

# **SEDGWICK COUNTY DEBRIS MANAGEMENT PLAN**

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## **I. Introduction**

### **Purpose**

Sedgwick County will adhere to this Debris Management Plan to respond to a natural or manmade debris-generating event. This plan is designed to identify agencies and activities that are involved in debris operations to ensure a coordinated response for final disposition of debris generated in unincorporated areas of Sedgwick County.

### **Scope**

This Debris Management Plan will serve as a support annex to the Sedgwick County Local Emergency Operations Plan (EOP). It provides organizational structure, guidance, and standardized guidelines for field operations in the clearance, removal, and disposal of debris caused by a major debris-generating event. This Plan shall apply to all County departments and agencies. All cities within the jurisdictional boundaries are included in this plan

The Plan is designed to assist Sedgwick County staff in implementing and coordinating the removal and disposal operations to maximize cleanup efficiencies. Expeditious debris removal and disposal actions will mitigate the threat to the health, safety, and welfare of all Sedgwick County residents

### **Enforcement**

Any person deviating from the provisions of this plan may be required, at the discretion of the County Manager of Sedgwick County, to submit in writing within five (5) calendar days, an explanation for such deviation. The written explanation will be forwarded to the County Manager's Office for final resolution if required. Be advised if a city chooses not to participate in this plan, it may not receive Federal assistance even if Federal assistance is granted to the County

## **II. Staff Roles and Responsibilities**

Per the Sedgwick County LEOP, the Sedgwick County Public Works Department is responsible for coordinating debris removal and disposal where appropriate in the unincorporated areas of the county. Similarly, the Sedgwick County Environmental Resources Division will help coordinate all solid waste management for the county. For the incorporated areas, the cities are responsible for this coordination, with the county providing secondary support if needed and available. In emergency situations, where limited local resources may require centralized coordination and prioritization, Emergency Support Function #3 (Public Works and Engineering) in the county Emergency Operations Center (EOC) will assume this responsibility.

The size and composition of a staff organized to manage debris clearance, removal, and disposal issues depends on the magnitude of the disaster and number of available response personnel. Successful debris operations require collaborative efforts between departments within Sedgwick County and with specific external agencies that have regulatory authority over debris operations. Prospective staff

members will receive general training and practice interface with other agencies responsible for debris management operations.

Immediately following a disaster event, a disaster debris management team will be established to facilitate successful coordination. Team members will consist of personnel from multiple Sedgwick County Departments and Divisions including Public Works, Environmental Resources, Emergency Management, Legal, Finance, Clerks Office, as well as other departments and divisions as applicable. Because each member of the team is responsible for implementing portions of this debris management plan in accordance with the planning goals and objectives and in compliance with Federal, State, and local laws, a Debris Project Manager will be designated to serve as the primary coordinator for all operations.

**The Debris Project Manager (DPM)** – This position will serve as the primary decision-maker and Incident Commander for all operations and has the following responsibilities:

- Will be knowledgeable of all Sedgwick County process, procedures, personnel, resources, and limitations;
- Overall responsibility for the operations, planning, logistics, financial, and administrative components of the debris management operations;
- Assign tasks to team members and support personnel to track the completion of tasks to ensure the quick and safe implementation of the debris removal process;
- Will be in constant contact with the Sedgwick County EOC regarding operational progress and planning needs; and
- Responsibility for activation and deactivation of debris management operations.

**Operations** – This function is responsible for the supervision of force account and contract resources and overall project implementation. This section is responsible for implementing the entire debris removal operation and will perform the following tasks:

- Position equipment and resources for the response and recovery debris removal operation;
- Develop staff schedules and strategies to ensure efficient and effective response;
- Provide communication, facilities, services, equipment, and materials to support the response and recovery activities;
- Monitor and direct Sedgwick County personnel and contract labor;
- Distribute response and recovery resources;
- Operate and manage the collection, debris management site, and disposal strategies;
- Create a demolition strategy for structures (if necessary); and
- Report progress for distribution to the debris management planning staff.

**Planning** – This section supports all other debris management sections in a technical and planning role. This section also provides debris quantity assumptions,

economic analysis, and feasible solutions for debris operations. The following tasks will be performed:

- Forecast debris volume based on disaster type;
- Develop an estimating strategy for post-disaster debris quantities;
- Strategize and map debris haul routes;
- Select debris management sites and design the site layout;
- Determine reduction and recycling means and methods when possible;
- Identify and coordinate environmental issues with Environmental Resources;
- Assess available disposal space and determine if additional space is needed;
- Develop the debris collection strategy, if required;
- Write contract scopes of work, conditions, and specifications, if needed;
- Coordinate with other local and State jurisdictions for road clearance and operations;
- Establish a process for building damage assessment and condemnation (including public and private properties); and
- Request and/or issue permits.

**Finance & Administration** – This function typically includes finance, personnel, and legal issues. This section must establish a records management system in order to collect and keep all the documentation that may be required for Public Assistance grants.

**Administration** – This sub-function primarily documents all debris management activities, including, but not limited to the following:

- Personnel policies;
- Labor and equipment timesheets and summaries;
- Safety procedures;
- Contract procurement procedures;
- Contracts;
- Billing and invoices (including debris hauler load tickets);
- Contracts, licenses or permits;
- Rights of Entry and Hold Harmless agreements for private property debris removal and demolition (when applicable); and
- Debris salvage and recycling value information when possible.

**Contracting and Procurement** – This sub-function maintains contracts in draft form ready for advertisement or have pre-qualified contractors in place prior to the event. This individual will follow all applicable Sedgwick County procurement policies in effect at the time of the disaster. Organizational elements for this section include, but are not limited to the following tasks:

- Develop contract requirements;
- Establish contractor qualifications;
- Distribution instructions to bidders;
- Advertise bids;
- Establish a pre-disaster list of pre-qualified contractors;
- Manage the contract scope of work; and

- Establish a post-disaster contractor procedure (if necessary).

**Legal** – This sub-function leads the review process for all legal matters in the debris management planning process. The following tasks will also be performed by the legal unit:

- Review all contracts;
- Review and/or establish a land acquisition process for temporary debris management sites;
- Review all insurance policies;
- Ensure environmental and historic preservation compliance before, during, and after operations (function may be tasked to Sedgwick County Environmental Resources);
- Ensure that site restoration and closure requirements are fulfilled;
- Review and/or establish a building condemnation processes if deemed necessary;
- Review and/or establish a legal process for private property demolition and debris removal; and
- Review right-of-entry and hold harmless agreements. (Attached)

**Public Information** – This section will distribute information and educate citizens about debris management operations. This function will report directly to the Debris Project Manager. Various types of information distribution will be used to distribute messages including, but not limited to the following:

- Debris disposal schedules;
- Disposal methods and ongoing actions to comply with Federal, State, and local environmental regulations;
- Disposal procedures for the public and independent contractors;
- Restrictions and penalties for creating illegal dumps;
- Public drop-off locations for all debris types; and/or
- Process for answering the public's questions concerning debris removal.

### **Operational Safety Officer**

The DPM will also assign personnel to monitor and report on the safety of all debris management operations. The responsibilities of this position include the following:

- Communicating timely information to the DPM and EOC regarding the safety status of the debris clearing, removal, and disposal operations;
- Coordinate with the DPM to assure the appropriate Responder Safety Training is provided;
- Ensure Sedgwick County Personnel follow all Kansas Department of Labor rules and regulations;
- Monitor contractor compliance with OSHA rules and regulations;
- Report and address any accidents or injuries that occur during operations;
- Coordinate with the DPM to assure that a site-specific Safety and Health Plan is created; and

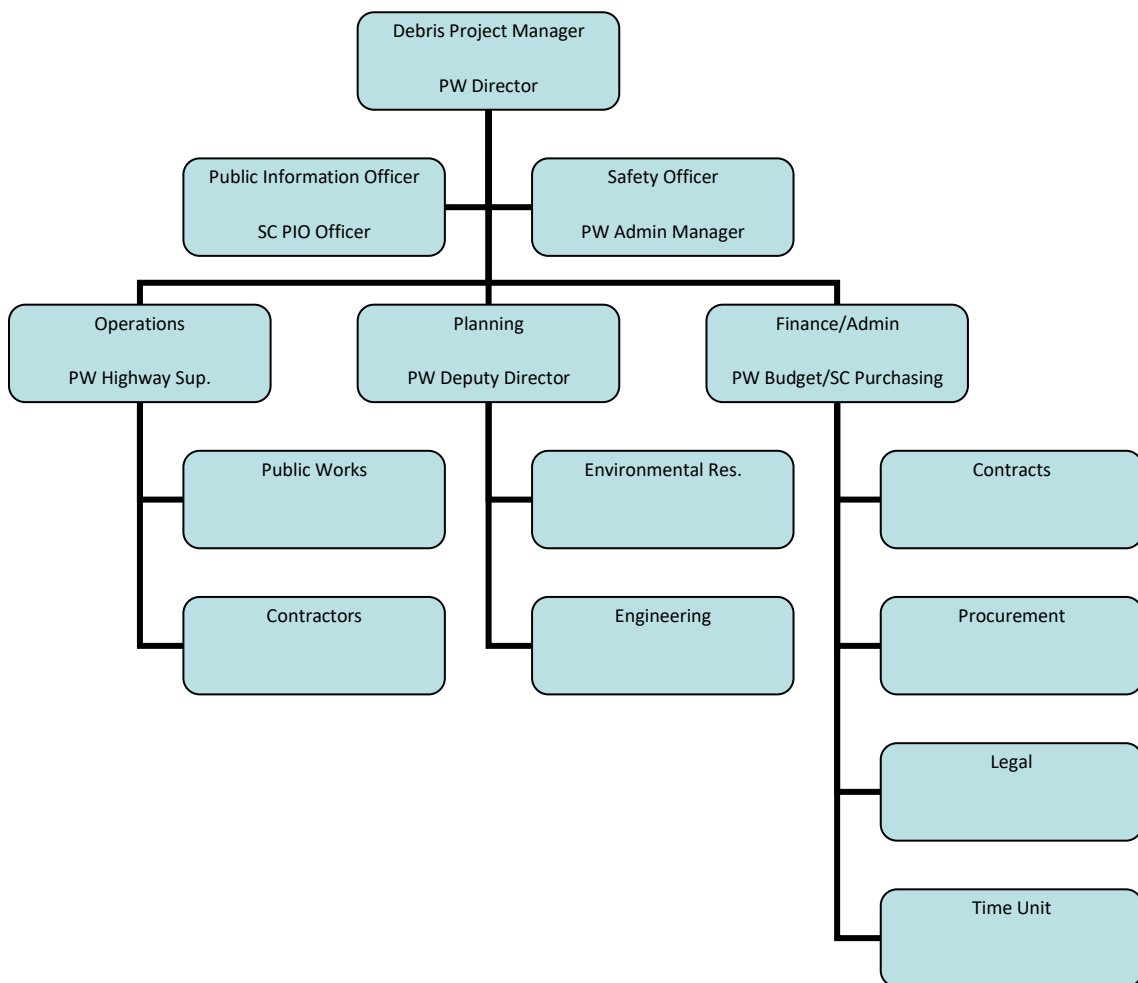
- Provide media relations information regarding safety concerns with the DPM and acting PIO.

Appendix D provides a detailed list of safety regulations and hazards that will impact debris management operations.

### **Support Staff**

Support staff will be assigned as needed to functional and sub functional areas to ensure efficient and effective response. Assignments and supervision will follow the Incident Command System.

### **Staff Organizational Chart**



### **Suggested Personnel**

The following Sedgwick County personnel are recommendations to fill the command-level positions required for debris management operations:

Debris Project Manager: Public Works Director  
Public Information Officer (PIO): Sedgwick County PIO  
Safety Officer: Public Works Administrative Manager  
Operations: Public Works Highway Superintendent  
Planning: Public Works Deputy Director  
Finance/Administration: Public Works Controller/Sedgwick County Purchasing

Additional personnel will be assigned as needed and available to relieve these positions and/or to expand operations to meet growing debris management needs.

### **Training Schedule**

Sedgwick County Public Works personnel will be trained on this debris management plan in accordance with pre-established internal policies on training.

### **Estimating Staff, Procedures, and Assignments**

During any required debris removal events, Sedgwick County Public Works personnel will be the first workers utilized as directed by the DPM. Crew assignments will be based upon event needs and will be diverted from routine public works operations as necessary and where needed. Outside contractors will be utilized to assist the local workforce as needed, primarily in the recovery period of debris management.

## **III. Situation and Assumptions**

The Robert T. Stafford Disaster Relief and Emergency Assistance Act (P.L. 93-28), as amended, authorizes the FEMA Public Assistance Program to award Federal funding to State and local governments, Federally recognized tribes, and eligible private non-profit organizations in order to assist them in their disaster response and recovery activities.

FEMA characterizes work eligible for Public Assistance grants as either emergency or permanent work. Debris management activities are grouped into Category A (Debris Removal) and Category B (Emergency Protective Measures). Debris management activities in these categories must meet all of the following:

- Be required as a result of the disaster event;
- Be located within a designated disaster area;
- Be the legal responsibility of the local government entity;
- Be in the public interest, which is defined as work necessary to meet the following:
  - Eliminate immediate threats to life, public health and safety;
  - Eliminate immediate threats of significant damage to improved public or private property;



- Ensure economic recovery of the affected community to the benefit of the community-at-large; or
- Mitigate the risk of life and property by removing substantially damaged structures and associate appurtenances as needed to convert property acquired through a FEMA hazard mitigation program to use compatible with open space, recreation, or wetlands management practices
- Be of a reasonable cost, which is defined as a cost, which in its nature does not exceed that which would be incurred by a prudent person under the circumstance prevailing at the time the decision was made to incur the cost.

