



# Fort Bend County, Texas Extreme Cold Preparedness Plan

**2022**





# Fort Bend County

KP George

Judge


## Approval and Implementation

Fort Bend County departments are encouraged to have an established and maintained viable Extreme Cold Preparedness Plan that ensures performance and sustainment of essential functions during an emergency that may disrupt normal operations or cause health concerns.

This Plan to the Fort Bend County EOP is effective upon approval by those listed below. It is also reviewed by and updated within the Homeland Security & Office of Emergency Management.

This Plan will be reviewed and updated on a bi-annual basis, in accordance with the maintenance schedule contained in the County COOP Base Plan.

### SIGNATURES

  
 County Judge K.P. George  
 K.P. George  
 Fort Bend County Judge

October 25, 2022  
 Date

  
 Mark Flathouse  
 Fort Bend County EMC

10/25/2022  
 Date

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## I. Acronyms/ Definitions

EOC	Emergency Operations Center
FBC	Fort Bend County
NWS	National Weather Service

**Freezing Rain** - Rain that freezes when it hits the ground; creating a coating of ice on roads, walkways, trees and power lines. Less than 1/8 inch of ice accretion due to freezing rain

**Frostbite** - Is body tissue that has frozen and usually starts with the fingers, toes, tips of the nose, and ear lobes

**Hard Freeze Warning** – Minimum temperatures < 24 degrees Fahrenheit for 2 hours or more possible/expected. For these very low temperatures, concern for damage to pipes, etc.

**Hypothermia** - is a medical emergency that happens when your body loses heat faster than it can produce heat, causing a dangerously low body temperature. Normal body temperature is about 98.6 F, and hypothermia occurs when your body temperature drops below 95 F.

**Sleet** - Rain that turns to ice pellets before reaching the ground. Sleet also causes moisture on roads to freeze and become slippery.

**Warming Center** - Temporary facility open for a limited number of hours per day and for a limited number of days. Warming Centers are not day care for children, the elderly, or others who cannot care for themselves. It is assumed that individuals who use the Warming Center can return to their homes when the Warming Center is.

**Wind Chill** - A measure of how cold people feel due to the combined effect of wind and cold temperatures; the Wind Chill Index is based on the rate of heat loss from exposed skin. Both cold temperatures and wind remove heat from the body; as the wind speed increases during cold conditions, a body loses heat more quickly. Eventually, the internal body temperature also falls, and hypothermia can develop. Animals also feel the effects of wind chill; but inanimate objects, such as vehicles and buildings, do not. They will only cool to the actual air temperature, although much faster during windy conditions.

**Winter Storm Warning** - Snow, sleet or ice is expected. Take action. Confidence is high that a winter storm will produce heavy snow, sleet, or freezing rain and cause a significant impact

**Winter Storm Watch** - Snow, Sleet or Ice is possible. Be prepared! Confidence is medium that a winter storm could produce heavy snow, sleet or freezing rain and can cause significant impacts

## II. Purpose

Should the need arise, Fort Bend County will coordinate the opening and operating of warming centers for residents if they need to seek safety from the extreme and prolonged cold temperatures and other winter weather.

### III. Scope

The scope of this document is to identify how local and community resources will be made available in support of local government preparedness and response efforts during an excessive cold/winter event.

### IV. Background

The National Weather Service (NWS) office for our region is located in League City, Texas. The NWS issues warning for the Southeast Texas Region. Winter Weather emergencies develop slowly and may take a number of days of freezing cold to have a significant or quantifiable impact. During freeze warning, Fort Bend County could experience freezing rain, sleet or snow which may turn to ice on the roadways. Ice will impact highway overpasses. Power lines will also be affected by ice which can cause power failures.

Remember the 4 P's: People, Pets, Pipes and Plants.

