Section 1
INTRODUCTION

Purposes of the Plan

The City approved the preparation of this Disaster Debris Management Plan (Plan) to better respond to subsequent emergency debris removal situations such as those faced following Hurricanes Katrina and Rita in 2005. The purpose of this Plan is to outline the components critical to the success of a debris removal operation in the City. This Plan provides key information that will help the City coordinate and effectively manage a turn-key debris removal effort if the City were affected by a major, debris-generating event. Central to the success of debris removal operations is the City's understanding of the following elements prior to a debris-generating event:

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

General Approach and Assumptions

This Plan provides a coordinated response blueprint for the City. To assist the City in expeditiously recovering from a debris-generating event, the approach of this Plan will be to outline pre-event preparations during times of normalcy, operations immediately prior to a known disaster threat, operations following the disaster event and demobilization and close-out following completion of debris removal efforts.

With regards to debris removal efforts, this Plan assumes the following:

1. The recovery and response is to a National Oceanic and Atmospheric Agency (NOAA) classified major hurricane (Category 2 tropical system or greater – see Table 1-1 below) affecting the City.
2. The City will be operating under the current Public Assistance (PA) guidelines for reimbursement as described in the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act). The City should re-evaluate this Plan should significant changes to the PA Program occur.
3. In the occurrence of a debris-generating event, the City will activate one or more of its pre-positioned debris removal contractors.

4. In the occurrence of a debris-generating event, the City will activate a pre-positioned monitoring firm.
5. If warranted, the state will request federal assistance from the Federal Emergency Management Agency (FEMA).

Table 1-1
Saffir-Simpson Scale

Category	Winds (MPH)	Storm Surge	Damage
1	74 - 95	4'-5'	Minimal – signs, tree branches and power lines down
2	96 - 110	6'-8'	Moderate – larger signs, tree branches blown down
3	111 - 130	9'-12'	Extensive – minor damage to buildings, trees uprooted or broken
4	131 - 155	13'-18'	Extreme – nearly total destruction of doors, windows, heavy vegetative loss
5	>155	>18'	Catastrophic – buildings, roofs and most structures destroyed

Debris Volume Estimate

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

Table 1-2
Potential Disaster Events

Type of Event	Probability[1]	Nature of Debris	Debris Generation Potential[2]	Widespread Impact
Hurricane	High	Vegetative Construction and Demolition (C&D) Household Hazardous Waste (HHW) White Goods	High	High
Tornado	Medium	Vegetative C&D HHW Limited White Goods	Medium	Low
Flood	Medium	C&D HHW	Medium	Medium
Man-Made	Low	C&D HHW	Low to Medium	Low

For planning purposes, this Plan will be based on debris volumes generated by a Category 2 tropical system. However, the guidance that follows in this Plan will apply to all debris-generating events that may affect the City.

Based on the United States Army Corps of Engineers (USACE) Debris Estimating Model, a Category 3 tropical system (particularly a tropical system impacting the City from the Gulf of Mexico) could generate approximately 7,910,000 cubic yards of debris, as shown in Table 1-3, Debris Volume and Temporary Debris Storage and Reduction Site Acreage Requirement by Category, as well as cause extensive debris generating flooding. Table 1-3 also contains a breakdown of the debris estimate in cubic yards for Categories 1-5 tropical systems and the approximate respective Temporary Debris Storage and Reduction Site (TDSRS) acreage requirement needed to support debris removal and reduction operations.

[1] Likelihood of a particular event to occur over a period of time. A low probability is described as an event that may occur ever 100-500 years, medium event would be every 50 years and a high probability event may occur ever 10 to 20 years.

[2] The ability of a particular event to produce debris based upon historical data on each event. High debris generation potential would be an event that generates more than 1,000,000 cubic yards of debris. Medium could generate more than 100,000 – 1,000,000 cubic yards and low could generate approximately 50,000 – 100,000 cubic yards of debris.

Table 1-3
Debris Volume and Temporary Debris Storage and Reduction Site Acreage Requirement by Category[3]

Strength	Cubic Yards	Acreage
Category 1	610,000	31
Category 2	2,430,000	125
Category 3	7,910,000	407
Category 4	15,200,000	782
Category 5	24,300,000	1,252

[3] See Appendix C for detailed Category models.