster debris is damp and heavier than usual. As weights increase, so does the risk of injury.

- **Removal Equipment** – In most disasters, debris must be removed from the public right-of-way (ROW) to provide access for emergency vehicles and subsequent recovery efforts. Debris collection and removal requires the use of heavy equipment and power tools to trim, separate and clear disaster debris.

- **Traffic Safety** – The ROW is located primarily on publicly-maintained roads. As a result, much of the debris removal process takes place in traffic of varying levels of congestion. In addition, disasters often damage road signs, challenging safety on the road.

- **Wildlife Awareness** – Disasters are traumatic events for people as well as wildlife. Displaced animals, reptiles and insects pose a hazard to debris removal workers.

- **Debris Disposal** – After disaster debris is collected it is often transported to a Debris Management Site (DMS). Upon entry to a DMS, the monitoring firm will assess the volume of disaster debris being transported. The collection vehicle will then dispose of the disaster debris and the debris will be reduced either through a grinding operation or incineration. The DMS is a common area for injury. Response and recovery workers in this environment are more likely to be exposed to falling debris, heavy construction traffic, noise levels, dust and airborne particles from the reduction process.

- **Climate** – Debris-generating disasters often occur in areas or seasons with extreme weather conditions. The effects of temperature and humidity on physical labor must be monitored, and proper work-rest intervals must be assessed.

4.0 Administrative and Engineering Controls

The use of administrative and engineering controls can greatly reduce the threats to public health and safety in debris removal activities. Some common administrative and engineering controls used in the debris removal process are:

Collection Operations

- Conduct debris removal operations during daylight hours only.
- Limit cleanup operations to one side of the road at a time.
- Limit collection work under overhead lines.
- Inspect piles before using heavy equipment to remove them to ensure that there are no hazardous obstructions.
- Make sure that all collection vehicles have properly functioning lights, horns and backup alarms.
- Load collection vehicles properly (not overloaded or unbalanced).
- Cover and secure loads, if necessary.
- When monitoring the collection process, stay alert in traffic and use safe driving techniques.

Power Tools

- Inspect all power tools before use.

- Do not use damaged or defective equipment.
- Use power tools for their intended purpose.
- Avoid using power tools in wet areas.

Debris Reducing Machinery (Grinders/Wood Chippers)

- Do not wear loose-fitting clothing.
- Follow the manufacturer's guidelines and safety instructions.
- Guard the feed and discharge ports.
- Do not open access doors while equipment is running.
- Always chock the trailer wheels to restrict rolling.
- Maintain safe distances.
- Never reach into operating equipment.
- Use lock out/tag out protocol when maintaining equipment.

DMS/Disposal Operations

- Use jersey barriers and cones to properly mark traffic patterns.
- Use proper flagging techniques for directing traffic.
- Monitor towers must not exit into traffic and should have hand and guard rails to reduce trips and falls.
- Monitor towers must have properly constructed access stairways with proper treads and risers and proper ascent angle (4:1 height/width ratio).
- Monitor towers must be surrounded by jersey barriers which protect the tower and monitors from being struck by inbound or outbound collection vehicles.
- Monitor towers should be located upwind from dust and particulate generating activities.
- A water truck should spray the site daily to control airborne dust and debris.

5.0 Personal Protective Equipment

Personal Protective Equipment (PPE) is the last resort to providing a safe working environment for workers. PPE does not eliminate or even reduce hazards as administrative and engineering controls do. PPE works to reduce the risk of injury by creating a protective barrier between the individuals and work place hazards.

Proper use of PPE includes using PPE for its intended purpose. For example, using the wrong type of respirator might expose the worker to carcinogenic particulates. Properly fitting the equipment to the user may require examination by a medical professional. PPE that does not fit well will not provide maximum protection and will decrease the likelihood of the individual continuing to use the equipment. In addition, improper use may result in serious injury or death. The proper use of the equipment is outlined in detail in the manufacturer's instructions.

The following PPE may be applicable in standard ROW, Right-of-Entry (ROE), and vegetative and construction & demolition debris removal activities:

- **Head Protection** – Equipment designed to provide protection for an individual's head against hazards such as falling objects or the possibility of striking one's head against low hanging objects. PPE used to protect the head must comply with ANSI Z89.1-1986,

"American National Standard for Personnel Protection – Protective Headwear for Industrial Workers – Requirements."

- **Foot Protection** – Equipment designed to provide protection for an individual's feet and toes against hazards such as falling or rolling objects, objects that may pierce the sole or upper section of the foot, etc. PPE used to protect the feet and toes must comply with ANSI Z-41-1991, "American National Standard for Personal Protection – Protective Footwear."

- **Hand Protection** – Equipment designed to provide protection for an individual's hands against hazards such as sharp or abrasive surfaces. The proper hand protection necessary is dependent upon the situation and characteristics of the gloves. For instance, specific gloves would be used for protection against electrical hazards while the same gloves may not be appropriate in dealing with sharp or abrasive surfaces.