- People: Dress warmly; wearing gloves, coats and layers when performing duties outside. Seek shelter within buildings during inclement weather. Use caution while driving on roadways, paying special attention to bridges and over passes where ice accumulates.
- Pets: Bring animals indoors if possible, especially during overnight hours.
- Pipes: Wrap exposed pipes to keep from freezing. Report broken pipes immediately.
- Plants: Cover plants with large cloths, sheets, etc; to protect from frost

### V. Assumptions

- Winter emergencies are often slower to develop, taking several days of continuous cold before a significant or quantifiable impact is seen.
- This plan assumes sufficient warning time of an extreme winter event will be provided by the National Weather Service in order to implement any planned activities as depicted in this plan.
- Some people who are directly threatened by a hazard may ignore, not hear, or not understand warnings issues by the government.
- People with disabilities and others with access and functional needs may require special attention to ensure a workable warning system is established.
- Failure of the power grid as a result of a winter weather emergency may cause critical public infrastructure disruptions and loss of services, which include electric power, water, wastewater, storm water drainage, roads and bridges, etc. Coordination with this utility is vital.
- Precipitation during freezing conditions will cause a Disruption of critical services and the ability of key businesses to remain open for commerce, and the public's ability to drive on the roadway.

### VI. Concept of Operations

The concept of operation for a winter weather event will focus on providing public information using different notification tools including press releases, websites and other mechanisms to notify the public of the threat of an extreme winter emergency.

Dependent on the progression, duration and impact of the Winter Weather Event, warming center locations may be made available to community members. Response to an Extreme Winter Weather Event will utilize a three-phase approach based on weather information from the National Weather Service.

These phases are intended to provide adequate time for dissemination of information, and implementation of appropriate actions. These trigger points should be reviewed and/or revised before the wintery season, based on the changes from historical data compiled by the NWS, and any recommendations made by them.

## VII. Triggers

Triggers to activate this FBC Warming Center Plan:

- The National Weather Service issues a Freeze Watch or Freeze Warning for three or more consecutive days coupled with freezing/wintery precipitation.
- The NWS issues a Winter Storm Watch or Winter Storm Warning
- Power outages of more than 24 hours in duration are expected or are occurring during extreme cold temperatures, a winter storm, or during freezing/wintery precipitation
- For more information on NWS winter weather designations, click the links: <https://www.weather.gov/safety/winter-ww> and <https://www.weather.gov/safety/cold-wind-chill-warning>

When to open a Warming Center:

The existence of several factors could lead to the opening of a warming center:

- Cold temperatures, wind chill (combination of temperature and wind speed), and winter precipitation as indicated by the National Weather Service (NWS)
- The duration of the winter weather or extreme cold temperatures
- Extended power outages that render heating systems inoperable
- Individuals without heating or warming in their homes.
- Overnight low of 32° F or lower for two or more days that would endanger the lives of people living in places not meant for human habitation (outside or in vehicles).

Inclement weather can create a higher risk of car accidents, hypothermia, frostbite, carbon monoxide poisoning, and heart attacks from overexertion. In certain areas, winter storms can bring extreme cold, freezing rain, snow, ice, and high winds.

## VIII. Phases

**Phase 1: (3-5 Days' Notice)**– This phase, also known as the preparedness phase, is when agencies and partners should plan for, organize for, train for and set up for the potential of activation of this plan.

**Phase 2: (12-Hours' Notice)** - This phase initiates when the NWS issues an Excessive cold/winter Advisory. During this phase, the situation continues to be closely monitored and all partners should be on alert for a transition to Phase III in the event of a Cold/Winter Emergency.

**Phase 3: (12-Hours' Notice)** - This phase initiates when the NWS issues an Excessive Cold/Winter Warning. It may include the activation of the EOC and careful coordination between partners to execute an effective response effort.