For debris removal work, per FEMA's 2007 Public Assistance Debris Management Pilot Program, straight-time labor and overtime costs (including benefits) are eligible for permanent employees, reassigned employees, and seasonal employees (used during the season of anticipated employment).

### **Types of Disaster Events**

Debris forecasting predicts the amount and type of debris prior to a disaster, whereas debris estimating quantifies the amount of debris after the disaster. By forecasting the type and quantity of debris, the planning section can better define the scope of work for the debris management operation prior to the event.

The following are general descriptions of natural and manmade disasters and the associated debris caused by each:

Tornadoes – Damage from tornadoes is caused by high-velocity rotating winds. The severity of the damage depends on the velocity of the tornado funnel and the length of time the funnel is on the ground; however, damage is generally confined to a narrow path, which can be up to one-half mile wide and from 100 yards to several miles long. Tornado debris consists primarily of vegetative debris, construction materials from damaged or destroyed structures, and personal property. Tornadoes are a medium probability, high vulnerability hazard in Sedgwick County.

Rainstorms, snow/ice storms, or reservoir failure can cause severe flooding floods – Damage to structures from flooding is caused either by precipitation inundation or high-velocity water flow. Flood debris may consist of sediment, wreckage, personal property, and sometimes-hazardous materials deposited on public and private property. Additionally, heavy rains and floods may produce stream bank calving. However, flash flooding is a High probability, High vulnerability event.

Winter Storms – Debris from ice storms or snowstorms consists of significant amounts of vegetative debris and overhead utility service components. Winter storms are a medium probability, medium vulnerability event in Sedgwick County.

Earthquakes – Seismic forces along fault lines generate shock waves that cause ground shaking and surface ruptures. Sedgwick County lies to the west of the Nemaha fault line that runs north-northeast through Oklahoma,

Central Kansas, and Nebraska. Because of the location, Sedgwick County would only receive minor physical effects from an earthquake. This type of damage consists of property damage, structural building materials, concrete, and asphalt. This type of event is a low probability, medium vulnerability event in Sedgwick County.

Acts of Terrorism – Terrorism includes the unlawful use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives. Since terrorism is regarded as a criminal act, it involves coordination with law enforcement authorities, the coroner's office, and health officials before debris is handled or disposed.

Debris generated as a result of an act of terrorism is highly variable in both quantity and type, depending upon the specific means utilized by the terrorists. An act of terrorism could generate little to no debris at all, or could result in large quantities of multiple types of debris, potentially requiring highly specialized personnel, procedures, and equipment for its removal and disposal.

### **Disaster Debris Streams**

Typically, disasters generate a mix of different types of debris. The following figure summarized the typical types of debris for each type of disaster.

		Typical Debris Streams								
		Vegetative	Construction & Demolition (C&D)	Personal Property/ Household Items	Hazardous Waste	Household Hazardous Waste (HHW)	White Goods	Soil, Mud, and Sand	Vehicles	Putrescent
Types of Disasters	Tornadoes	X	X	X	X	X	X	X	X	X
	Floods	X	X	X	X	X	X	X	X	X
	Earthquakes		X	X		X	X	X		X
	Winter Storms	X				X				X
	Acts of Terrorism	X	X	X	X	X	X	X	X	X

## **Forecasted Debris Types**

Vegetative Debris – Consists of whole trees, tree stumps, tree branches, tree trunks, and other leafy material. Because of the large volume, vegetative debris should be reduced by mulching, grinding, or burning. Collections are typically based on the size of the vegetative material or by unit.

Hazardous Trees – Type of vegetative debris that is caused by the disaster, is an immediate threat to lives, public health, safety, or improved property, has a diameter breast height of six inches or greater and one or more of the following criteria are met:

- It has more than 50% of the crown damaged or destroyed;
- It has a split trunk or broken branches that expose the heartwood;
- It has fallen or been uprooted within a public-use area, and/or
- It is leaning at an angle greater than 30 degrees.

Trees located on public rights-of-way and determined to be hazardous and that have less than 50% of the root-ball exposed will be cut flush at the ground level. This cut portion will then be included with regular vegetative debris. Grinding of the resulting stump after the tree has been cut flush at the ground is not eligible debris management work.

Straightening and bracing are allowable emergency protective measures if they eliminate an immediate threat to lives, public health, safety, or improved property and are less costly than removal and disposal of the hazardous tree.

Hazardous Limb (Hangers) – Type of vegetative debris that is eligible for removal if the limbs are:

- Located on improved property;
- Greater than two inches in diameter at the point of breakage; and
- Still hanging in a tree and threatening a public-use area (e.g. trails, sidewalks, paths, etc.)

Only the minimum amount of work necessary is eligible for hazardous limb removal. Pruning, maintenance trimming, and landscaping are not eligible. If the canopy of a tree located on public property extends over a public right-of-way, removal of hazardous limbs on the tree that extend over are eligible.

Construction and Demolition (C & D) Debris -- Consists of damaged components of buildings and structures such as lumber and wood, gypsum wallboard, glass, metal, roofing material, tile, carpeting and floor coverings, window coverings, pipe, concrete, fully cured asphalt, equipment, furnishings, and fixtures.

Certain types of construction and demolition debris are reusable or recyclable. To conserve landfill space, it is prudent to separate materials for reuse or recycling when feasible. Because some construction and demolition debris may be hazardous (ex: asbestos coated materials), environmental regulations and ordinances must be included during all operations. Full documentation of these materials including debris origin, any processing (reduction or recycling), and the final disposition must be noted.

Typically, removal of construction by-products generated by repairs or rebuilding is covered by insurance policies and therefore is not part of the debris management process.

Hazardous Waste – A type of debris with properties that make it potentially harmful to human health or the environment. Generally, this type of material exhibits at least one of the following characteristics: ignitability, corrosively, reactivity, or toxicity. Debris management activities are allowed for measures that address widespread hazardous materials contamination.

Household Hazardous Waste (HHW) – A type of debris composed of hazardous products and materials that are used and disposed of by residential, rather than commercial or industrial consumers. HHW includes some paints, stains, varnishes, solvents, pesticides, and other products or materials containing volatile chemicals that catch fire, react, or explode under certain circumstances, or that are corrosive or toxic.

White Goods – A type of debris defined as discarded household appliances such as refrigerators, freezers, air conditioners, heat pumps, ovens, ranges, washing machines, clothes dryers, and water heaters. Many white goods contain ozone-depleting refrigerants, mercury, or compressor oils, which are prohibited by the Clean Air Act to be released into the atmosphere. Certified technicians must extract these refrigerants before disposing or recycling the white goods.

Electronic Waste (E-Waste) – A type of debris composed of electronics that contain hazardous materials such as cathode ray tubes. Examples include computer monitors and televisions.

Soil and Mud – Floods often deposit soil and mud on improved public property and public rights-of-way. Facilities commonly impacted by this type of debris may include streets, sidewalks, storm and sanitary sewers, water treatment facilities, drainage basins, and swimming pools. This type of debris on public rights-of-way can be included in the debris management process; however, removal from streams, improved and unimproved property cannot be included. Regularly scheduled maintenance reports for improved public property and public rights-of-way will be kept that indicate pre-disaster soil, mud, and sand levels.

Vehicles – A type of debris that includes vehicles that have been moved from private property onto improved public property and public rights-of-way. To remove this type of debris, the follow characteristics must be met:

- The vehicle or vessel presents a hazard or immediate threat that blocks ingress/egress in a public-use area;
- The vehicle is abandoned (e.g., the vehicle is not on the owner's property and the ownership is undetermined);
- Sedgwick County follows local ordinances and State law by securing ownership, and
- Sedgwick County verified chain of custody, transport, and disposal of the vehicle.

Putrescent Materials – Type of debris that will decompose or rot, such as animal carcasses and other fleshy organic matter. The USDA's National Resources Conservation Service (NRCS) and the Kansas Department of Health and Environment have developed specific disposal guidelines for animal carcasses.

Infectious Waste – Type of debris capable of causing infections in humans, including contaminated animal waste, human blood and blood products, isolation waste, pathological waste, and discarded sharps (needles, scalpels, or broken medical instruments).

Chemical, Biological, Radiological and Nuclear-Contaminated Debris – Type of debris that has biological, chemical, radiological, or nuclear contamination. This type of debris usually would happen as a result of a Weapon of Mass Destruction (WMD) event. Eligibility for this type of debris removal will be made by FEMA based on applicable Federal statutes, regulations, policies, and other guidance documents.

Garbage (Household Waste) – Type of debris that is waste generated during non-disaster situations and regularly picked up through normal municipal waste collection methods. Common examples of garbage include food, packaging, plastics, and papers. This type of debris is not eligible for debris management activities.

## **Forecast Methods**

After the disaster parameters and geographic extent are established, specific debris volumes can be quantified by using historical information available through Sedgwick County Emergency Management & Homeland Security or the National Weather Service or by using forecasting models. If historical data is not available or insufficient, quantitative and qualitative forecasting models can be used to supplement the debris volume quantification.

### **Qualitative Forecasting**

Qualitative forecasting will consist of "windshield tours" and "pass through" of the impacted portions of the unincorporated sections of Sedgwick County. The City's may use this same method with assistance from the DPM. These actions will note the location, vegetative cover, and estimated percentage of area impacted. These estimates will be the basis of the overall debris forecast.

## Quantitative Forecasting

The information gathered as part of the qualitative forecasting will be reported to Sedgwick County's Geographic Information System (GIS) which will establish the number of habitable structures in the review area as well as land-use of the noted properties. Based on this information, the following estimations can be applied.

Buildings – Several basic techniques have been established to forecast destroyed building debris quantities. These techniques can be used to forecast debris quantities prior to an event or estimate quantities after an event.

Residential Buildings – A formula for estimating the debris quantities from a demolished single-family home and associated debris is as follows:

$L \times W \times S \times 0.20 \times VCM = \text{_____ cubic yards of debris (cy)}$

- L = Length of the building in feet
- W = Width of the building in feet
- S = Height of building in stories
- VCM = Vegetative Cover Multiplier Always use medium in our County 1.3 as a variable

The VCM is a measure of the amount of debris within a subdivision or neighborhood. The descriptions and multipliers are described as:

- Light (1.1 multiplier) includes new home developments where more ground is visible than trees. These areas will have a 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.

The following table can be used to forecast debris quantities for totally destroyed single-family, single-story homes in the applicable vegetative cover category.

Typical House Size	Vegetative Cover Multiplier (cy)			
	None	Light (1.1)	Medium (1.3)	Heavy (1.5)
1000 ft <sup>2</sup>	220	220	260	300
1200 ft <sup>2</sup>	240	264	312	360
1400 ft <sup>2</sup>	280	308	364	420
1600 ft <sup>2</sup>	320	352	416	480
1800 ft <sup>2</sup>	360	396	468	540
2000 ft <sup>2</sup>	400	440	520	600
2200 ft <sup>2</sup>	440	484	572	660
2400 ft <sup>2</sup>	480	528	624	720
2600 ft <sup>2</sup>	520	572	676	780

The amount of personal property within an average flooded single-family home has been found to be:

- 25-40 cy for homes without a basement
- 45-50 cy for homes with a basement

Mobile homes have less utilized space due to their construction and use. The walls are narrower, and the units contain more storage space. Therefore, the typical mobile home generates more debris by volume than a single-family home. Historically, the volume of debris from mobile homes can be found to be:

- 290 cy of debris for a single-wide mobile home
- 415 cy of debris for a double-wide mobile home

Outbuildings – All other buildings volumes may be calculated by using the following formulas:

$$(L \times W \times H \times .33)/27 = \text{cubic yards of debris}$$

- L = Length of the building in feet
- W = Width of the building in feet
- H = Height of the building in feet
- 0.33 is a constant to account for the “air space” in the building
- “27” is the conversion factor from cubic feet to cubic yards

Vegetation – This type of debris is the most difficult to estimate due to the random sizes and shapes of trees and shrubbery. The following serves as a guide for forecasting and estimating vegetative debris:

- Each home is estimated to have an associated 3.65 cubic yards of this type of debris
- Treat debris piles as cubes, not a cone (when estimating)
- 15 trees, 8 inches in diameter = 40 cy (average)
- One acre of debris, 3.33 yards high = 16,117 cy

The following factors will be used to convert woody debris from cubic yards to tons:

- Softwoods: 6 cubic yards = 1 ton
- Hardwoods: 4 cubic yards = 1 ton
- Mixed Debris: 4 cubic yards = 1 ton
- Construction & Demolition: 2 cubic yards = 1 ton

Several truckloads may need to be tested to confirm these factors during actual debris management activities.

#### **IV. Debris Collection**

##### **Eligible Debris**

Eligible debris removal work must meet the following criteria:

- The debris was generated by a major disaster event;
- The debris is located within a designated disaster area;
- Federal assistance may be available with debris removal on Federal aided Roadways if the Emergency Relief Program is activated through the Federal Highway Administration;
- Any other debris considered to be a public hazard as determined by the debris removal safety officer;
- The debris is located in R.O.W; and,
- The debris removal is the legal responsibility of Sedgwick County.

