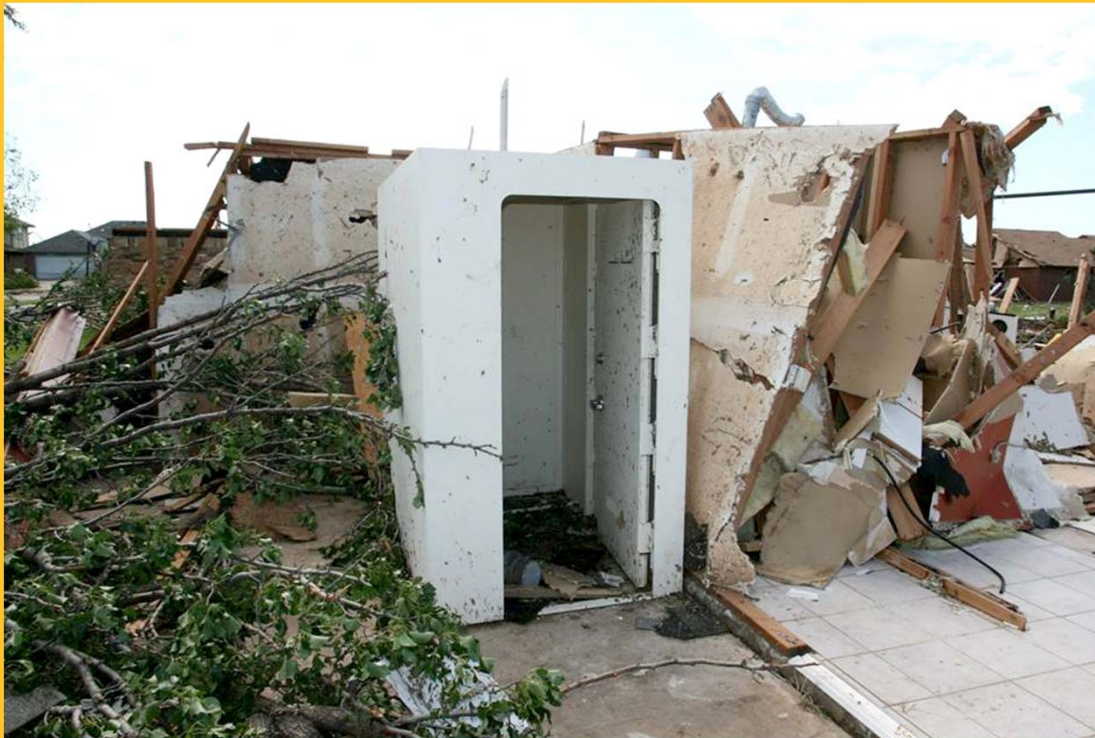


# The City of Tulsa Storm Shelter Location Project

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John Gregorovic, GISP – Application Dev. Manager  
Josh Wise – Senior GIS Analyst



# Moore Tornado - May 20, 2013



- How to find survivors after a tornado?



# Starting Point



- Met with City Department leaders from:
  - Fire
  - 911
  - Police
  - Permitting
  - Emergency Operations Center
- What was our plan on finding Storm Shelters if a tornado hit Tulsa?

- 3 step approach
  1. Create a comprehensive Storm Shelter database.
  2. Create a way to have the data ready to put into maps.
  3. Create a web portal where citizens could update the information we had, as well as enter new shelters we didn't have.



# Step 1



- For the database group:
  - Design a centralized database for storing storm-shelter data.
  - Access the Storm Shelter data from our permits and licensing system. This data is stored in a Oracle DB.
  - Pull together spreadsheets from departments that have been putting people’s storm shelter info on “a list”.
  - Create a SQL DB, to store all the above data, as well as an ETL process that pulls new permit data.

## Step 2



- For the GIS Group
  - Design a simple process to spatially represent storm shelter data
    - Storm shelter data joined to parcel data by a common field
    - Centroids created from resulting parcel polygons
    - Calculate X,Y coordinates
    - Update parcels without interruption to production systems on a bi-weekly basis
  - Provide hardcopy map books to emergency responders