- **Vision/Face Protection** – Equipment designed to provide protection for an individual's eyes or face against hazards such as flying objects. PPE used to protect eyes and face must comply with ANSI Z87.1-1989, "American National Standard Practice for Occupational and Educational Eye and Face Protection." Again, the proper eye/face protection necessary is dependent upon the situation and characteristics of the equipment. For instance, eye and face protection used by individuals who are welding may not be appropriate for individuals operating a wood chipper.

- **Hearing Protection** – Equipment designed to provide protection for an individual's hearing against prolonged exposure to high noise levels. According to OSHA, the permissible level of sound is an average of 90 decibels over the course of an eight (8) hour work day. Above the sound exposure level, hearing protection is required. PPE used to protect hearing must comply with ANSI S3.19-1974, "American National Standard Practice for Personal Protection – Hearing Protection."

- **Respiratory Protection** – Equipment designed to provide protection for an individual's respiratory system against breathing air contaminated with hazardous gases, vapors, airborne particles, etc. PPE used to protect the respiratory system must comply with ANSI Z88.2-1992. In addition, the use of respiratory protection requires a qualitative fit test and in some cases a pulmonary fit test by a licensed medical professional.

6.0 PPE Debris Removal Activity

PPE requirements are made based upon the results of the job hazards assessment. The following list of PPE is organized by debris removal activity and is meant to be a representative list. Specific PPE requirements vary from location to location. In general, individuals involved in the debris removal process should personally monitor water consumption to avoid dehydration and use appropriate skin protection (breathable clothes, light colors, sunscreen, etc.). Ultimately, the selection of PPE is the responsibility of the monitoring firm and debris removal contractors' project managers.

Debris Collection Monitoring

The hazards of disaster debris collection monitoring include, but are not limited to: struck by vehicles, falls or trips on uneven surfaces, cuts, abrasions or punctures from vegetative or C&D sharps. PPE requirements include:

- Reflective vest;
- Foot protection (rugged shoes or boots, steel toe and shank if required); and
- Long pants.

Debris Disposal Monitoring

The hazards of disaster debris disposal monitoring include, but are not limited to: struck by or caught in/between vehicles, falls or trips on stairs or uneven surfaces, cuts, abrasions or punctures from vegetative or C&D sharps and struck by falling disaster debris. Monitor towers must be equipped with a first aid kit. PPE requirements include:

- Reflective vest;
- Foot protection (rugged shoes or boots, steel toe if required);
- Long pants; and
- Hard Hat.

Debris Removal

The hazards of disaster debris removal include, but are not limited to: struck by vehicles, falls or trips on uneven surfaces, cuts, abrasions or punctures from vegetative or C&D sharps and airborne debris. In addition, PPE requirements include:

- Reflective vest
- Vision and hearing protection
- Foot protection (rugged shoes or boots, steel toe and shank if required)
- Long pants

Debris Disposal and Reduction

The hazards of disaster debris disposal and reduction include, but are not limited to: struck by or caught in/between vehicles, falls or trips on uneven surfaces, cuts, abrasions or punctures from vegetative or C&D sharps, struck by falling disaster debris and airborne particles. PPE requirements include:

- Reflective Vest
- Foot protection (rugged shoes or boots, steel toe if required)
- Vision and hearing protection
- Long pants
- Hard hat

Debris Cutting and Trim Work

The hazards of disaster debris cutting and trimming work include but are not limited to: struck by or caught in/between vehicles, falls or trips on uneven surfaces, cuts, abrasions or punctures from power tools, vegetative or C&D sharps, struck by falling disaster debris and airborne particles. PPE requirements include:

- Reflective vest
- Hand and foot protection (rugged shoes or boots, steel toe if required)
- Vision and hearing protection
- Long pants
- Gloves
- Hard hat

7.0 In the Event of Injury

In an emergency injury situation call 911 immediately or transport the injured worker to the emergency room. If the injury is not an emergency, provide first aid to the level of your training and ability and seek medical care as needed.

City employees should report the injury to their supervisor or the Human Resources Director.

Contractors should report any injuries to their supervisor and/or the project Safety Officer.

For additional information regarding health and safety requirements, please contact your supervisor.

Appendix I
SAMPLE PUBLIC INFORMATION MESSAGES

For Immediate Release (Approximately 48-72 Hours Prior to Incident)

The City of Colleyville, Texas – The potential for dangerous conditions is eminent for the City and its residents. The City is prepared and has a plan in place to immediately respond following the incident. Once dangerous conditions subside, and roads have been cleared of obstructions, residents should bring any debris to the public right-of-way for removal.

The public right-of-way is the area of residential property that extends from the street to the sidewalk, ditch, utility pole or easement. Residents should separate clean, vegetative debris (woody debris such as limbs and shrubbery) from construction and demolition debris. Do not mix hazardous material, such as paint cans, aerosol sprays, batteries, or appliances with construction and demolition debris. Household garbage, tires or roof shingles cannot be combined with any **INSERT INCIDENT** related debris.