##### **Ineligible Debris**

The following are not eligible for debris removal work:

- Any debris removed from an eligible applicant's unimproved property or undeveloped land;
- Any debris removed from a facility that is not eligible for funding under the Public Assistance Program (ex: private owned cemeteries and golf courses); and,
- Any debris removed from Federal lands or facilities that are under the direct authority of Federal agency or department, such as Federal-aid roads, and USACE navigable waterways.

##### **Response Operations**

Sedgwick County will use its own labor force and equipment to remove debris during this phase. In circumstances when the existing labor force is not sufficient, or when specialized services are required, Sedgwick County may supplement its work efforts by activating local or regional mutual aid agreements or by awarding short-term debris removal contracts for specific work.



### Priorities

Response operations will primarily focus on the emergency access routes and main arterials within Sedgwick County. Based on the incident, planning staff members will identify which roads and streets are essential to emergency operations so local resources can be optimally managed and directed. The Emergency Snow Routes would be a good starting point within the cities with such designated routes.

Prior to and immediately following the event, extricating people and providing access to health care facilities are the top priorities; therefore, the major arterial road routes are given priority for the emergency services staff such as police, fire, and ambulance services.

Overall priority to roadways will be prioritized by the event; however, specific considerations are as follows:

- Fire, police, and ambulance service routes to affected areas
- Access routes to trauma centers, hospitals, critical care units, and jails
- Major arterial routes
- Roads and streets to the debris management center and emergency operations center
- Supply routes to emergency supply distribution centers
- Roads and streets to government facilities
- Communication towers and systems access
- Utility access routes
- Routes to shelters

### Recovery Operations

These activities begin after the emergency access routes are cleared and the residents return to their homes and begin to bring debris to the designated disposal site.

The implementation of disaster debris collection immediately after the disaster event assures the public that recovery efforts are in progress and that the community will return to normal quickly. The main method of debris collection is through a collection center(s).

#### *Source-Segregated Debris Collection*

This method requires residents to sort the debris by material type. This method offers the potential of high salvage value and efficient recycling/reduction processing. The County offers information through pamphlets and its web site on recycling sites within Sedgwick County.

### Collection Centers

This type of collection method directs residents to transport their debris to a common location in the county where roll-off bins or dumpsters are located. Associated costs are generally low since the public essentially accomplished the material collection and separation themselves when possible; however, site monitoring is required to ensure against debris cross-contamination

### **Collecting Hazardous Waste and White Goods**

The three most common types of debris that will need special handling are hazardous waste, white goods, and electronic waste.

#### Household Hazardous Waste (HHW)

HHW should be separated from the other debris when possible. The Sedgwick County HHW Facility will accept this material and, when possible, set up a remote HHW collection area at the Collection Centers.

#### White Goods

White goods include all appliances and household machines that contain refrigerants and other fluids that are regulated by the Kansas Department of Health and Environment and can only be reclaimed by certified technicians and disposed of at a permitted facility. Sedgwick County Environmental Resources provides information on their web site and in pamphlets on businesses that will properly recycle these appliances to avoid accidental release of hazardous fluids.

#### Electronic Waste (E-waste)

E-waste consists of any broken or damaged piece of electronic equipment. Categories include communications equipment, computer equipment, television and video equipment, electronic tools, lighting, medical equipment, etc. Sedgwick County Environmental Resources provides information on their web site and in pamphlets on businesses that will properly recycle e-waste.

### **Hazardous Stump Removal**

A hazardous tree or stump may be collected, while downed or fallen debris is collected from rights-of-way. Tree and stump collection prices are typically based on the size of the tree or stump and charged by unit. Determining whether to remove a hazardous stump is difficult. FEMA has established criteria to assist in making these eligibility determinations, using objective information that can be collected in the field. A stump may be considered hazardous if the following criteria are met:

- 50% or more of the root-ball is exposed (less than 50% will be flush cut)
- Greater than 24" in diameter (as measured 24" above the ground)
- On improved property
- Poses immediate threat to life, public health, and safety.

FEMA's Hazardous Stump Worksheet and Stump Conversion Table are included in Appendix A and B, respectively.

### **Putrescent Waste Removal**

Putrescent materials such as dead animals will not be shipped to county temporary landfill operations. The Kansas Department of Agriculture and/or the Kansas Department of Health and Environment will be contacted to determine the most effective method of disposal. If on-site burial is considered Sedgwick County Planning and Zoning, Kansas Department of Health and Environment, and Kansas Wildlife and Parks would need to be notified of such actions.

### **Recycling of Debris**

- Recycling reduces mixed debris volume before it is hauled to a landfill. When possible, recycling is attractive and strongly supported by Sedgwick County because there may be an economic value to the recovered material if it can be sorted and sold. A portable Recovery Facility could be set up at the site. Metals, wood, and soils are prime candidates for recycling. The major drawback is the potential environmental impact of the recycling operation. In areas where there is a large usage of chemical agricultural fertilizer, the recovered soil may be too contaminated for use on residential or existing agricultural land.
- Tornadoes may present opportunities to contract out large-scale recycling operations and to achieve an economic return from some of the prime contractors who exercise their initiative to segregate and recycle debris as it arrives at the staging and reduction sites. Recycling has significant drawbacks if contracts are not properly written and closely monitored.
- Specialized contractors should be available to bid on disposal of debris by recycling, if it is well sorted. Contracts and monitoring procedures should be developed to ensure that the recyclers comply with local, tribal, State and Federal environmental regulations.
- Recycling should be considered early in the debris removal and disposal operation because it may present an opportunity to reduce the overall cost of the operation. The following materials are suitable for recycling.

**Metals.** Tornadoes and Wind Storms may cause extensive damage to mobile homes, sun porches, and barns and out buildings. Most of the metals are non-ferrous and suitable for recycling. Trailer frames and other ferrous metals are also suitable for recycling. Metals can be separated using an electromagnet. Metals that have been processed for recycling can be sold to metal recycling firms.

**Soil.** Cleanup operations using large pieces of equipment pick up large amounts of soil. The soil can be transported to the staging and reduction sites where it is combined with other organic materials that will decompose over time. Large amounts of soil can be recovered if the material is put through

some type of screen or shaker system. This procedure can produce significant amounts of soil that can either be sold or recycled back into the agricultural community. This soil could also be used at local landfills for cover. It is more expensive to transport and pay tipping fees at local landfills than to sort out the heavy dirt before moving the material. Monitoring and testing of the soil may be necessary to ensure that it is not contaminated with chemicals.

**Wood.** Woody debris can be either ground or chipped into mulch. Then the mulch may be given to citizens.

**Construction Material.** Concrete block and other building materials can be ground and used for other purposes if there is a ready market. Construction materials and wood can also be shred to reduce volume. This construction material could also be used at local landfills for cover. Were Sedgwick County does not have such a resource of grinding of concrete, we would be forced to contract this out which may or may not be feasible to cost benefit ratio. Two local Construction & Demolition Landfills can receive this material.

**Residue Material.** Residue material that cannot be recycled, such as cloth, rugs, and trash, can be sent to a transfer station for disposal.

- **Household Hazardous Waste:** Waste of such that can be reused in a safe manner. Many household hazardous waste materials can be reused for many applications rather than entering the product into the waste stream. Sedgwick County has a strong HHHW program supported by the Kansas Department of Health and Environment. This includes a program to recycle paint and a Swap & Shop where residents can take selected materials home for free.
- **White Goods:** White goods such as washers, dryers, refrigerators, freezers can be recycled for their salvage value of metal. Waste Connections has a contractor at their transfer station that extracts the Freon and oils from the units before they are sent to be recycled. This would continue for a disaster event.
- **Vehicles:** Motor vehicles (trucks, cars, motor homes, tractors) that would become debris as a result of a disaster could be recycled or determined if operational or salvageable by private contractors.
- **Electronic Waste:** As we have discussed earlier in this plan e-waste is recyclable and could be segregated at a debris site.

## V. Debris Management Sites

Depending on the type of disaster debris and scale of the event, Temporary Debris Management Sites (DMS) will be necessary as transfer stations. The DMS location could temporarily store, reduce, segregate, and/or process debris before it is hauled to its final disposition. The County will prioritize site locations based on safety, resources, and practicality of location. The priority in terms of general types of

locations will be as follows: public paved property, private paved property, public unpaved property, and private unpaved property. A list of potential temporary DMS is included in Appendix H.

The temporary DMS site review ensured the following:

- Does not exist in an environmentally or historically sensitive area such critical animal and plant habitats, sole source aquifers, freshwater well fields, historic districts, or archeological sites.
- Does not exist in Superfund site or area within a 100-year floodplain without proper permission.
- Takes into consideration any disproportionately high or adverse impacts on minority or low-income populations.

### **Environmental Requirements**

A baseline environmental collection study will also be conducted prior to a DMS establishment. This baseline data is essential in assuring that the land is returned to its original condition following the end of all debris management operations. The following methods may be used to document new or updated baseline data:

- Videotape and/or Photograph the Site – Thoroughly videotape and/or photograph (ground or aerial) each site before beginning any activities.
- Document Physical Features – Note existing structures, fences, culverts, irrigation systems, and landscaping that can help evaluate possible damage claims made later.
- Investigation of the Historical Significance – Research the past use and ownership of the property to document any issues regarding the existence of historic structures or archeological sites.
- Sample Soil and Water – Soil and groundwater samples may be collected prior to use of the site if it is not a government-owned site. Planned HHW, ash, and fuel storage areas may also be sampled prior to site setup.

As operations proceed additional data may be collected throughout the operation for closeout and quality assurance reasons. The data can be compared to the previously established information in order to determine any remediation that may be necessary. The following tools can be utilized:

- Sketch Site Operation Layout – DMS operations may grow, shrink, or shift on the site. It is important to track reduction, hazardous waste collection, fuel, and equipment storage in order to sample soil and water for contaminants.
- Document Quality Assurance Issues – Document operations that will have a bearing on site closeout, such as petroleum spills at fueling sites, hydraulic fluid spills at equipment breakdowns, installation of water wells for stock pile cooling or dust control, discovery of HHW, and commercial, agricultural, or industrial hazardous and toxic waste storage and disposal.

- Restoration of Site – Final restoration of the landscape must be acceptable to the landowner, but within reasonable expectations. Therefore, the restoration of the landscape will be planned for as early as possible during debris management operations.

Sedgwick County's objective with regards to the potential environmental impact at all sites is to ensure that safety precautions are taken to organize the site in such a way as to provide a safe and organized use of the location throughout the event, and that measures are taken to reduce the chance of ground, air, and water contamination after all the materials have been collected. This objective may be accomplished in a variety of ways and will be the responsibility of the Sedgwick County Environmental Resources Division.

### **Permits**

Environmental permits and land-use variances may be required to establish a temporary DMS. Several agencies may be involved in issuing permits and granting land-use approvals. The need for these permits may be satisfied by changes established in a declared disaster in Sedgwick County; however, a listing of permits that may be necessary include the following:

- Waste processing and recycling operations permit
- Temporary land-use permits
- Land-use variances
- Traffic circulation strategies
- Air quality permits
- Water quality permits
- HHW permits
- Fire department burn permits

Agencies involved in issuing permits and granting land-use approvals includes, but is not limited to, the following:

- Wichita Environmental Health Department
- Wichita/Sedgwick County Metropolitan Area Planning Department
- Kansas Department of Health and Environment ([www.kdheks.gov](http://www.kdheks.gov))
  - Bureau of Waste Management ([www.kdheks.gov/waste](http://www.kdheks.gov/waste))
- Kansas Department of Agriculture (<http://agriculture.ks.gov/>)

### **Site Design and Preparation**

The topography and soil/substrate conditions will be evaluated to determine the best site layout. When planning site preparation, the designer will consider ways to make site closure and restoration easier. Upon site closeout, the uncontaminated soil can be re-spread to preserve the integrity of the tillable soils.

## **Operational Boundaries**

These boundaries or areas clearly define the difference in use areas at the DMS. Earthen berms, temporary barriers, or any other physical restriction may be used to aid in traffic circulation and the minimization of amazing debris at the DMS. Common operational areas may include the following:

- Reduction
- Recycling
- Tipping areas (unloading)
- Loading areas for processed debris to go to its final destination
- Drop-off centers for the general public (this may include vegetative, recycling, or construction and demolition debris)
- HHW storage
- Monitoring locations at both the ingress and egress points
- Equipment, fuel, and water storage

The reduction, recycling, tipping, and loading areas need ample room for large equipment operations. Depending on the scale of the operations, each debris stream may and should have its own tipping area and will be designed accordingly.

General public drop-off areas for recycling, reduction, and construction and demolition debris may be included within the DMS, but will be carefully designed for passenger vehicle traffic and public safety. Any HHW storage will be close to the public drop-off center yet restricted so that qualified personnel may process the waste appropriately.

Monitoring areas will be located at ingress and egress points.

Equipment and fuel will have a designated storage area and signs posted appropriately. The fuel storage areas need to be designed to contain spills. Every effort will be made to have water readily available at all times. Water storage areas will be strategically positioned throughout the site and identified appropriately. Water Storage may come as a tender truck from a fire department or the local entity overseeing the DMS. Appendix C contains a sample DMS layout with operational boundaries.

## **Traffic Patterns**

The traffic circulation needs to be well defined throughout the entire site. Although traffic signs and barricades aid in directing traffic, flag directors and law enforcement personnel may need to be on site to direct traffic.

## **Site Management**

The management of the DMS will be under the control of Sedgwick County Public Works personnel to ensure operational efficiency and to meet strategic goals.