<b>Windchill Temperature Chart</b>															
<b>Wind Speed (mph)</b>	<b>Temperature (°F)</b>														
<b>Calm</b>	<b>35</b>	<b>30</b>	<b>25</b>	<b>20</b>	<b>15</b>	<b>10</b>	<b>5</b>	<b>0</b>	<b>-5</b>	<b>-10</b>	<b>-15</b>	<b>-20</b>	<b>-25</b>	<b>-30</b>	<b>-35</b>
<b>5</b>	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52
<b>10</b>	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59
<b>15</b>	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64
<b>20</b>	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68
<b>25</b>	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71
<b>30</b>	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73
<b>35</b>	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76
<b>40</b>	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78
<b>45</b>	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79
<b>50</b>	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81
<b>55</b>	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82
<b>60</b>	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84
<b>Frostbite occurs in:</b>						30 minutes			10 minutes			5 minutes			

**How to Calculate Windchill:**

The Windchill chart above was designed to accurately calculate how cold air feels on human skin. The index is based on heat loss from exposed skin was tested on human subjects faces. For those interested, Windchill is a basic Algebraic formula. The Fahrenheit version of the equation looks like this:

$$Windchill = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$$

T is the air temperature in degrees Fahrenheit

V is the wind speed in miles per hour.

The above formula makes some assumptions: that your exposed face is roughly five feet off the ground, its night, and you're walking directly into the wind in an open field at 3 mph. While that formula may not reflect your reality and you could date the way it's calculated, the basic concept is important: Cold winds

will cause exposed skin to cool more quickly and frostbite will happen more quickly. Pay attention when there are high winter winds!

#### Dangers of Windchill:

- Frostbite: Wind-chill causes your body tissue to freeze! Frostbite is body tissue that has frozen and usually starts with the fingers, toes, tips of the nose, and ear lobes. If you lose feeling in these areas or they are turning pale or white, immediately get inside and get medical attention.
- Hypothermia: When your body's temperature drops too low, hypothermia sets in. Uncontrollable shivering, disorientation, and incoherence are signs of this issue and medical attention should be found immediately.
- In both cases, take care to rewarm the body very slowly.

#### Wind-chill Safety Tips:

Be smart about wind-chill! Here are some common-sense safety tips:

- Listening to the weather station. Wind-chill Warnings are issued when wind chill temperatures are life threatening. Wind-chill Advisories are issued when wind-chill temperatures are potentially hazardous.
- When there is low wind-chill, cover your exposed flesh, especially your face and hands! Consider a balaclava to cover your mouth and protect your lungs. Mittens are better than gloves.
- Wear layers of loose-fitting, warm clothing as the layers will trap air and provide insulation. Your outer shell should be water-repellent and hooded.
- Always wear a hat.

## Appendix A: Warming Center Locations:

Fort Bend County could open the following FBC Library locations as warming centers through Monday-Saturday, 9am-5pm as needed. Prior notice needs to be sent the FBC Libraries before advertising any library location as a warming center location.

### George Memorial Library

1001 Golfview Dr, Richmond, TX 77469  
Monday – Saturday 9 am – 5 pm

### Albert George Branch Library

9230 Gene Street, Needville, TX 77461  
Monday – Saturday 9 am – 5 pm

### Bob Lutts Fulshear/Simonton Branch Library

8100 FM 359 South, Fulshear, TX 77441  
Monday – Saturday 9 am – 5 pm

### Cinco Ranch Branch Library

2620 Commercial Center Blvd., Katy, TX 77494  
Monday – Saturday 9 am – 5 pm

### First Colony Branch Library

2121 Austin Parkway, Sugar Land, TX 77479  
Monday – Saturday 9 am – 5 pm

### Mamie George Branch Library

320 Dulles Avenue, Stafford, TX 77477  
Monday – Saturday 9 am – 5 pm

### Attack Poverty/ Friends of North Rosenberg

1908 Avenue E,  
Rosenberg TX 77471  
Monday-Thursday 9am - 5 pm

### Attack Poverty/ Friends of North Richmond

1305 Clay Street, Richmond TX 77469  
Monday – Friday 9am – 5 pm

### Mission Bend Branch Library

8421 Addicks Clodine Rd, Houston, TX 77083  
Monday – Saturday 9 am – 5 pm

### Missouri City Branch Library

1530 Texas Parkway, Missouri City, TX 77489  
Monday – Saturday 9 am – 5 pm

### University Branch Library

14010 University Blvd, Sugar Land, TX 77479  
Monday – Saturday 9 am – 5 pm

### Sugar Land Branch Library

550 Eldridge Rd, Sugar Land, TX 77478  
Monday – Saturday 9 am – 5 pm

### Sienna Branch Library

8411 Senna Springs BLVD, Missouri City  
Monday-Saturday 9 am – 5 pm

## **Appendix B: Partner Guidelines for Operating a Warming Center**

Oftentimes services such as (*e.g., water & snacks*) will **NOT** be provided at warming center locations. Warming centers serve as a venue for people to get out of the cold. Residents may come and go as they please, with no restrictions.