Do not place debris near water meter vault, fire hydrant or any other above-ground utility. Only debris placed on the public right-of-way will be eligible for collection until further notice.

If all debris is not picked up during the initial pass, residents should continue to push remaining debris to the public right-of-way for collection on subsequent passes. Residential debris drop-off locations may be available within the City. Check the City's Web site at **INSERT WEB SITE**, **INSERT SOCIAL MEDIA SITE(S)** for the location of these sites and the hours of operation or call **INSERT NUMBER**. The City website will also provide City office closure times/date (including garbage collection and City facilities). All reconstruction debris (debris resulting from rebuilding) is the responsibility of the homeowner. Those items must be dropped off at the **INSERT LOCATION**.

City of Colleyville residents are encouraged to stay indoors until the danger has passed. Please tune into local news channels for updated weather information.

####

For Immediate Release (Approximately 0-72 Hours Following Incident)

The City of Colleyville, Texas – The City is beginning its recovery process in the wake of **INSERT INCIDENT**. City residents are asked to place any **INSERT INCIDENT** related debris on the public right-of-way.

The public right-of-way is the area of residential property that extends from the street to the sidewalk, ditch, utility pole or easement. Keep vegetative debris (woody debris such as limbs and shrubbery) separated from construction and demolition debris, as they will be collected separately. Bagged debris should not be placed on the public right-of-way, only loose debris will be collected. Any household hazardous waste, roof shingles or tires resulting from **INSERT INCIDENT**, may be eligible for removal and should be separated at the curb.

Do not place near water meter vault, fire hydrant or any other above-ground utility. Only debris placed on the public right-of-way will be eligible for collection until further notice.

If all debris is not picked up during the initial pass, please continue to push remaining debris to the right-of-way for collection on subsequent passes. Household garbage collection will resume to its normal schedule on **INSERT DATE AND TIME**. Please check the City's Web site **INSERT**

WEB SITE, **INSERT SOCIAL MEDIA SITE(S)** for additional information and updates on the debris removal process.

For more information, please call the City's debris hotline at **INSERT NUMBER**.

####

For Immediate Release (72 Hours Prior to Final Pass of Debris Removal)

The City of Colleyville, Texas. – Final preparations are being made for the third and potentially final pass for debris removal in the wake of **INSERT INCIDENT.**

City residents should have all **INSERT INCIDENT** related debris in front of their homes on the public right-of-way (the area of residential property that extends from the street to the sidewalk, ditch, utility pole or easement) no later than **INSERT DATE** to be eligible for pick-up.

The City will not be able to guarantee that debris placed on the public right-of-way after the specified deadline will be removed.

Residents should continue to separate vegetative debris (woody debris such as limbs and shrubbery) and construction and demolition debris. Do not place debris near water meter vault, fire hydrant or any other above-ground utility. Hazardous household chemicals such as paint cans and batteries may be deposited at the **INSERT LOCATION.**

You can follow the debris removal efforts in your neighborhood and the rest of the City by going to the City's Web site at **INSERT WEB SITE**, **INSERT SOCIAL MEDIA SITE(S)**, or by calling **INSERT NUMBER**.

####

Separating Debris Graphics


Separando Sus Escombros
Los escombros deberían ser puestos al final de la acera, sin bloquear la carretera o alcantarilla.
SEPARACIÓN DE ESCOMBROS
Separe los escombros en las 6 categorías mencionadas abajo.
NO APILE O RECUESTE
Colocación de escombros cerca de o en árboles, postes, u otras estructuras dificulta el removerlos. Esto incluye hidrantes y metros.
¿INSEGURO DE DONDE PONER LOS ESCOMBROS?
Si no tienes una acera, zanja o línea de servicio público frente a su casa, coloque los escombros en el borde de su propiedad antes de la acera.
ZONA QUE NO SERA RECOGIDA
Cualquier escombro colocado desde la acera hacia su propiedad no serán recogida.
Basura Doméstica Normal
Basura doméstica y bolsas de basura de cualquier tipo no serán recogidas como parte de este programa. Debe seguir su programa normal de retiro de basura.
ESCOMBROS VEGETATIVOS
• Hojas (no las ponga en bolsas)
• Troncos
• Plantas
• Ramas de arboles
ESCOMBROS DE CONSTRUCCIÓN Y DEMOLICIÓN
• Materiales de construcción
• Alfombra
• Panelas de Yeso
• Muebles
• Madera
• Colchones
• Artículos de plomería
ENSERES Y ELECTRODOMÉSTICOS
• Aire acondicionados
• Lavadoras de platos
• Congeladores
• Refrigeradores
• Fogón/Estufa
• Lavadora, secadora
• Calentador de agua
ELECTRÓNICA
• Computadoras
• Radios
• Equipos de sonido
• Televisores
• Otros artículos con cordones eléctricos
DESPERDICIOS PELIGROSOS DEL HOGAR
• Materiales de limpieza
• Baterías
• Químicas del patio
• Aceites
• Pinturas de aceite
• Pesticidas
Para más información comuníquese con su gobierno local.