### Site Manager

This position is responsible for supervising the overall day-to-day operations, maintaining daily logs, preparing site progress reports, and enforcing safety and permitting requirements during site operations. Furthermore, the site manager has oversight for monitoring the activities of the debris removal contractors and onsite debris processing contractors to ensure they comply with the terms of their contracts. The site manager is also responsible for site security and traffic control. These functions can be delegated to assigned personnel if appropriate and available.

### Debris Monitors

Operational monitors will be placed at ingress and egress points in order to quantify debris loads, issue load tickets, inspect and validate truck capacities, check loads for hazardous waste, and perform quality control checks as necessary.

### Safety Personnel

Safety personnel are responsible for traffic control and ensuring that site operations are in compliance with Federal and State occupational safety regulations.

## **Monitoring Debris Removal**

The purpose of monitoring debris removal is to (1) verify that the work completed by the contractor is within the scope of work of the contract and (2) documentation is provided to ensure operations have meet all local, State, and Federal laws, regulations, and guidelines.

### Debris Monitoring Duties

To do this debris monitors will minimally perform the following roles:

- Measure and certify truck capacities (recertify on a regular basis);
- Complete and physically control load tickets (in monitoring towers and the field);
- Validate hazardous trees, including hangers, leaners, and stumps (use appropriate documentation forms);
- Ensure that trucks are accurately credited for their loads;
- Ensure that trucks are not artificially loaded to maximize reimbursement (i.e., debris is wetted, debris is not compacted, etc.)
- Ensure that hazardous waste is not mixed with loads
- Ensure that all debris is removed from trucks at the DMS
- Report to project manager:
  - Mobilization and use of improper equipment
  - Contractor personnel safety standards are not followed
  - General public safety standards are not followed
  - Completion schedules are not on target



- Debris removal work does not comply with all local, State, and Federal ordinances and regulations
- Ensure that only debris specified in the scope of work is collected and identify work as potentially eligible or ineligible;
- Monitor site development and restoration of DMS;
- Ensure daily loads meet permit requirements; and
- Ensure that work stops immediately in an area where human remains or potential archeological deposits are discovered.
- Ensure the route to the DMS is free of debris that may have fallen off trucks while hauling to the site. Might need a cleanup crew that just follows the route picking up fallen debris.

### Debris Monitoring Methods

Additional documentation requirements depend on how the debris is collected and processed. The following methods and systems may be used to monitor and document the work completed by Sedgwick County resources and/or by contractors.

Debris Monitoring Reports – This type of report is important for time-and-materials contracts that may be used during the response phase of the operations. Monitoring documentation for time-and-materials contracts includes:

- Actual labor hours worked
- Actual equipment hours operated
- Type and specification of equipment used

Truck Certification Form – This type of report allows the monitor to identify the truck itself and its hauling capacity in a standardized manner. The standard list of requirements includes:

- Size of hauling bed in cubic yards
- License plate number
- Truck identification number assigned by the owner
- Short physical description of the truck

Recertification of the hauling trucks on a random and periodic basis may be implemented for contract compliance and reimbursement considerations. Appendix I contains a sample truck certification form.

Load Ticket System – The term “load ticket” refers to the primary debris-tracking document. A load ticket system tracks the debris from the original collection point to the DMS, Transfer Station(s) or C&D landfill(s). By positioning debris monitors at each point of the operations (collection, DMS, and/or final disposition), the eligible scope of work can be properly documented.

Each monitor keeps a copy of the load ticket and the driver/contractor keeps two copies for billing purposes. Appendix F

includes a copy of the load ticket that will be used by Sedgwick County personnel during debris management personnel. Upon activation, the load ticket will be printed sequentially by the Sedgwick County Printing Office.

Each load ticket will be printed as a five-part form with the following jurisdictional origin numbering code system.

*Note: Color Code for Jurisdiction: **County**, **City**, **Township***

JURISDICTION	CODE	JURISDICTION	CODE
Sedgwick County Govt	Co-1	Erie Township	TS-4
City of Andale	Ci-3-1	Garden Plain Township	TS-5
City of Bel Aire	Ci-2-1	Grand River Township	TS-6
City of Bentley	Ci-3-2	Grant Township	TS-7
City of Cheney	Ci-3-3	Greeley Township	TS-8
City of Clearwater	Ci-3-4	Gypsum Township	TS-9
City of Colwich	Ci-3-5	Illinois Township	TS-10
City of Derby	Ci-2-2	Kechi Township	TS-11
City of Eastborough	Ci-3-6	Lincoln Township	TS-12
City of Garden Plain	Ci-3-7	Minneha Township	TS-13
City of Goddard	Ci-2-3	Morton Township	TS-14
City of Haysville	Ci-2-4	Ninnescah Township	TS-15
City of Kechi	Ci-3-8	Ohio Township	TS-16
City of Maize	Ci-3-9	Park Township	TS-17
City of Mount Hope	Ci-3-10	Payne Township	TS-18
City of Mulvane	Ci-2-5	Riverside Township	TS-19
City of Park City	Ci-2-6	Rockford Township	TS-20
City of Sedgwick	Ci-3-11	Salem Township	TS-21
City of Valley Center	Ci-2-7	Sherman Township	TS-22
City of Viola	Ci-3-12	Union Township	TS-23
City of Wichita	Ci-1	Valley Center Township	TS-24
Afton Township	TS-1	Viola Township	TS-25
Attica Township	TS-2	Waco Township	TS-26
Eagle Township	TS-3		

The following is the disposition of each load ticket part.

- Part 1 (White) – Site or Origin Representative
- Part 2 (Green) – Disposal Site Monitor
- Part 3 (Canary) – Debris Site Representative
- Part 4 (Pink) – Driver or Contractor

### Monitoring Tips

Contractors must always be monitored closely to ensure compliance with the scope of work. Appendix J includes monitoring tips that address common types of contractor abuse.

### **Methods of Material Reduction**

There are three main types of reduction methods to consider and use during debris management operations; incineration, chipping/grinding, and recycling. The type(s) used will be based operational goals, site availability, and personnel availability.

Incineration – Burning vegetative debris is a very common reduction method because it has up to a 95% reduction rate. The incineration process requires a minimum of three steps, to include:

- Unloading the debris
- Moving the debris into an incinerator
- Removing the ash from the incinerator to final disposition, which may be an appropriately constructed area at the DMS or a C&D landfill

There are several incineration methods available for volume reduction.

Uncontrolled Open-Air Incineration – This method reduces debris with no control over how much or how quickly it is allowed to burn. The use of this type of reduction will be limited due to its lack of environmental control.

Controlled Open-Air Incineration – This method reduces vegetative debris by burning debris within a contained fixed area. This reduction can be used freely because it presents little environmental damage and is cost-effective.

Air Curtain Pit Incineration – This method effectively expedites the volume reduction process while substantially reducing the environmental concerns caused by open-air incineration. Specifically, this type of reduction uses a pit constructed by digging below grade or building above grade and using a blower unit. The burning chamber is usually no more than 8 feet wide and 9-14 feet deep. Sedgwick County owns a portable air curtain burner. A pit is already in place at the Sedgwick County Public Works West Yard.

Portable Air Curtain Incinerators – This method uses the same concept as air curtain pit incineration, except this method utilizes pre-manufactured pits rather than onsite constructed earthen pits. These types of incinerators are the most efficient because they have been pre-engineering to precise dimensions to complement the blower system.

Setbacks and buffer zones need to be established within and around the reduction sites not only for the public safety, but also for the safety of debris

operations. A setback of at least 100 feet will be maintained between the debris piles and the incineration area. A 1,000 foot buffer zone will be established between the incineration area and the nearest building to create room for emergency vehicles to maneuver. All burning operations are subject to environmental regulations set forth in K.A.R. 28-19-647(d.-e.).

Chipping/Grinding – This method calls for the vegetative debris to be chipped or ground. This method reduces volume by 75%. Because of the remaining volume, the benefit of this reduction method is increased by identifying alternate use of residual material such as recycled wood chips used for agricultural purposes or as fuel for industrial heating. Plastics will be eliminated completely from debris prior to performing this method. Sedgwick County owns a portable Tub Grinder that is located at the Sedgwick County Public Works West Yard.

Recycling – This method captures pre-identified types of debris materials for recycling and/or reuse. Currently, businesses in Sedgwick County have the capability to recycle metals such as aluminum, tin, and various other scrap metals. Community recycling centers are currently available in Sedgwick County for residential-type recycling, e-waste, white goods, and household hazardous waste. Information about local recycling businesses can be found on the Sedgwick County Environmental web site or in their pamphlets.

### **Site Closure**

When the site operations are complete, the property must be restored to its original condition before returning the site to the property owner. This restoration includes the removal of all traces of operations and possible remediation of any contamination that may have taken place during the operations. The site, whether owned or leased by Sedgwick County, must be brought back to its environmental state, prior to it being returned to the owner.

The final environmental site evaluation is an extension of the environmental monitoring program. Similar testing as completed in the baseline study may be conducted to confirm that the site has been returned to its pre-activity state. Test samples may be taken at the same locations as those of the initial assessment and monitoring program. Based on the results of the testing, additional remediation may be required.

All operational documentation will be collected and organized and then submitted to Sedgwick County Emergency Management and Homeland Security for review. If needed, these documents will be incorporated into disaster reimbursement request per pre-determined processes established by county policy.

## **VI. Contracted Services**

It may be necessary to contract for debris removal services if the magnitude of the disaster is beyond the capabilities of Sedgwick County, mutual aid agreements, and volunteer labor.

## **Emergency Contracting & Procurement Procedures**

### **Type of Contract**

Sedgwick County will use Request For Proposal (PFP) and/or Request For Bid (RFB) contracts to solicit bids and award contracts in non-disaster times. Contractors will be paid based on the number of cubic yards of eligible debris hauled per truckload to the temporary debris management site(s).

If additional contracted labor is needed during debris management operations, additional contracts may need to be instituted. The following list of contract types may be instituted.

**Lump Sum** – Work within a prescribed boundary with a clearly defined scope (including finite timeframe) and a total price. There are two common uses of the lump sum contract which are as follows:

*Area Method* – This technique defines the geographical boundary in which the debris is to be collected. By providing geographical boundaries, the quantity of debris may be forecasted or estimated based on topography and land use.

*Pass Method* – This technique describes the number of times debris will be collected from the curbside within a specified geographical boundary. Limiting the number of passes for an area keeps the scope of work known.

**Unit Price** – Work done on an item-by-item basis with cost determined per unit. The quantities of work to be completed are estimated by Sedgwick County and included in the bid solicitation process. The estimated quantity of work described in the bid solicitation can be adjusted to reflect a more accurate quantity when debris operations are under way and the true extent of the disaster is realized.

**Time and Materials** – Contractor bills Sedgwick County for labor, equipment, materials, and overhead. This type of contract is used when the scope of work necessary to achieve an outcome is unknown. Moreover, this type of contract establishes hourly rates for labor and equipment that will be used to perform specific tasks. Solicitation for a time and materials contract will include descriptions of the types of work items that would be required for debris removal, debris processing, and recycling.

Sedgwick County will establish the maximum number of hours this type of contract can work or set an operational ceiling of actual work. Sedgwick County will carefully monitor these contracts by requiring contractors to provide daily work reports and other control measures as deemed necessary.

This type of contract is the least preferred and is typically only used for initial emergency work or when there are complex life-saving activities dependent on the removal of debris.

### **General Contract Provisions**

To protect the interests of Sedgwick County, specific items will be included in the contract to minimize the potential conflicts with the contractor. These items may include, but are not limited to, the following:

- *Basis of payment* – Basis of payment is usually based on the volume and/or weight of the contractor's loads
- *Duration of the contract* – To ensure that debris removal is conducted expeditiously, the contract will include specific timelines for work to be completed
- *Performance measures* – Sedgwick County will implement progress payments for services as specific performance tasks have been met and documented.
- *Agreement to restore collateral damage* – A contract provision will include a requirement that the contractor is to restore and/or repair (at the contractor's expense) all damaged infrastructure back to pre-existing conditions if the damage was caused by their activities
- *Termination*
  - Termination for Cause. In the event of any breach of the terms or conditions of this Agreement by Contractor, or in the event of any proceedings by or against Contractor in bankruptcy or insolvency or for appointment of receiver or trustee or any general assignment for the benefit of creditors, County may, in addition to any other remedy provided it by law or in equity or other right reserved to it elsewhere in this Agreement, without any liability to Contractor on account thereof, by written notice, terminate immediately all or any part of this Agreement, procure the goods, equipment and/or services provided for herein elsewhere, on such terms and under such conditions as are reasonable in the sole discretion of County, and Contractor shall be liable to pay to County any excess cost or other damages caused by Contractor as a result thereof.
  - Termination for Convenience. County shall have the right to terminate this Agreement for convenience in whole, or from time to time, in part, upon thirty (30) days' written notice. Upon receipt of such termination notice, Contractor shall not incur any new obligations and shall cancel as many outstanding obligations as reasonably possible. In such event, County's maximum liability

shall be limited to payment for goods or equipment delivered and accepted and/or services rendered.

- Reduction in Funds. It is understood that funding may cease or be reduced at any time. In the event that adequate funds are not available to meet the obligations hereunder, either party reserves the right to terminate this Agreement upon thirty (30) days' written notice.

### **Contract Scope of Work**

Will reference one of the following:

- Eligible Work
- Work eligible under FEMA Public Assistance regulations, policies, and guidance
- Work performed on public property and/or public rights-of-way

Units of work must be viewed uniformly to prevent work on one piece of debris on multiple occasions (ex: removing a leaning portion and the cutting the stump to the ground cannot be two separate unit costs).