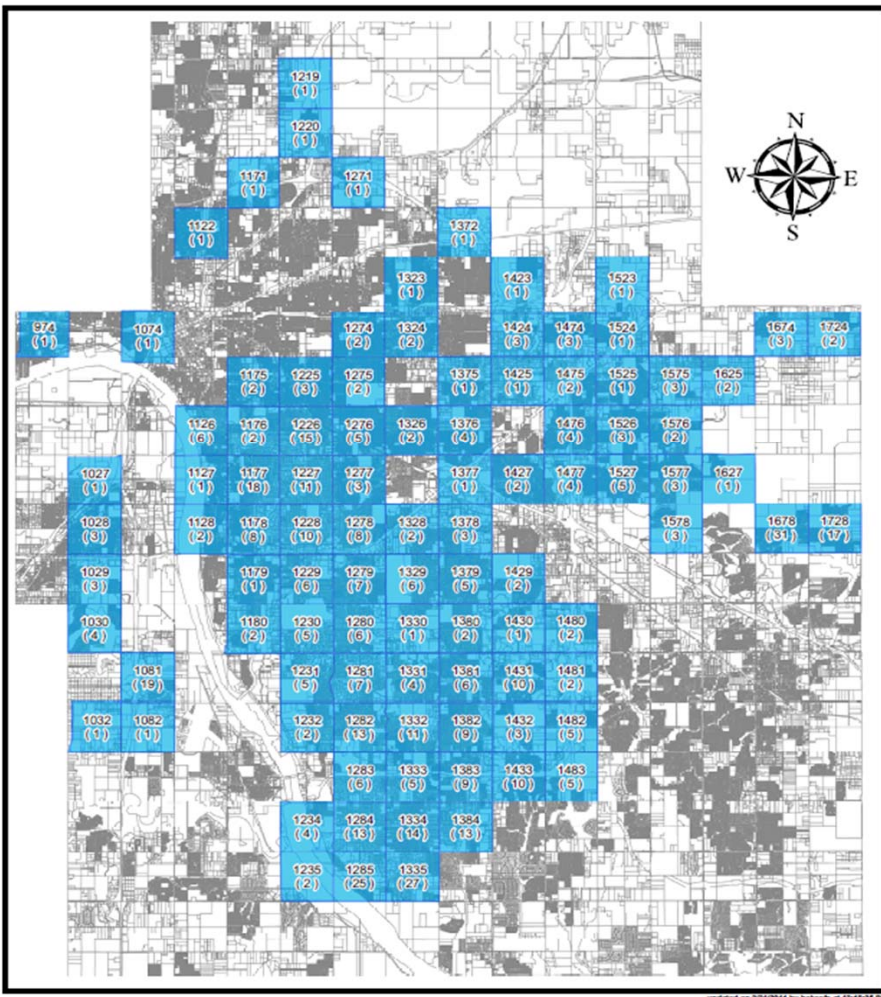
# Physical Storm Shelter Map Book



**CITY OF Tulsa**  
A New Kind of Energy.



## City of Tulsa Storm Shelter Map Pages



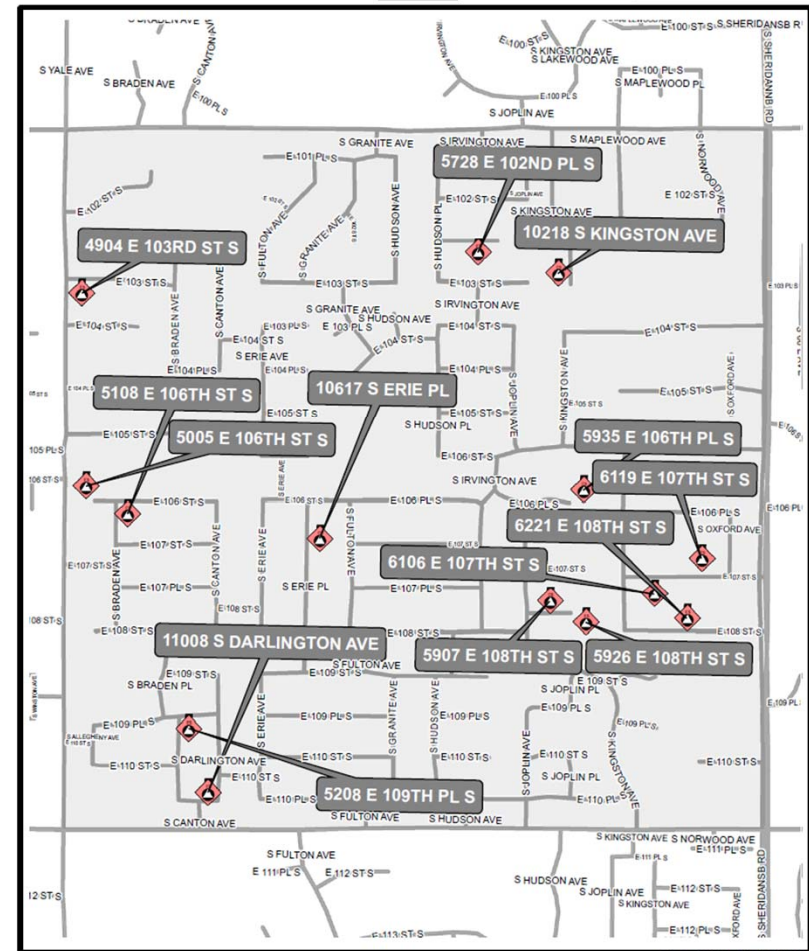
## City of Tulsa Storm Shelter Map Pages

**1334**

Stormshelter Map Page

StormShelterPoints

# of Stormshelters : 14



Updated on 2/21/2014 by [illegible] at 1:51:01 PM

## Step 3



- For the Web Group
  - Create a user interface that updates the new storm shelter database.
  - Restrict the site to only COT citizens.
  - Work with communications on a plan to roll out the new site.
  - Site was rolled out on 5/03/14, there were 680 registered storm shelters, currently 1,067.