Appendix J
PRIORITY ROADS LIST

City of Colleyville Priority Roads

Table J-1 below shows the list of priority roads in the City of Colleyville for road clearance purposes.

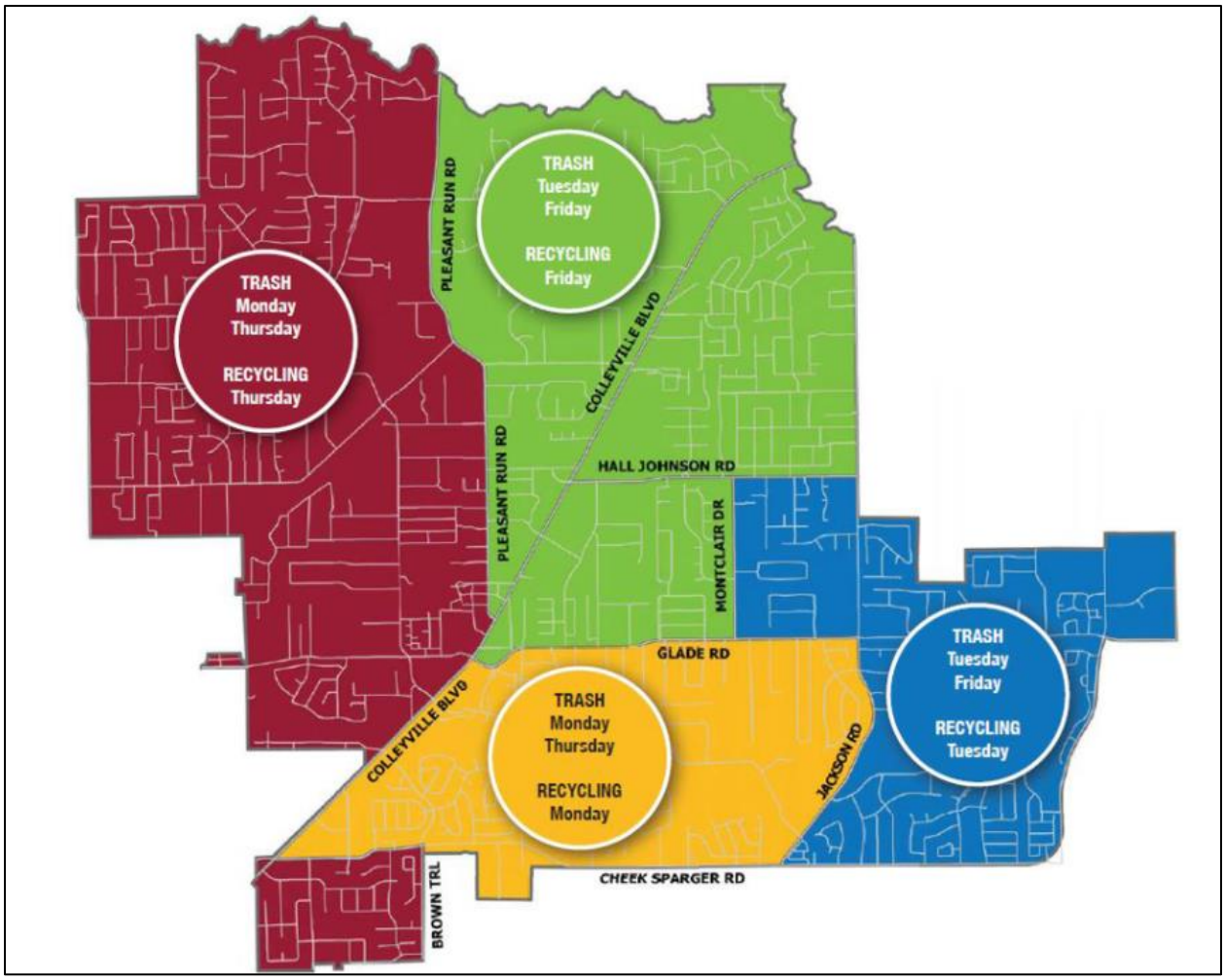
Table J-1: Priority Road List

Roadway Name	Priority Route through city	Roadway Jurisdiction	Critical Facilities accessed via this roadway
Brown Trail	Yes	Local	n/f
Cheek-Sparger Road	Yes	Local	n/f
Glade Road	Yes	Local	Police Department
Hall-Johnson Road	Yes	Local	City of Colleyville Public Works Department
Heritage Avenue	Yes	Local	n/f
Jackson Road	Yes	Local	n/f
John McCain Road	Yes	Local	n/f
West LD Lockett Road	Yes	Local	n/f
Main Street	Yes	Local	City Hall
Martin Parkway	Yes	Local	n/f
West McDonwell School Road	Yes	Local	Fire Station #3
Pleasant Run Road	Yes	Local	n/f
Pool Road	Yes	Local	Fire Station #2,
Colleyville Blvd	Yes	State	Police Department, Fire Station #1, City Hall
Riverwalk Drive	Yes	Local	Police Department

Appendix K
DEBRIS ZONE MAP

The City of the Colleyville will use the City's garbage collection zones to divide the City into disaster debris management zones. See the garbage collection zone figure below.