### **Contract Limitations**

- Avoid “piggyback contracts” with neighboring jurisdictions
- Use caution with shared contracts
- Cost plus percentage of cost contracts will not be used
- Avoid contracts with any phrase that implies, insinuates, or otherwise uses phrases that indicate FEMA pre-approval

### **Procurement Policy**

Sedgwick County jurisdictions will follow the Board of County’s Commissioners Resolution or City’s Ordinance for all emergency procurement rules, regulations, limitations, and exceptions.

### **Additional Contract Requirements**

- For all contracts, the following minimum bonding requirements will apply:
  - A bid guarantee from each bidder equivalent to 5% of the bid price
  - A performance bond on the part of the contractor for 100% of the contract price
  - A payment bond on the part of the contractor for 100% of the contract price

### **Scope of Work for On-Call Debris Removal**

Purpose: Sedgwick County can have storm debris generated by high winds, ice storms, tornadoes and flooding events. Depending on the severity of the storm,

the County may sponsor dumpsters for onsite disposal, arrange for packer truck collection in certain neighborhoods, or offer sites for residents to bring their tree waste to for free disposal. In order to best serve the community after a storm event, the County wants to have pre-event unit-price contracts in hand to help expedite an immediate response.

Scope of Work: The companies should bid on the following items:

- Charge for delivering each dumpster
  - Note if mileage variations will occur, and what they are
- If applicable: Charge per size of dumpster: 30 cubic yard and 40 cubic yard
- Charge for collecting dumpster
- Tonnage fee
- Any Overtime Charges (include Saturday and Sunday)
- Costs associated with Packer trucks:
  - Hourly costs per driver
  - Overtime costs
  - Mileage
  - Tonnage fee
- Any other ancillary costs

Response Time: The Company must provide a guaranteed time frame for dumpster and packer truck response. Once they receive our request, how long will it take to get a dumpster in place or packer truck in place (maximum time may be based on mileage to event).

## **VII. Private Property Demolition and Debris Removal**

County staff, contractors or other representatives will not enter onto private property to collect debris. In the event that damage is not abated and/or debris is not removed and such conditions are deemed to constitute a dangerous health or nuisance condition, necessary governing authority will be provided by the Sedgwick County Board of Commissioners.

If deemed appropriate due to the scope of the disaster and/or debris generated by such a disaster, the County Board of Commissioners along with City Officials may take additional formal executive action to authorize collection of debris on private property provided such authorization ensures that the applicable property owner(s) execute a waiver or release of liability developed by Sedgwick County in coordination with FEMA or other applicable State & Federal agencies.

Prior to any removal of debris from the private property, the following documentation will be sent to FEMA's Federal Coordinating Officer FCO:

- Documentation confirming the existence of an immediate threat on public property (44 CFR 206.224(a));
  - Immediate threat to life, public health, and/or safety
  - Immediate threat to improved property determination
  - Removal will expedite economic recovery of Sedgwick County



- Documentation of the legal authority to enter that property (44 CFR 206.223(a)(3);
- Documentation that a legally authorized official has ordered the exercise of public authority to enter private property to perform debris removal (44 CFR 206.223(a)(3); and
- Indemnification for the Federal government and its employees, agents, and contractors from any claims arising from the removal of debris (44 CFR 206.9).

The FCO will approve or disapprove in writing Sedgwick County's request. If approval is granted, debris removal can begin with the pre-determined scope of work; however the following documents will be created during debris management operations:

- Right-of-Entry – This document must be signed by the property owner and will include a hold harmless agreement and indemnification applicable to the project's scope of work.
- Physical Documentation – Photos will be taken to show the condition of the property prior to the beginning of the work. Pictures will document the address and scope-of-work on the private property.
- Private Property Debris Removal (PPDR) Assessment – A property specific assessment will be created to establish the scope of eligible work. The PPDR can be a map or other documentation system that serves as a guide indicating the location of the eligible items of work that present an immediate threat relative to the improved property or rights-of-way.
- Documentation of Environmental and Historic Review – Documents environmental and historical preservation compliance as established in 44 CFR Parts 9 and 10 as well as any relevant Kansas or Sedgwick County resolution, Statute, or ordinance.

Additional documentation may be required by the FCO on a case-by-case basis to demonstrate the proposed work is in compliance with all Federal, State, and local laws and regulations.

## **VIII. Public Information Plan**

### **Distribution Strategy**

Public information related to debris management will be submitted to the public in as many ways as possible. Although there will be an operational PIO designated by the Debris Project Manager, this position will work in cooperation with the Sedgwick County PIO to facilitate the distribution of public information. The following communication vehicles will be considered when performing this function:

- Media – This includes local television, radio, newspapers, Social Media, or community newsletters that reach the impacted area(s).

- Internet Sites – Information will be posted to the Sedgwick County Government webpage (www.sedgwickcounty.org)
- Public forums – This includes interactive meetings at a local government building(s).
- Direct Delivery Products – This includes door hangers, direct mail, fact sheets, flyers within bills, billboards, etc.

Using these various communication methods will ensure the distribution of information even if power, utilities, and other infrastructure have been damaged during the disaster. Providing this information to the workers in the field is also a critical way to distribute vital information.

The PIO may choose to establish a Debris Information Hub if the size of the debris management process warrants it. This may include a direct Sedgwick County hotline or information may be routinely submitted to the regional 2-1-1 system.

Through the listed mechanisms, the public will be encouraged to do the following:

- If possible, separate debris materials – burnable materials, non-burnable materials, household hazardous waste (HHW), and recyclable materials;
- Keep debris materials from fire hydrants;
- Report illegal debris material dump sites; and
- Review all debris removal routes and schedules

The -Sedgwick County Print Shop will be used to print all materials needed for Debris Management activities. If operational demands exceed the capabilities of the Print Shop, contractors or mutual aid may be required to supplement the printing of the necessary items.

## **IX. Plan Maintenance**

As a support annex to the Sedgwick County LEOP, this Plan will be reviewed on an annual basis for necessary changes or additions to continue to meet operational and legal requirements.

## **X. Acronyms**

<b>C&amp;D</b>	Construction & Demolition
<b>DMS</b>	Debris Management Site
<b>DPM</b>	Debris Project Manager
<b>EOC</b>	Emergency Operations Center
<b>FCO</b>	Federal Coordinating Officer
<b>FEMA</b>	Federal Emergency Management Agency
<b>GIS</b>	Geographic Information System
<b>HHW</b>	Household Hazardous Waste
<b>K.A.R.</b>	Kansas Administrative Regulations
<b>KDEM</b>	Kansas Department of Emergency Management
<b>KDHE</b>	Kansas Department of Health and Environment
<b>LEOP</b>	Local Emergency Operations Plan
<b>NRCS</b>	National Resources Conservation Service

<b>PIO</b>	Public Information Officer
<b>PPDR</b>	Private Property Debris Removal
<b>R.O.W.</b>	Right of Way
<b>ROOT-BALL</b>	The tightly packed mass of roots and soil produced by a plant
<b>TDMS</b>	Temporary Debris Management Site
<b>USACE</b>	United States Army Corp of Engineers
<b>USDA</b>	United States Department of Agriculture
<b>VCM</b>	Vegetative Cover Multiplier
<b>WMD</b>	Weapon of Mass Destruction

## **XI. Definitions**

**Disaster-generated debris:** Any material, including trees, branches, personal property and building material on public or private property that is directly deposited by the disaster.

**Improved property:** Any structure, facility, or equipment that was built, constructed, or manufactured. Examples include houses, sheds, car ports, pools, and gazebos. Land used for agricultural purposes is not improved property.

**Legal responsibility:** A statute, formally adopted State or local code, or ordinance that gives local government officials responsibility to enter private property to remove debris or to perform work to remove an immediate threat.

**Private property:** Land and structures, to include contents within the structures, built on land that is owned by non-governmental entities.

**Private road:** Any non-public road for which a subdivision of the State is not legally responsible to maintain. Private roads include roads owned and maintained by homeowners associations, including gated communities, and roads for which no entity has claimed responsibility. Local police, fire, and emergency medical entities may use these roads to provide services to the community.

## **Appendices**

<b>Appendix A:</b>	Hazardous Stump Worksheet
<b>Appendix B:</b>	Stump Conversion Table
<b>Appendix C:</b>	Sample DMS with Operational Boundaries
<b>Appendix D:</b>	Operational Safety Awareness & Regulations
<b>Appendix E:</b>	Federal Guide Load Ticket
<b>Appendix F:</b>	Sedgwick County Sample Debris Load Ticket
<b>Appendix G:</b>	Landfills and Debris Management Sites in Sedgwick County
<b>Appendix H:</b>	Temporary Debris Management Sites
<b>Appendix I:</b>	Truck Certification Form
<b>Appendix J:</b>	Debris Monitoring Tips
<b>Appendix K:</b>	Debris Notification Sheet
<b>Appendix L:</b>	Right of Entry
<b>Appendix M:</b>	Debris site check off

APPENDIX A: Hazardous Stump Worksheet

Hazardous Stump Worksheet

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

Applicant Representative: \_\_\_\_\_ Signature: \_\_\_\_\_

FEMA Representative (if available) \_\_\_\_\_ Signature: \_\_\_\_\_

State Representative (if available): \_\_\_\_\_ Signature: \_\_\_\_\_

	Physical Location (i.e., Street address, road, cross streets, etc.)	Description of Facility (ROW, Park, City Hall, etc.)	Hazard		GPS (decimal degrees, 00.000000)		Tree Size (Diameter)	Eligible		Fill For Debris Stumps	Comments (See attached sketch, photo, etc.)
			Yes	No	Latitude (N)	Longitude (W)		Yes	No		
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											

## APPENDIX B: Stump Conversion Table

### Stump Conversion Table

#### Diameter to Volume Capacity

The quantification of the cubic yards of debris for each size of stump in the following table was derived from FEMA field studies conducted throughout the State of Florida during the debris removal operations following Hurricanes Charley, Frances, Ivan and Jeanne. The following formula is used to derive cubic yards:

$$\frac{[(\text{Stump Diameter}^2 \times 0.7854) \times \text{Stump Length}] + [(\text{Root Ball Diameter}^2 \times 0.7854) \times \text{Root Ball Height}]}{46656}$$

0.7854 is one-fourth Pi and is a constant.

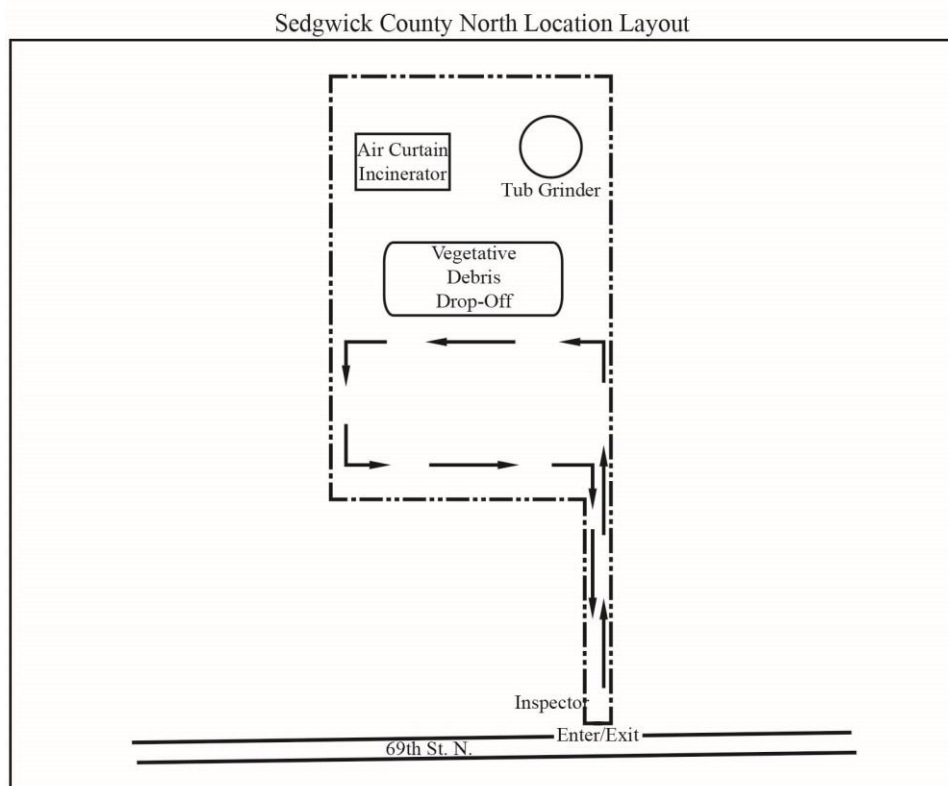
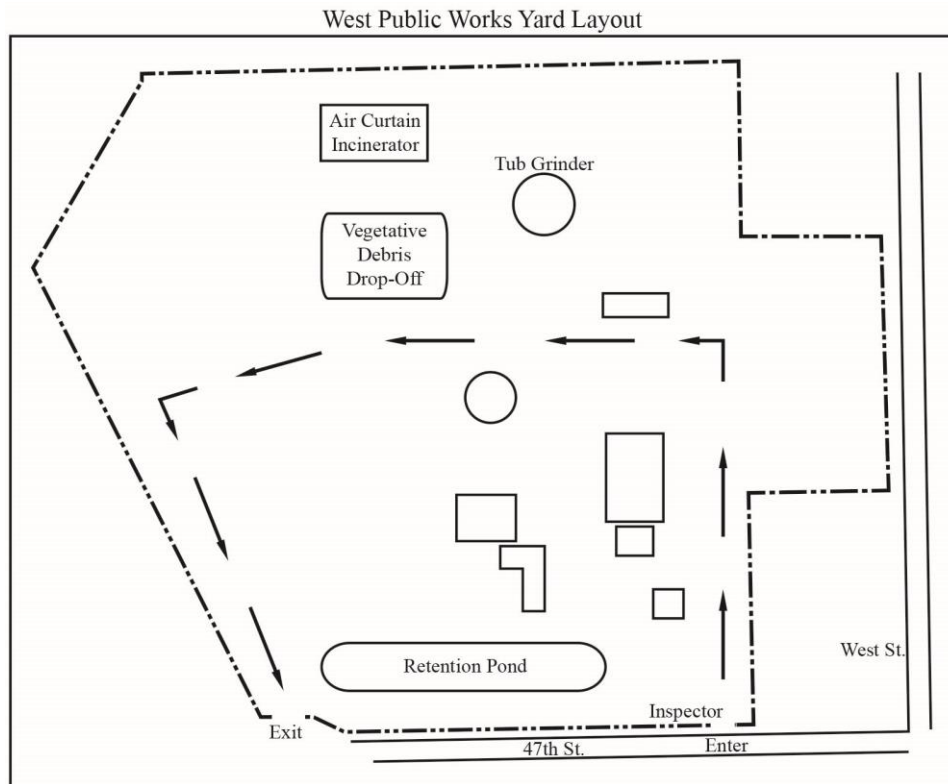
46656 is used to convert cubic inches to cubic yards and is a constant