# Citizen Updates





Community Programs | Our City | Public Safety | City Services | Environmental Programs | Culture & Recreation

**Public Safety**

- Public Safety Overview
- Police
- Fire
- Storm Shelter Registration**
- 911 Center
- Municipal Courts
- Hazard Mitigation
- TulsaAlert
- EMSA

**Quick Links**



Customer Care Center  
(918) 596-2100

Home » [Public Safety](#) » Storm Shelter Registration

### Storm Shelter Registration

The City of Tulsa's Storm Shelter Registry provides information to emergency responders to help them locate citizens after a natural disaster. This program will provide emergency personnel with time-saving information should your storm shelter be blocked by debris.

You can register your Safe Room online with your City utility account number.

After registering, feel free to call the Customer Care Center at (918) 596-2100 to request that Tulsa Fire Department personnel visit your home or business and obtain the exact GPS coordinates of your storm shelter.

Only shelters located in the city limits of Tulsa can be registered. **Safe Rooms must meet the guidelines in FEMA publication 320 to be considered a Safe Room.**

- Closets are only considered Safe Rooms when they meet the FEMA Publication 320 requirements.
- Basements must be certified by an engineer before being considered a Safe Room.

**Login**

To register a storm shelter or make changes to a registered shelter please enter your Utility Account number and password.

Account Number:


Password:

[Set up your Utility Account login.](#)

[Forgot Your Password?](#)

Login

City of Tulsa Citizens can log in with their water bill ID, and update or add Storm Shelter information.




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**Quick Links**



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(918) 596-2100

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### Storm Shelter Registration

\* Indicates required field

**Contact Information**

First Name \*  Last Name \*

Email  Property Type ☒ Residential ☐ Commercial

Organization

Phone Number  Type

[Add Phone Number](#)

**Address Information**

Street Number \*  Pre-Direction  Street Name \*  Suffix \*

Post-Direction  Suite  City  Zip Code  County

**Shelter Information**

Storm Shelter Dimensions  Max Capacity  Ground Level

Description of Shelter Location:

Permit #:  Permit Issue Date:

**Special Concerns**

Special concerns the occupants of your storm shelter might have:

Submit

# Scope Creep



- Reporting services – used SSRS
- Improved X, Y coordinates

# Storm Shelter Locator



Storm Shelter Locator

Address 2617 E 18TH ST S

Lat 36.1362568100000000 Lon -95.9529659600000000 Geo Verify

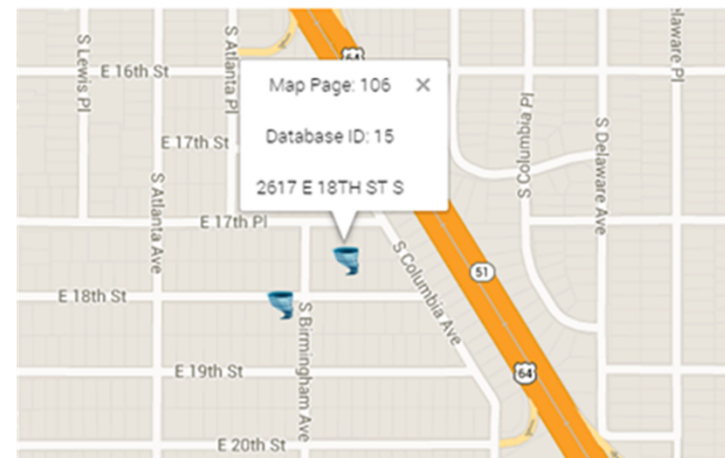
Storm Shelter Location Desc

IRC 2009. NEW STORM SHELTER. THIS SHELTER COMPLIES WITH THE APPLICABLE STANDARDS AS SET FORTH IN FEMA PUBLICATION 320, FEMA 361, & THE NATIONAL PERFORMANCE CRITERIA FOR TORNADO SHELTERS (NPCTS) PER THE ENGINEER OF RECORD. RAL

Special Condition Desc

Zip Search Go Save

4311 S 187TH PL E  
4409 S 187TH PL E  
4916 S 189TH E AVE  
10637 E 18TH ST S  
12329 E 18TH ST S  
2548 E 18TH ST S  
2617 E 18TH ST S  
14009 S 18TH CT  
4804 S 191ST E AVE  
13816 E 19TH PL S  
14311 E 19TH PL S  
13993 S 19TH ST  
16705 E 1ST ST S  
12324 E 20TH PL S  
11930 E 20TH ST S  
5336 E 21ST ST S  
2562 E 22ND PL S  
2530 E 22ND ST S  
3174 E 22ND ST  
27 W 22ND ST S  
1375 N 237 RD  
1143 E 24TH PL S  
208 E 24TH PL S  
3718 E 24TH ST S  
7373 E 24TH ST S  
5733 E 25TH PL S  
6725 E 25TH PL S  
118 E 25TH ST S  
215 E 25TH ST S  
7532 E 26TH CT  
3124 E 26TH PL S



# Questions



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- Josh Wise [jwise@cityoftulsa.org](mailto:jwise@cityoftulsa.org)