Figure 1 - Debris Zone Map



Appendix L
EQUIPMENT LIST

		Trucks	
No	**Vehicle Type**	**Quantity**	**Capacity**
1	Dump Truck	1	12 yards
2	Dump Truck	2	6 yards
3	Flatbed Truck	1	

Loaders/Tractors/Bulldozers/Excavators		
No	**Vehicle Type**	**Quantity**
1	Backhoe	2
2	Front End Loader	1
3	Skid Steer	1
4	Mini Excavator	1

Appendix M
FIELD DOCUMENTS

Force Account Labor Summary Record[1]
Force Account Equipment Summary Record[2]
Load Ticket
Debris Haul Out Ticket
Unit Rate Ticket
Disposal Monitoring Log
Truck Certification Form and Instructions

[1] Force Account Labor Summary Record – FF90-123 can be found at https://www.fema.gov/media-library/assets/documents/10588
[2] Force Account Equipment Summary Record can be found at https://www.fema.gov/media-library/assets/documents/10608

DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY

FORCE ACCOUNT LABOR SUMMARY RECORD

PAGE ____ OF ____

O.M.B. No. 1660-0017
Expires December 31, 2011

APPLICANT	PA ID NO.	PROJECT NO.	DISASTER

LOCATION/SITE	CATEGORY	PERIOD COVERING

DESCRIPTION OF WORK PERFORMED

NAME / JOB TITLE		DATES AND HOURS WORKED EACH WEEK							COSTS				
	DATE								TOTAL HOURS	HOURLY RATE	BENEFIT RATE/HR	TOTAL HOURLY RATE	TOTAL COSTS
NAME	REG.												
JOB TITLE	O.T.												
NAME	REG.												
JOB TITLE	O.T.												
NAME	REG.												
JOB TITLE	O.T.												
NAME	REG.												
JOB TITLE	O.T.												

TOTAL COSTS FOR FORCE ACCOUNT LABOR REGULAR TIME	$
TOTAL COST FOR FORCE ACCOUNT LABOR OVERTIME	$

I CERTIFY THAT THE INFORMATION ABOVE WAS OBTAINED FROM PAYROLL RECORDS, INVOICES, OR OTHER DOCUMENTS THAT ARE AVAILABLE FOR AUDIT.

CERTIFIED	TITLE	DATE

FEMA Form 90-123, FEB 09

DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY
FORCE ACCOUNT EQUIPMENT SUMMARY RECORD

PAGE ____ OF ____

O.M.B. No. 1660-0017
Expires October 31, 2008

APLICANT	PA ID NO.	PROJECT NO.	DISASTER

LOCATION/SITE	CATEGORY	PERIOD COVERING

DESCRIPTION OF WORK PERFORMED

TYPE OF EQUIPMENT		OPERATOR'S NAME	DATES AND HOURS USED EACH DAY								COSTS		
INDICATE SIZE, CAPACITY, HOURSEPOWER, MAKE AND MODEL AS APPROPRIATE	EQUIPMENT CODE NUMBER		DATE								TOTAL HOURS	EQUIPMENT RATE	TOTAL COST
			HOURS										
			HOURS										
			HOURS										
			HOURS										
			HOURS										
			HOURS										
			HOURS										
			HOURS										
GRAND TOTAL													

I CERTIFY THAT THE ABOVE INFORMATION WAS OBTAINED FROM PAYROL RECORDS, INVOICES, OR OTHER DOCUMENTS THAT ARE AVAILABLE FOR AUDIT.

CERTIFIED	TITLE	DATE

FEMA Form 90-127, FEB 06

Print Form

Load Ticket	Ticket No. 0012345
Municipality (Applicant)	Prime Contractor
	Sub-Contractor

Truck Information

Truck No	Capacity
Truck Driver (print legibly)	

Loading Information

Loading	Time	Date	Inspector/Monitor
Location (Address or Cross Streets)			

When Using GPS Coordinates use Decimal Degrees (N xx.xxxxx)

N	W

Unloading Information

Debris Classification	Estimated %, CYs, or Actual Weight
☐ Vegetation ☐ C&D ☐ White Goods ☐ HHW ☐ Other* See Below	

Unloading	Time	Date	Inspector/Monitor
DMS Name and Location			

*Other Debris Explanation	Original: Applicant Copy 1: _____ Copy 2: _____ Copy 3: _____

DEBRIS HAULOUT TICKET	TICKET NUMBER #

Applicant:	**Disaster #**
Program:	**Contractor:**
Truck # :	**Truck Capacity:**
Driver's Name:	
TDSR Site:	