The formula used to calculate the cubic yardage used the following factors, based upon findings in the field:

- Stump diameter measured two feet up from ground
- Stump diameter to root ball diameter ratio of 1:3.6
- Root ball height of 31"

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		

## APPENDIX C: Sample DMS Layout with Operational Boundaries



## APPENDIX D: Operational Safety Awareness & Regulations

### Potential Hazards

Sedgwick County responders along with contracted workers may face the following potential hazards while performing debris management operations:

• Unstable work surfaces	• Roadside work
• Structural integrity	• Driving
• Flying debris (eye injuries)	• Breathing dust
• Heavy equipment	• Falling Ice & Debris
• Electrical	• Carbon monoxide
• Excessive noise	• Smoke inhalation
• Falls from heights	• Potential chemical exposures
• Molds	• Bites and stings
• Blood-borne diseases	• Water and food sanitation
• Personal sanitation and Hygiene	• Traumatic stress
• Confined spaces	

### Safety Regulations

Sedgwick County personnel are subject to the rules and regulations of the Kansas Department of Labor, while contracted personnel are subject to OSHA regulations. However, since these regulations are often tied together, the following list of regulations will be considered before, during, and after all debris management activities.

- 29 CFR 1910.1200 (HazCom)
- 29 CFR 1910.120 (Hazwoper)
- 29 CFR 1910.134 (Respiratory Protection)
- 29 CFR 1910.146 (Confined Spaces)
- 29 CFR 1910.1030 (Bloodborne Pathogens)
- 29 CFR 1926.20-35 (General Construction),
- 29 CFR 1910.23 (Fall Protection),
- 29 CFR 1915.159 (Fall Arrest Equipment)
- 29 CFR 1910.132 (Personal Protective Equipment),
- 29 CFR 1910.137 & 29 CFR 1910.332 (Electrical safety),
- 29 CFR 1910.147 (Lockout/Tagout), and
- All other local, State, or Federal safety regulations.

### Health Concerns

Exposure to potentially hazardous conditions may require immunization and/or monitoring from public health experts. Specific considerations include tetanus, hepatitis A, or other vaccines as recommended by the Sedgwick County Public Health Department.



Appendix E Federal Guide Load Ticket

Sample Debris Load Ticket

<b>LOAD TICKET</b>		
TICKET NUMBER: <b>00001</b>		
CONTRACT NUMBER:		
PRIME CONTRACTOR'S NAME:		
DATE:		
<b>DEBRIS QUANTITY</b>		
Truck No:	Capacity (CY):	
Load Size : Cubic Yards _____ or Tons _____		
Truck Driver:		
<b>DEBRIS CLASSIFICATION</b>		
	Burnable _____	
	Non-Burnable _____	
	Mixed _____	
	Other _____	
<b>LOCATION</b>		
Zone/Section	Dumpsite	
	Time	Contract Monitor
Loading		
Dumping		

# **APPENDIX F: Sample Sedgwick County (KS) Debris Load Ticket**

<b>LOAD TICKET</b>	<b>Ticket #</b>
<b>Debris Source Location:</b>	<b>Unloading Location:</b>
	<b>Site Monitor:</b> _____
<b>Date:</b>	<b>Arrival Time:</b>
<b>Municipality (Source)</b>	<b>Contractor, if applicable</b>
<b>ID Code:</b> _____	
<b>Truck #</b>	<b>Truck Driver</b>
<b>Debris Quantity</b> Cubic Yards: _____ Or Tons: _____	<b>Type of Debris (check all that apply)</b>  <input type="checkbox"/> Tree <input type="checkbox"/> Brush <input type="checkbox"/> Wood <input type="checkbox"/> Other: <b>Explain</b> _____ _____ _____ _____

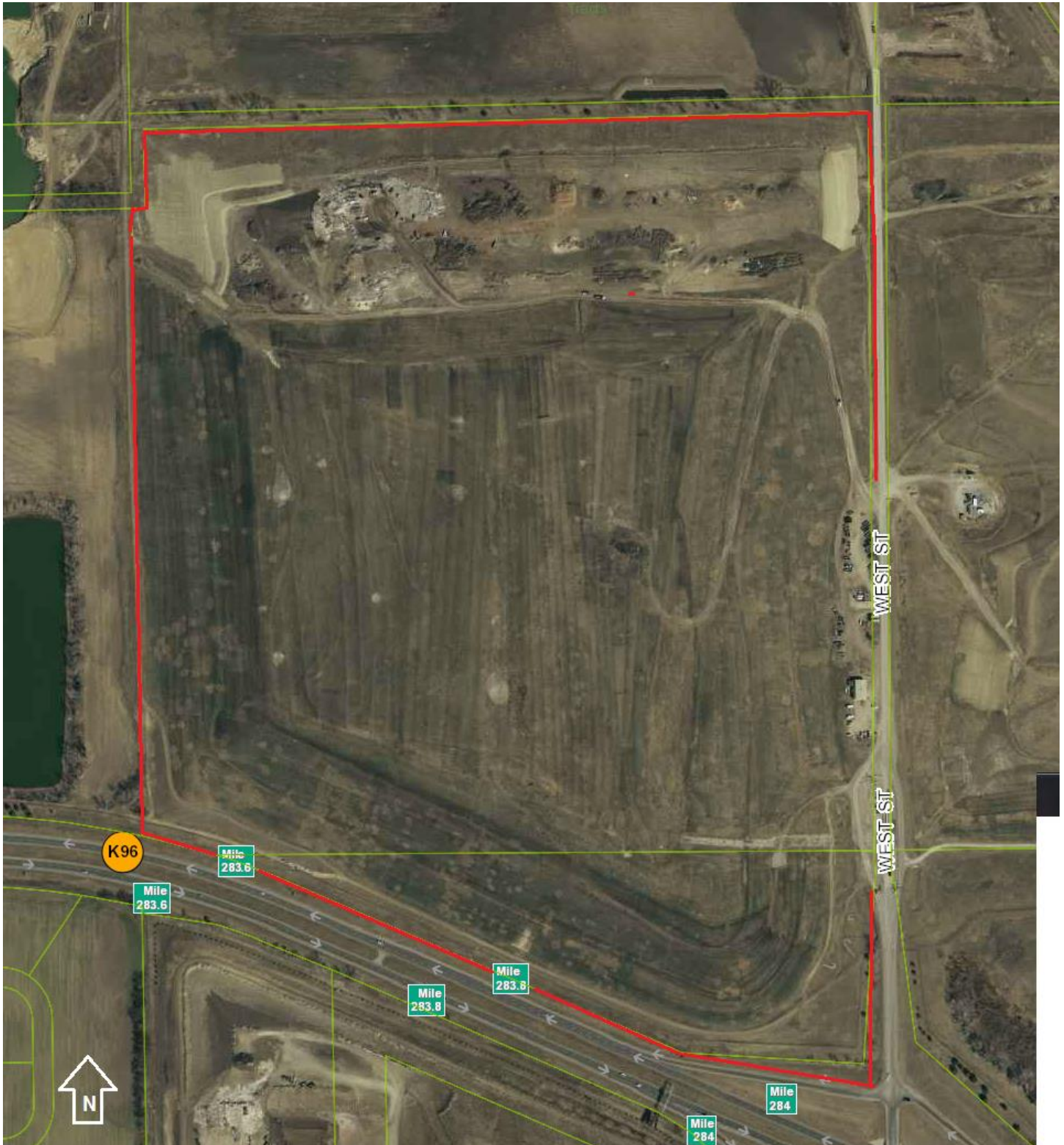
## APPENDIX G: Landfills and Debris Management Sites

There are several locations within Sedgwick County that could be used during debris management activities. Sedgwick County also uses an out-of-county landfill that could be used during debris management activities. They are as follows:

Landfill	Owner /Operator	Access	Accepts
Brooks C&D Landfill 4100 N. West St. 316-722-0601	City of Wichita	Businesses and Public	C&D and Yard Waste
CDR North C&D Landfill 4250 W. 37 <sup>th</sup> St. N. 316-942-8666	Cornejo & Sons	Businesses and Public	C&D
Evergreen Recycle 302 W. 53 <sup>rd</sup> St. N. 316-832-0400	Evergreen Recycle	Businesses and Public	Wood and Yard Waste
Waste Connections Transfer Station' 4300 W. 37 <sup>th</sup> St. N. 316-941-4320	Waste Connections	Businesses and Public	MSW
Waste Disposal Transfer Station 5550 W. 55 <sup>th</sup> St. S. 316-522-3633	Waste Disposal, LLC	Businesses and Public	MSW
Sedgwick County's Household Hazardous Waste Facility 801 Stillwell 316-660-7458	Sedgwick County	Small Quantity Generators & Public	HHW
Colwich Brush Pile 500 S. 8 <sup>th</sup> St. 316-796-1025	Colwich	Colwich Residents	Tree Debris and Brush
Goddard Public Works Yard 1206 S. 199 <sup>th</sup> St. W. 316-794-2441	Goddard	Goddard Residents	Tree Debris and Brush
Clearwater Brush Dump 10750 S 151 <sup>st</sup> Street W 620-584-2311	Clearwater	Clearwater Residents	Tree Debris and Brush
Haysville Brush Pile 401 S. Jane 316-529-5940	Haysville	Haysville Residents	Yard Waste, Concrete, Metal, Used Oil, Tree Debris
Valley Center Brush & Compost Site 531 W. Clay 316-755-7320	Valley Center	Valley Center Residents	Yard Waste, Brush and Tree Limbs
Plumb Thicket Landfill NE 150 <sup>th</sup> Road, West of NE 50 <sup>th</sup> Avenue Harper, Kansas 620-896-2229	Waste Connections	Businesses and Public	C&D and Yard Waste

*Note: Call for hours of operation. None of these facilities will accept radioactive material or animal carcasses with the exception of Plumb Thicket that will accept dead animals. Only the HHW Facility will receive hazardous materials and car batteries. Municipal Solid Waste (MSW) includes all types of yard waste. Check [SedgwickCounty.org](http://SedgwickCounty.org) for locations to dispose of or recycle special materials*

**BROOKS CONSTRUCTION & DEMOLITION LANDFILL  
4100 N WEST STREET  
WICHITA, KANSAS**





**CORNEJO & SONS CONSTRUCTION & DEMOLITION CDR LANDFILL**  
**4250 W 37<sup>TH</sup> STREET, NORTH**  
**WICHITA, KANSAS**