### **Additional Warming Center Options:**

- FBC Parks and Recreation is willing to open up their community centers as warming centers if the community center is not otherwise engaged/rented. If a community center were to be opened as a warming center, a FBC employee would need to be present on site during the entire time the center was open.
- Should warming centers be needed 24/7, Health & Human Services, the American Red Cross can be contacted to support facilities that are currently open with (*e.g., snacks & water*) and/or the identification of potential partners.
- Community partners can also be contacted to determine if any of their facilities can be opened as warming centers.
- Unless otherwise stated, no FBC jurisdiction has indicated that they will open warming centers.

### **Special Considerations**

The scope, impacts, and response to the incident may vary based on the following considerations:

- a. Time/Day of onset (time of year, school vacations, local events).
- b. Access & Functional Needs (AFN) populations within the Fort Bend County.
- c. Expected duration of event (hours per day, consecutive days).
- d. Critical service or infrastructure impacts (FBSO, EMS, water mains, etc.).
- e. Impact on County/Cities facilities open to the public (libraries, multiservice centers, etc.).
- f. Aggravating factors (power outages, air quality, combined weather events, other public health threats etc.).
- g. School/business impacts, such as closures or early releases.
- h. Special events taking place during extreme cold conditions
- i. Other concurrent Public Health Emergencies (*e.g., pandemic*) and another emergency conditions that may impact operations.

## Appendix C: Suggested Warming Center Checklist

The following is a suggested list of important criteria for setting up a warming center. There are no established criteria for warming centers.

### Important Criteria

- Heaters or equivalent (temperature maintained at 70°F)
- Accessible to all / ADA compliant
- Ample seating appropriate for the amount of people expected
- Ample number of cots appropriate for the amount of people expected
- Public restrooms accessible to people with disabilities and others with access and functional needs
- Access to potable water (drinking fountain, etc.)
- Access to 911 services
- Publicly advertised
- Parking access
- Proximity to public transit

### Suggested Criteria (Not required)

- Back-up generators
- Secure, facility has security service
- Communications, phone (including TDD/TTY/video capabilities), internet access, sign-language interpreters
- Child friendly with materials for children to play with while at the warming center.

**Appendix D: Warming Center Sign In-Sheet**



**Warming Center Sign-in Sheet**

This is a short-term warming center. By signing this sheet, you acknowledge that we are NOT Responsible for feeding, safety and/or providing you with a case worker. Furthermore, you agree to vacate 30 minutes prior to close or risk being charged with Trespassing.

No	Name	Phone	Email	Signature
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				

## Appendix E: Vacate Notice and Regulations

Section 30.05, Texas Penal Code, provides that a person commits an offense if the person enters or remains on property of another without effective consent, and the person: had notice that the entry was forbidden, or received notice to depart but failed to do so.

It is customary to:

- Post signs on doors stating dates and times of operation
- Require people to sign in on the above sign in sheet or something similar and request a signature acknowledging their understanding of the policy.
- Do NOT let them stay longer than 8 hours
- Post notice to vacate signs on doors with times and dates
- Make the TX trespass law clear
- Call local law enforcement if refusal to vacate occurs
- Do NOT engage the person after making the first request. Please leave that up to law enforcement.

Example sign to post on doors or sign in desks

### **ATTENTION WARMING CENTER PARTICIPANTS**

Date *07/19/2022*

You have been given permission to utilize this facility from 0800 to 1400 today only. You must vacate the premises 15 minutes prior to 1400 today.

Failure to vacate will immediately result in your privileges being revoked at this facility and you will not be allowed back on the property.

Failure to comply will result in us contacting security or law enforcement and you may be charged with trespassing.

**Sincerely,**

*The Church of God Staff*