Haulout Debris Classification:

☐ Vegetative Mulch	☐ White Goods
☐ Ash	☐ Hazardous Materials / Toxic
☐ C & D Mulch	☐ Household Hazardous Waste
☐ C & D Compacted	☐ Other:_____

Loading Time:	**Loading Date:**
Monitor Signature:	**I.D. #**

Disposal Site Location:	**Scale Ticket #**
Load Call (%):	**Weight (tons / lbs.)**
Disposal Time:	**Disposal Date:**
Monitor Name (print):	**I.D. #**
Contractor Name (print):	**I.D. #**
Notes:	

White - Applicant *Green and Yellow - Contractor* *Pink - Driver* *Gold - Site Copy*

TETRA TECH

UNIT RATE TICKET

#

Applicant:	**Disaster #**

Programs:

☐ Parks ☐ Right-of-Entry ☐ Time & Materials

☐ ROW Lean/Hanger ☐ Stumps ☐ _____

Contractor:	**Crew # :**
Survey Item # :	**GPS:** **N:** **W:**

House # :	**Street Name:**	**Zone #:**

Parcel # :	**ROE # :**

Contract Rate Code:

1 3 5 7 9

2 4 6 8 Other: _____

Contract Rate Sub-Code

A C E G I

B D F H Other: _____

Unit Count:	**Measurement:**

Start Time: A P	**End Time:** A P	**Date:**

Monitor Name (print): **I.D. #**

Contractor Name (print): **I.D. #**

Notes:

White - Applicant Green and Yellow - Contractor Pink - Crew Chief Gold - Site Copy

DISPOSAL MONITOR LOG

Legend
✓ = All Good
Initials = Fixed
X = Problem

Project ____________ Site ____________ Date ____________ QC Monitor ____________ #

ARRIVAL		TICKET #	COLLECTION #	MONITOR Last Name	TRUCK #	CAP	%	Project (App/Dis/Prog.)	Truck Number	House Number	Street / Origin	Correct Zone	Debris Class	Correct Dates & Times	Disposal Site	Load Call / Weight	CONFORM CODE	ERROR NOTE
	A																	
	P																	
	A																	
	P																	
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Page ____ of ____

Disposal Monitor ____________ #

Check-out Supervisor Signature ____________ #

Truck Information

Make	Year	Color	License

Truck Measurements

Performed By: _____ Date: _____

Volume Calculated By: _____ Date: _____

Both Checked By: _____ Date: _____

Driver Information

Name: _____

Address: _____

Phone Number: _____

Owner Information

Name: _____

Address: _____

Phone Number: _____

Truck Identification: _____

Truck Capacity: _____

Photo

Truck Certification Form Calculation Instructions

Instructions to take the necessary dimensions of corner wedge (refer to Figure B-6):

"a": Along the side of the bed, measure the distance from the point where the rounded part of the bed starts, to the front corner of the bed.

"b": Equal to "a."

"c" and "d": Along the side of the bed, mark the point where the rounded part of the bed starts, and along the front of the bed, also mark the point where the rounded part of the bed ends. Run a string between the two points and measure the distance between them; half of that distance is "c" and half of the distance is "d" ("c" and "d" are equal).

"e": Measure the distance from the mid-point of the string that was stretched from the side to the front of the bed in the previous step to the rounded part of the bed.

Extra trailer: The volume calculations for the extra trailer would be simply length x width x height if the extra trailer has a rectangular bed. However, if the extra trailer also has round corners at the front, the volume calculation would be the same as explained above.

Instructions to take the necessary dimensions of round bottom truck (refer to Figure B-6):

"a": The width of the bed.

"b": The depth of the vertical portion (the side) of the bed.

"c" and "d": Both are equal to half the width of the bed.

"e": Run a string between the lower ends of the vertical portions of the bed (the sides), and measure the distance from the mid-point of the string to the bottom of the bed.

NOTE: All dimensions used in the above formulas must be in feet, with inches converted to fractions of feet, using the following conversions (for example, 8 feet, 5 inches should be written as 8.42 feet):

1 inch = .08 foot	7 inches = .58 foot
2 inches = .17 foot	8 inches = .67 foot
3 inches = .25 foot	9 inches = .75 foot
4 inches = .33 foot	10 inches = .83 foot
5 inches = .42 foot	11 inches = .92 foot
6 inches = .50 foot	

DUMP TRUCK

Measurements

Truck Measurements — Length (L) = ____ Width (W) ft = ____ Height (H) ft = ____

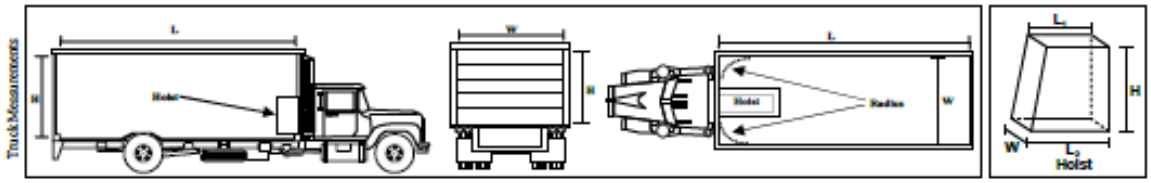
Hoist Measurement — Length$_1$ (L_1) ft = ____ WidthH (W_H) ft = ____ Height$_H$ (H_H) ft = ____
Length$_2$ (L_2) ft = ____