**EVERGREEN RECYCLE  
302 W 53<sup>RD</sup> STREET, NORTH  
WICHITA, KANSAS**





**WASTE CONNECTIONS TRANSFER STATION  
4300 W 37<sup>TH</sup> STREET, NORTH  
WICHITA, KANSAS**



**WASTE DISPOSAL TRANSFER STATION  
5550 W 55TH STREET, SOUTH  
WICHITA, KANSAS**

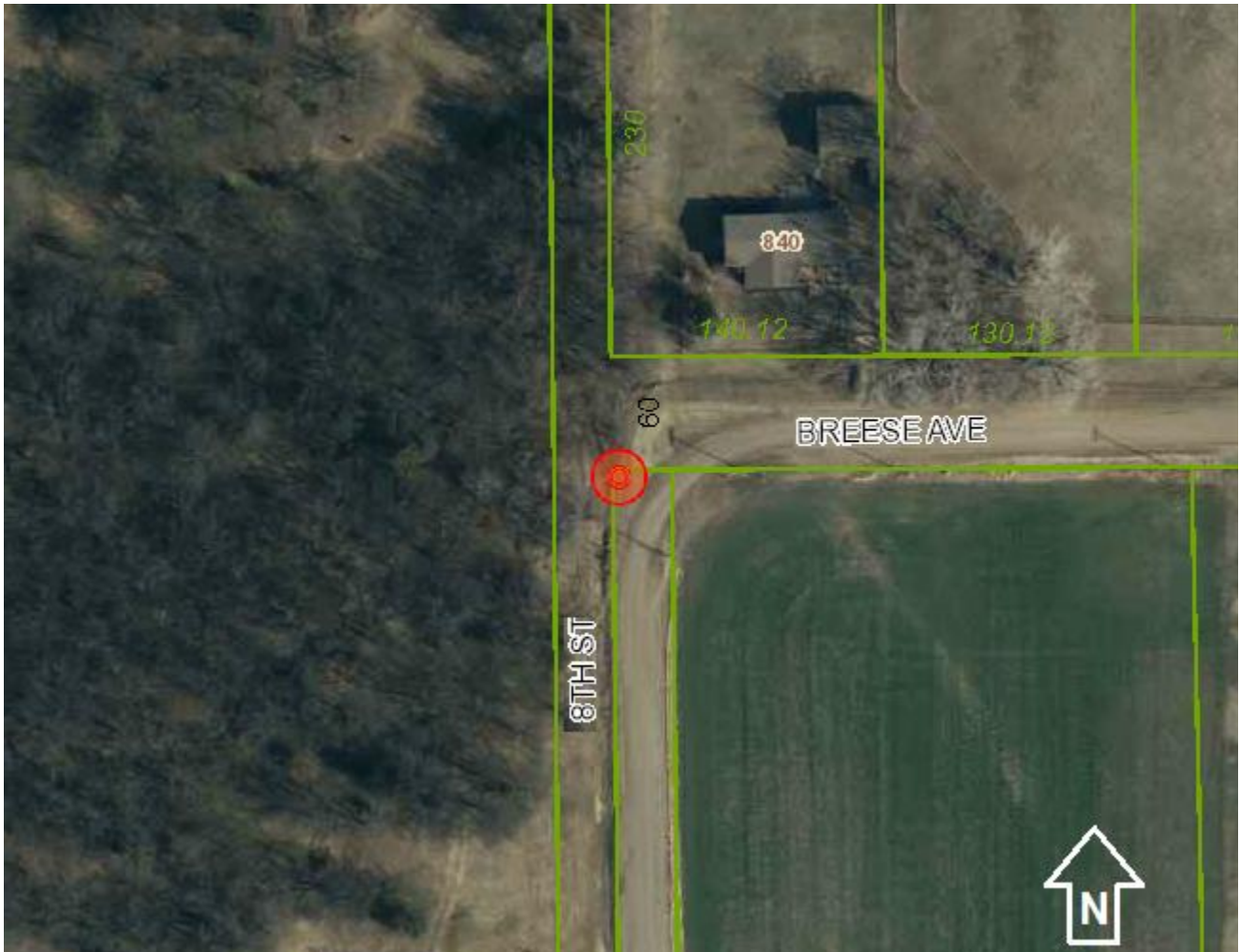




**HOUSEHOLD HAZARDOUS WASTE COLLECTION SITE  
801 W STILLWELL AVENUE  
WICHITA, KANSAS**



COLWICH BRUSH PILE  
500 S 8<sup>TH</sup> STREET  
COLWICH, KANSAS



**GODDARD PUBLIC WORKS YARD**  
**1206 S 199<sup>TH</sup> STREET, W**  
**GODDARD, KANSAS**





**CLEARWATER BRUSH DUMP**  
**10740 S 151<sup>ST</sup> STREET W**  
**CLEARWATER, KANSAS**



**HAYSVILLE BRUSH PILE  
401 S JANE STREET  
HAYSVILLE, KANSAS**





**VALLEY CENTER BRUSH & COMPOST SITE**  
**531 W CLAY STREET**  
**VALLEY CENTER, KANSAS**



**PLUMB THICKET CONSTRUCTION & DEMOLITION LANDFILL  
NE 150<sup>TH</sup> ROAD, WEST OF NE 50<sup>TH</sup> AVENUE  
HARPER COUNTY, KANSAS**



## APPENDIX H Potential Temporary Debris Management Sites (TDMS)

Sedgwick County has identified three sites that may be used for the temporary storage, reduction, and overall management of disaster-related debris until final disposition is made at a permanent landfill. Additional sites may be necessary, depending on the location of the storm debris.

	<b>Sedgwick County West Public Works Yard</b>	<b>Sedgwick County Northeast Storm Debris Land</b>	<b>Wichita-Valley Center Floodway</b>
<b>Ownership</b>	Sedgwick County	Sedgwick County	Wichita and Sedgwick County
<b>Location</b>	4701 S. West St	69 <sup>th</sup> St N. between Greenwich Rd. and 127 <sup>th</sup> E., north of Payne Township Building	East side of south Meridian, located between 63 <sup>rd</sup> St. S. and 71 <sup>th</sup> St. S.
<b>Size</b>	30 acres	20 acres	30 acre site, 10 acres used for debris management
<b>Access Route – Ingress</b>	Quarter mile west of West St. S. on 47 <sup>th</sup> St. S. on north side of road	6/10 of a mile east of Greenwich Road on 69 <sup>th</sup> St. N. on north side of road, entrance is east of Payne Township Building entrance	1/4 mile south of the intersection of 63 <sup>rd</sup> St S. heading west of Meridian and Meridian, entrance is on the east side of Meridian
<b>Ingress Road Types</b>	Paved on West St., gravel on 47 <sup>th</sup> St. S., gravel/dirt on site	Paved on Greenwich Rd., gravel on 69 <sup>th</sup> St. N., dirt on site	Paved on Meridian, dirt on site
<b>Access Route – Egress</b>	Exit onto 47 <sup>th</sup> St. S. and head east to West St.	Exit onto 69 <sup>th</sup> St. N. and head west to Greenwich Rd.	Exit onto Meridian
<b>Egress Road Types</b>	Gravel on 47 <sup>th</sup> St. S. to West St where it is paved	Gavel on 69 <sup>th</sup> St. N. to Greenwich Rd. where it is paved	Meridian is paved
<b>Approved Debris Streams</b>	Tree Debris	Tree Debris	Tree Debris
<b>Environmental Status</b>	No known special status	No known special status.	Floodplain

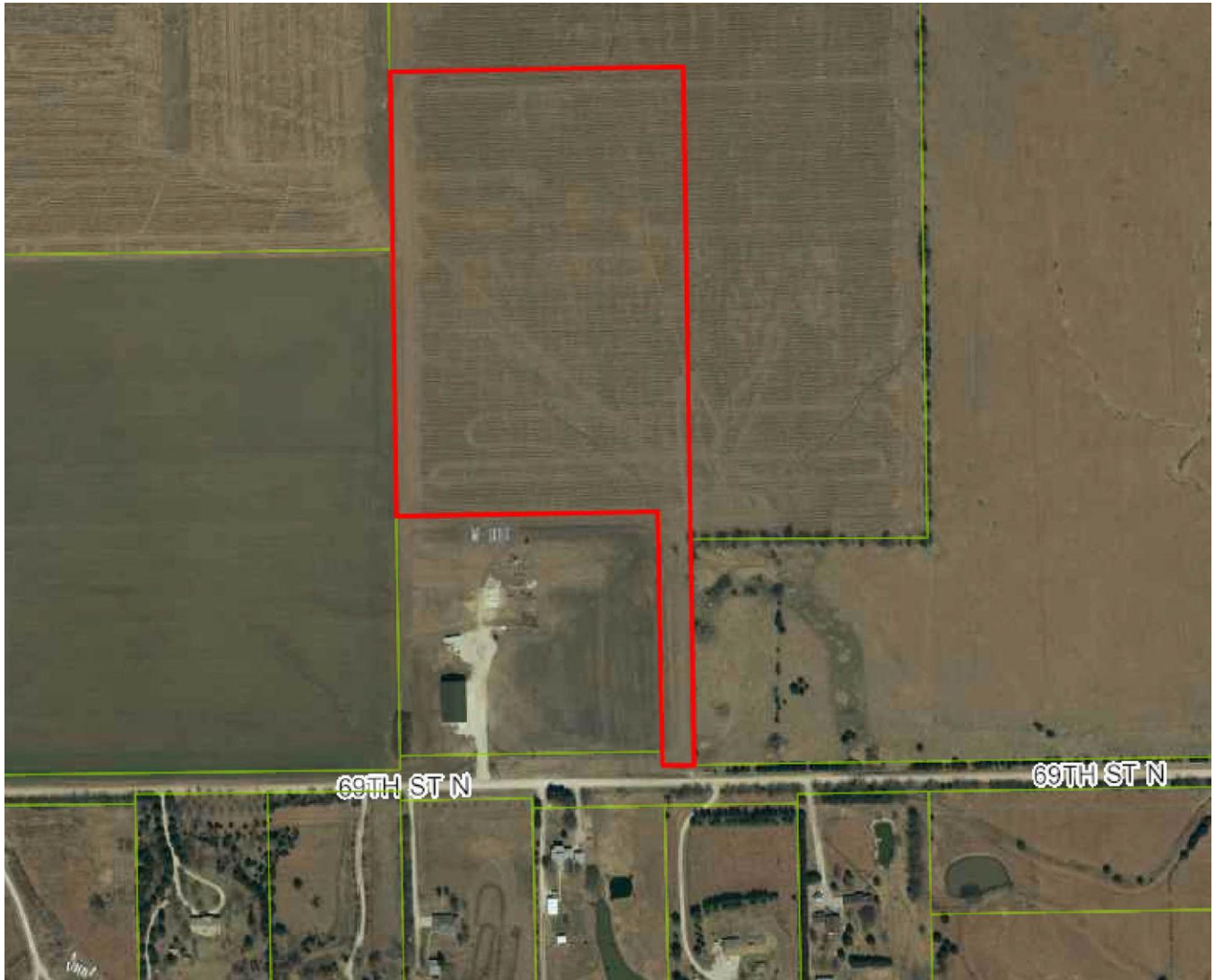
**TEMPORARY SITES HAVE BEEN ALSO SELECTED FOR CITIES WITHIN SEDGWICK COUNTY FOR EITHER BRUSH OR DEBRIS AS STATED ON THE MAPS TO FOLLOW.**



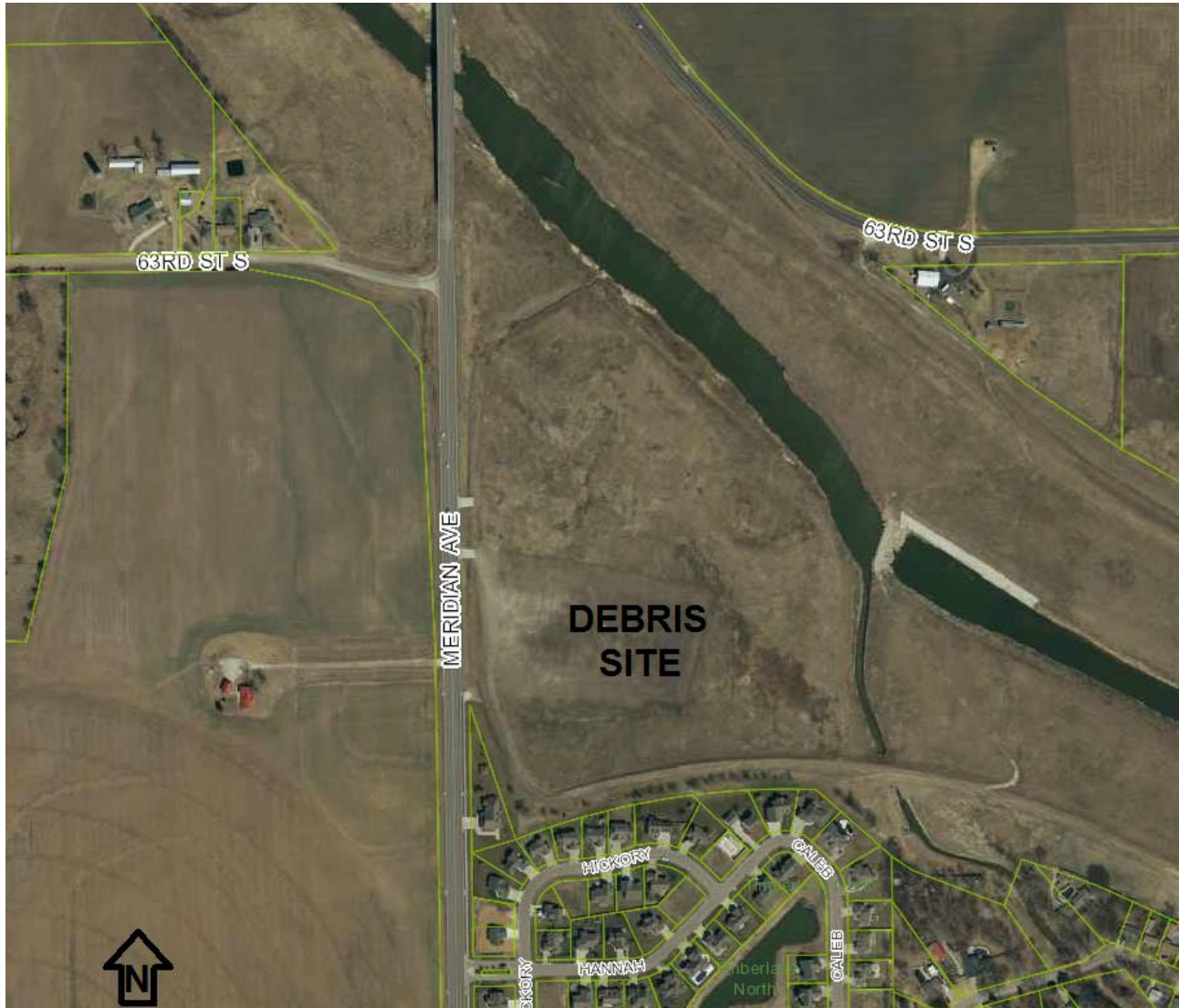
**SEDGWICK COUNTY WEST PUBLIC WORKS YARD  
4701 S. WEST STREET  
WICHITA, KANSAS**