Radius — Radius ft = ____ Height (H) = ____

Calculations

Bed Volume (Basic)	(LxWxH)/27 =	+	cyd
Hoist Volume	((L1+L2/2) x W_H x H_H)/27 =	-	cyd
Radius Volume	(3.14xR^2xH)/27 =	-	cyd
	Total =		cyd

Cubic Yards



EXTRA TRAILER

Measurements

Truck Measurements (Basic) — Length (L) = ____ Width (W) ft = ____ Height (H) ft = ____

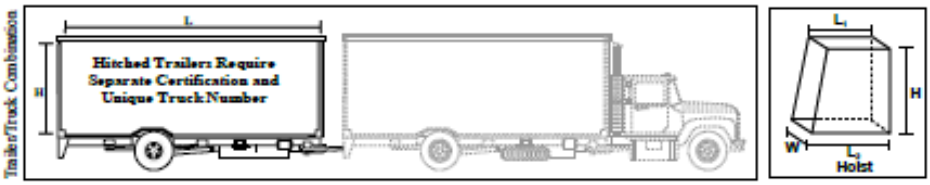
Hoist Measurement — Length$_1$ (L_1) ft = ____ WidthH (W_H) ft = ____ Height$_H$ (H_H) ft = ____
Length$_2$ (L_2) ft = ____

Radius — Radius ft = ____ Height (H) = ____

Calculations

Bed Volume (Basic)	(LxWxH)/27 =	+	cyd
Hoist Volume	((L_1+L_2/2) x W_H x H_H) =	-	cyd
Radius Volume	(3.14xR^2xH)/27 =	-	cyd
	Total =		cyd

Cubic Yards



ROUND BOTTOM TRUCK

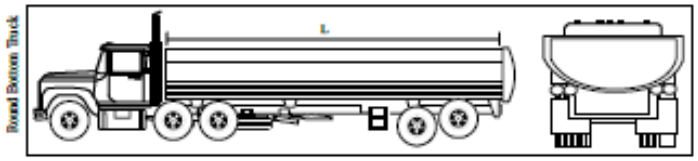
Measurements

Truck Measurements — Length (L) ft = ____ Diameter (D) ft = ____

Calculations

Approx. Volume (3.14 x $(D/2)^2$ x L) /27 = ____ cyd (round bottom portion only)

Cubic Yards



Appendix N
SAMPLE RIGHT-OF-ENTRY AGREEMENT

ROE Number:

RIGHT OF ENTRY AGREEMENT

City of Colleyville, Texas

I/We _____, the owner(s) of the property commonly identified as **(insert property address)**_____, do hereby request aid in removing debris to prevent further damage to my/our property and therefore grant and give freely and without coercion, the right of access and entry to said property to the City of Colleyville, Texas, or the United States Government, its employees, agents, contractors, and subcontractors thereof, pursuant to all applicable laws for the purpose of removing and clearing any or all _____-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 City of Colleyville, the State of Texas, and the United States Government, their 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 _____-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 remova1 from any other source including SBA, NRCS, private insurance, individual and family grant program or any other public assistance program. I will report any insurance settlements made to me or my family for debris removal on this property that has been performed at government expense. I am fully aware that an individual who fraudulently or willfully misstates any fact in connections with this agreement shall be subject to a fine of not more than $10,000 or imprisoned for not more than one year or both.

STRUCTURAL DEMOLITION/REMOVAL

I/We (do_____, do not_____) request demolition and/or removal of unsafe structures on the described property, and upon request, certify that I/we have dwelling, and/or appurtenant structures located on the property that are _____-damaged to the extent to be unsafe, uninhabitable and beyond reasonable repair. If the City of Colleyville debris removal program allows structural demolition and/or removal of unsafe structures by this request, I/we extend right of entry for such purpose. By this authorization I/we state all personal effects of value to me/us have been removed from the property. I/We understand that the City of Colleyville is not obligated to demolish or remove structures as part of the debris removal program, and that any structures that may be removed under the program are recognized to be unsafe.

For the considerations and purposes set forth herein, I hereby set my hand this _____day of _____, 20_____.

Owner Signature: _____ Owner Signature: _____

Printed Name: _____ Printed Name: _____

_____

Address Telephone

Witness (Signature/Printed Name): _____

Address: _____

Appendix O
HAZARDOUS STUMP EXTRACTION AND REMOVAL ELIGIBILITY

FEMA Public Assistance Program and Policy Guide FP 104-009-2
Chapter 7. Section I.B.3 Stump Removal

(c) Stump Removal
For stumps that have 50 percent or more of the root-ball exposed, removal of the stump and filling the root-ball hole are eligible. If grinding a stump in-place is less costly than extraction, grinding the stump in-place is eligible.

Stump removal in areas with known or high potential for archeological resources usually requires that FEMA further evaluate and consult with the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO). If the Applicant discovers any potential archeological resources during stump removal, the Applicant must immediately cease work and notify FEMA.

Contracted Stump Removal
FEMA only reimburses contracted costs charged on a per-stump basis if:

- The stump is 2 feet or larger in diameter measured 2 feet above the ground; and
- Extraction is required as part of the removal.

The Applicant needs to ensure the price for stump removal includes extraction, transport, disposal, and filling the root-ball hole.

For stumps that have less than 50 percent of the root-ball exposed, FEMA only provides PA funding to flush cut the item at ground level and dispose of the cut portion based on volume or weight. Grinding any residual stump is not eligible.

For stumps smaller than 2 feet in diameter, or for stumps of any size that do not require extraction, FEMA only provides PA funding based on volume or weight as removal of these stumps does not require special equipment. If the Applicant claims reimbursement of these stumps on a per stump basis, FEMA limits PA funding based on a unit price for volume or tons, calculated using the Stump Conversion Table (Located on the following pages of this Attachment).

If the Applicant incurs additional costs in picking up stumps 2 feet or larger in diameter that the contractor did not extract, it should complete the Hazardous Stump Worksheet ((Located on the following pages of this Attachment) and present documentation to substantiate the costs as reasonable based on the equipment required to perform the work.

(d) Documentation Requirements
The Applicant must retain, and provide when requested, all of the following documentation to support the eligibility of contracted work to remove tree limbs, branches, stumps, or trees that are still in place:

- Specifics of the immediate threat with the location (geographic coordinates in latitude, longitude) and photograph or video documentation that establishes the item is on public property;

- Quantity removed (Note: If a contractor charged an individual price for each limb, tree, or stump removed, FEMA requires the diameter of each item removed. For stumps, the measurement must be 2 feet up the trunk from the ground. For trees, it must be 4.5 feet up from the ground);
- Quantity, location, and source of material to fill root-ball holes; and
- Equipment used to perform the work.

STUMP CONVERSION TABLE

Diameter to Volume Capacity

FEMA quantifies the amount of cubic yards of debris for each size of stump based on the following formula:

$$\frac{[(\text{Stump Diameter}^2 \times 0.7854) \times \text{Stump Length}] + [(\text{Root-Ball Diameter}^2 \times 0.7854) \times \text{Root-Ball Height}]}{46{,}656}$$

- 0.7854 is one-fourth Pi and is a constant.
- 46,656 is used to convert cubic inches to cubic yards and is a constant.

The formula used to calculate the cubic yardage used the following factors, based upon findings in the field:

- Stump diameter measured 2 feet up from the ground
- Stump diameter to root-ball diameter ratio of 1:3.6
- Root-ball height of 31 inches

See the conversion chart on the following page.

Stump Diameter(Inches)	Debris Volume (Cubic Yards)	Stump Diameter(Inches)	Debris Volume (Cubic Yards)
6	0.3	46	15.2
7	0.4	47	15.8
8	0.5	48	16.5
9	0.6	49	17.2
10	0.7	50	17.9
11	0.9	51	18.6
12	1	52	19.4
13	1.2	53	20.1
14	1.4	54	20.9
15	1.6	55	21.7
16	1.8	56	22.5
17	2.1	57	23.3
18	2.3	58	24.1
19	2.6	59	24.9
20	2.9	60	25.8
21	3.2	61	26.7
22	3.5	62	27.6
23	3.8	63	28.4
24	4.1	64	29.4
25	4.5	65	30.3
26	4.8	66	31.2
27	5.2	67	32.2
28	5.6	68	33.1
29	6	69	34.1
30	6.5	70	35.1
31	6.9	71	36.1
32	7.3	72	37.2
33	7.8	73	38.2
34	8.3	74	39.2
35	8.8	75	40.3
36	9.3	76	41.4
37	9.8	77	42.5
38	10.3	78	43.6
39	10.9	79	44.7
40	11.5	80	45.9
41	12	81	47
42	12.6	82	48.2
43	13.3	83	49.4
44	13.9	84	50.6
45	14.5		

Figure O-1: Hazardous Stump Worksheet

Applicant: _____ Date: _____

Applicant Representative: _____ Signature: _____

FEMA Representative (if available) _____ Signature: _____

	Physical Location (i.e., Street address, road, cross streets, etc.)	Description of Facility (ROW, Park, City Hall, etc.)	Hazard Yes/No	Global Positioning System (GPS) Location	Tree Size (Diameter)	Eligible Yes/No	Fill for Debris Stumps In CY	Comments (See attached sketch, photo, etc.)
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								