**SEDGWICK COUNTY NORTHEAST STORM DEBRIS LAND  
12010 E 69<sup>TH</sup> STREET N  
WICHITA, KANSAS**

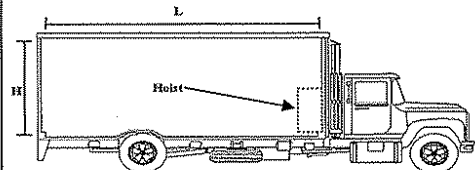
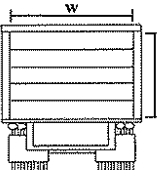
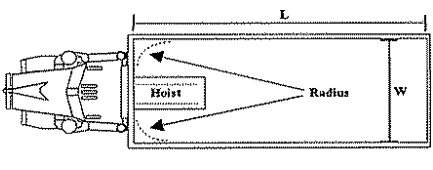
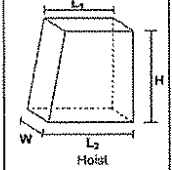
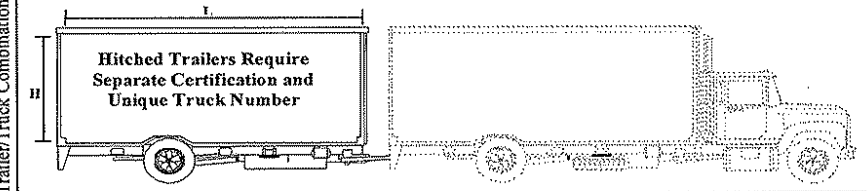
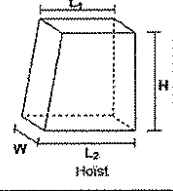
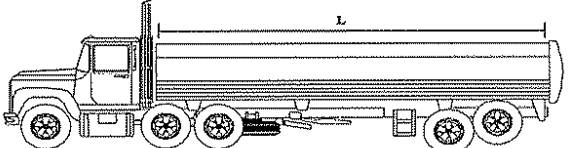
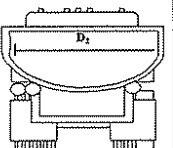


**WICHITA-VALLEY CENTER FLOODWAY  
63<sup>RD</sup> STREET SOUTH & MERIDIAN AVENUE  
WICHITA, KANSAS**





## APPENDIX I: Truck Certification Form

DUMP TRUCK			
<b>Measurements</b>			
Truck Measurements	Length (L) = <input style="width: 80%;" type="text"/>	Width (W) ft = <input style="width: 80%;" type="text"/>	Height (H) ft = <input style="width: 80%;" type="text"/>
Hoist Measurement	Length <sub>1</sub> (L <sub>1</sub> ) ft = <input style="width: 80%;" type="text"/>	Width <sub>H</sub> (W <sub>H</sub> ) ft = <input style="width: 80%;" type="text"/>	Height <sub>H</sub> (H <sub>H</sub> ) ft = <input style="width: 80%;" type="text"/>
	Length <sub>2</sub> (L <sub>2</sub> ) ft = <input style="width: 80%;" type="text"/>		
Radius	Radius ft = <input style="width: 80%;" type="text"/>	Height (H) = <input style="width: 80%;" type="text"/>	
<b>Calculations</b>			
Bed Volume (Basic)	$(L \times W \times H) / 27 =$ <input style="width: 80%;" type="text"/>	+ <input style="width: 80%;" type="text"/> cyd	
Hoist Volume	$((L_1 + L_2) / 2) \times W_H \times H_H =$ <input style="width: 80%;" type="text"/>	- <input style="width: 80%;" type="text"/> cyd	
Radius Volume	$(3.14 \times R^2 \times H) / 27 =$ <input style="width: 80%;" type="text"/>	- <input style="width: 80%;" type="text"/> cyd	
Total = <input style="width: 80%;" type="text"/>		Cubic Yards	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div>			
EXTRA TRAILER			
<b>Measurements</b>			
Truck Measurements (Basic)	Length (L) = <input style="width: 80%;" type="text"/>	Width (W) ft = <input style="width: 80%;" type="text"/>	Height (H) ft = <input style="width: 80%;" type="text"/>
Hoist Measurement	Length <sub>1</sub> (L <sub>1</sub> ) ft = <input style="width: 80%;" type="text"/>	Width <sub>H</sub> (W <sub>H</sub> ) ft = <input style="width: 80%;" type="text"/>	Height <sub>H</sub> (H <sub>H</sub> ) ft = <input style="width: 80%;" type="text"/>
	Length <sub>2</sub> (L <sub>2</sub> ) ft = <input style="width: 80%;" type="text"/>		
Radius	Radius ft = <input style="width: 80%;" type="text"/>	Height (H) = <input style="width: 80%;" type="text"/>	
<b>Calculations</b>			
Bed Volume (Basic)	$(L \times W \times H) / 27 =$ <input style="width: 80%;" type="text"/>	+ <input style="width: 80%;" type="text"/> cyd	
Hoist Volume	$((L_1 + L_2) / 2) \times W_H \times H_H =$ <input style="width: 80%;" type="text"/>	- <input style="width: 80%;" type="text"/> cyd	
Radius Volume	$(3.14 \times R^2 \times H) / 27 =$ <input style="width: 80%;" type="text"/>	- <input style="width: 80%;" type="text"/> cyd	
Total = <input style="width: 80%;" type="text"/>		Cubic Yards	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div>			
ROUND BOTTOM TRUCK			
<b>Measurements</b>			
Truck Measurements	Length (L) ft = <input style="width: 80%;" type="text"/>	Diameter (D) ft = <input style="width: 80%;" type="text"/>	
<b>Calculations</b>			
Approx. Volume $(3.14 \times (D/2)^2 \times L) / 27 =$ <input style="width: 80%;" type="text"/>		cyd (round bottom portion only)	
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;">  </div> <div style="text-align: center;">  </div> <div style="flex-grow: 1; border: 1px solid black; margin-left: 20px;"></div> </div> <div style="text-align: right; padding-top: 10px;">Cubic Yards</div>			

General Information			
Applicant: _____	Monitor: _____		
Contractor: _____	Date: _____		
Measurement Location: _____	County: _____		
Declaration Number: _____			
Truck Information			
Make	Year	Color	License
<p><b>Truck Measurements</b></p> <p>Performed By: _____ Date: _____</p> <p>Volume Calculated By: _____ Date: _____</p> <p>Both Checked by: _____ Date: _____</p>			
Driver Information			
Name: _____			
Address: _____			
Phone Number: _____			
Owner Information			
Name: _____			
Address: _____			
Phone Number: _____			
<div style="border: 2px solid black; width: 150px; height: 70px; margin: 0 auto;"></div> <p><b>Truck Identification</b></p>		<div style="border: 2px solid black; width: 150px; height: 70px; margin: 0 auto;"></div> <p><b>Truck Capacity</b></p>	
<div style="border: 2px solid black; width: 400px; height: 150px; margin: 0 auto;"></div> <p><b>Photo</b></p>			
(See reverse for calculation worksheet)			

## **APPENDIX J: Debris Monitoring Tips**

Debris monitoring is a critical piece of the overall operation. By avoiding the following fraudulent acts, operational compliance is maintained.

*Inaccurate Truck Capacities* – Trucks will be measured before operations and load capacities will be documented by truck number. Periodically, trucks will be pulled from operations and reassessed.

*Trucks Not Fully Loaded* – Do not accept the contention that loads are higher in the middle and if level would fill the truck.

*Trucks Lightly Loaded* – Trucks arrive loaded with treetops with extensive voids in the load. Trucks need to be loaded to their full capacity with front end loaders or other similar equipment.

*Trucks Overloaded* – Trucks cannot receive credit for more than the measured capacity of the truck or trailer bed even if material is above the sideboards.

*Changing Truck Numbers* – Trucks are listed by an assigned vehicle number and capacity. There have been occasions where truck or trailer numbers with a smaller carrying capacity have been changed to one with a larger capacity. Periodically re-measuring the trucks will identify this issue.

*Reduced Truck Capacity or Increased Truck Weight* – There have been occasions where trucks have had heavy steel grating welded two to three feet above the bed after being measure, thus reducing the capacity or inflating the weight of the load. Periodically re-measuring the trucks will identify this issue.

*Wet Debris When Paid by Weight* – Excessive water added to debris will increase the weight of the load. When the contractual unit cost is based on weight, this increases the cost to Sedgwick County. This can be detected during monitoring if there is excessive water dripping from the truck bed.

*Multiple Counting of the Same Load* – Trucks have been reported driving through the disposal site without unloading, then re-entering with the same load. This can be detected by observing the time of departure and the time of arrival recorded on the driver's load ticket.

*Picking up Ineligible Debris* – Monitors will have a good understanding of eligible debris and any time limits imposed on picking up specific types of debris.

## **Appendix K: Debris Notification Sheet**

*Your area has been involved in a disaster event*

*Please avoid placing debris over Fire Hydrants and Gas Meters and in the street.*

*To assist in the debris clean up please separate the following at the curbside.*

---

*To Expedite Cleanup  
follows in separate piles:*

*efforts please separate as*

### **Trees and Vegetation**

*White goods (washing machine, refrigerators)*

*Clean construction debris (2x4's and such, plywood)*

*Metals*

*Household hazardous chemicals (Paints, bug killers, cleaning products)*

*Personnel Property*

*We thank you for your cooperation through these trying times; any questions please call your local  
contact at*

## Appendix L: Right of Entry

### RIGHT OF ENTRY AGREEMENT

I/We \_\_\_\_\_, the owner(s) of the property, commonly identified as  
\_\_\_\_\_, Sedgwick, State of Kansas,  
(street) (city/town) (county)

do hereby grant and give freely and without coercion, the right of access and entry to said property in the County/City of \_\_\_\_\_, to Sedgwick County, its employees, agents, contractors, and subcontractors thereof, for the purpose of removing and clearing any or all storm-generated debris of whatever nature from the above described property.

It is fully understood that this permit is not an obligation to perform debris clearance. The undersigned agrees and warrants to hold harmless Sedgwick County, its elected and appointed officials, employees, agents, contractors, and subcontractors, against any and all loss or damage, except to the extent such loss and/or damage arises out of Sedgwick County's, or its elected and appointed officials', employees', or agents' negligence and/or willful, wanton or reckless conduct in the performance of debris clearance. The property owner(s) will mark any storm damaged sewer lines, water lines, and other utility lines located in the described property.

I/We (have \_\_\_\_\_, have not \_\_\_\_\_) (will \_\_\_\_\_, will not \_\_\_\_\_) receive any compensation for debris removal from any other source including Small Business Administration (SBA), National Resource Conservation Service (ANRCS), private insurance, individual and family grant program or any other public assistance program. I will report for this property any insurance settlements to me or my family for debris removal that has been performed at government expense. For the considerations and purposes set forth herein, I set my hand this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
Owner

\_\_\_\_\_  
Owner



## Appendix M: Debris site check off

### Disaster Debris Management Site Selection Worksheet

Site Name \_\_\_\_\_

Site Address \_\_\_\_\_

Estimated Size in Acres \_\_\_\_\_

Estimated Volume of Debris Able to Hold (cubic yards) \_\_\_\_\_

*(Note: Assume up to 16,000 cubic yards/acre and only 40 percent of site available for debris storage.)*

Primary Local Government Point of Contact:

Name \_\_\_\_\_ Phone \_\_\_\_\_ Email \_\_\_\_\_

Secondary Local Government Point of Contact:

Name \_\_\_\_\_ Phone \_\_\_\_\_ Email \_\_\_\_\_

#### **Preferred Disaster Debris Management Site Criteria**

- ☐ The site is owned or controlled by municipal or state government.
- ☐ The site has easy access, including being near the area of debris generation, easy to enter and exit, and near transportation arteries.
- ☐ The site is ready to use as a debris management site without extensive site modifications.
- ☐ The debris storage and handling areas would be at least 100 feet from property lines.
- ☐ To the maximum extent possible, the site location minimizes potential environmental and public health impacts, including considering setbacks from public water supplies, surface water bodies, and residential dwellings and avoiding areas such as flood plans, drinking water Zone IIs, and Areas of Critical Environmental Concern.

If any of these criteria are not met, please explain why not and how any concerns regarding that criterion would be addressed: \_\_\_\_\_

\_\_\_\_\_

### **Anticipated Site Activities**

*(Note: intended for use only in declared disaster, NOT for routine operation.)*

- ☐ A site plan and layout has been prepared that considers the management and operating practices recommended in this guidance.

What types of disaster debris do you expect to manage at this site? (e.g., vegetative waste, C&D debris, hazardous household products, etc) \_\_\_\_\_

\_\_\_\_\_

What debris processing or other handling activities do you expect to conduct at this site? (e.g., sorting and transfer for recycling, chipping vegetative waste, transfer of trash for disposal, etc.) \_\_\_\_\_

\_\_\_\_\_

Please summarize any other benefits or concerns with using this site as a debris management site.