

Preserving the Fabric of Historic Galveston  
Through Thermal Imaging  
*Saving Our Past From Fire*

CITY OF GALVESTON FIRE DEPARTMENT

GRANT PROPOSAL

TO

*[Local Granting Agency]*

MARCH 2000

March 8, 2000

Mr. Robert Lynch, Chairman  
*[Local Grant Agency]*  
*[Address]*  
Galveston, TX 77553

Dear Mr. Lynch,

On behalf of the Galveston Fire Department, I am pleased to submit the enclosed request for consideration by the trustees of the *[Local Grant Agency]*.

The citizens of Galveston Island owe a debt of gratitude to the vigilant conservation efforts of the staff and many volunteers of the Galveston Historical Foundation, for their abilities to keep the fabric of historic Galveston alive. The month of February marks the 2nd year anniversary of a fire that robbed our Island of the architecture of the original Olympia Freybe Building (1886) and much of the Star Drug Store Company Building (1909). A hidden fire above the ceiling traveled throughout the cockloft before aggressive firefighters were able to stop the loss of the 2<sup>nd</sup> floors of these buildings. Much of the Neo-Grec classical exterior was lost. All hands of the Galveston Fire Department were called into action to stop the fire loss before it could spread to the adjacent historical buildings. Once the addition personnel arrived, the forward progress of the fire was stopped. The outstanding effort of the fire department saved much of the Star Drug Store. The largest fires, which have claimed historical buildings, are The Great fires of 1869, 1877, and 1885. The Galveston fire Department was established in 1885 in an effort to prevent anymore "Great Fires". The Galveston Fire Department has never allowed a fire of such magnitude to consume its structures again. Fires destroying historic buildings in the last 20 years would include: The Washington Hotel (1873), The Darragh House (1886), Central Hotel (1870), and many private residences. Many of these fires resulted in the loss of lives. Almost all Galveston fires occur in a historical structure.

Galveston contains the largest and most historically significant collection of nineteenth-century buildings of any Texas city. There are over 15,000 historical buildings in our city, which have raised the City of Galveston to national prominence. A majority of these historical building are over 100 years old. The architecture of Nicholas J. Clayton, P. Comegys, Dargon & Tobyn, N.Tobey Jr., and John Moser has created a blend of styles, which is truly unique. The Victorian cottage and the Italianate house blend hand in hand with the Southern town house and the Corner store. Current architects marvel at the lasting quality of work that has withstood the test of time and storms, as they attempt to recreate the architecture that has labeled our city as a National Historic Landmark community.

The Galveston Fire department is asking for your help in the purchasing of 3 Thermal Imaging Cameras, which aid victim rescue and in the detection of hidden fire. These cameras restore vision to firefighters who are blinded by dense smoke. Reference material is accompanying this request. Hidden fire is a leading cause of fire extension damage through the construction voids of our historic buildings. It is this type of fire damage that often causes a building to be demolished. Once the structural members have been compromised, the cost of renovation is now overshadowed by the amount of insurance actually paid out in claim. This usually means one less historic building. By quickly locating the fire before it gets into the walls and floors, we can prevent these types of losses from occurring. The Thermal Imaging Camera gives the firefighter the much-needed help in rapidly locating victims and fires, in a structure. Unfortunately, it is an expense we can not afford. All avenues of the Fire Department and city budgets have been challenged, but this purchase can not happen on our own.

The 100 men of the Galveston Fire department are asking for your trustees to fund only a portion of our actual needs. We are asking the *[Local Grant Agency]* to consider a **\$57,250** gift for the purchase of **3 Thermal Imaging Cameras**. These Thermal Imaging Cameras will be used for the life safety of the Galveston residents, visitors, and firefighters. They will be used for the preservation of our landmarks, our historical buildings.

Sincerely,

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Jeffrey Smith  
Galveston Fire Department  
Division of Safety and Training

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Danny Weber  
Fire Chief  
Galveston Fire Department

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Steven LeBlanc  
City Manager  
City of Galveston

## **2. Name and Contact Information**

Jeffrey Smith  
Galveston Fire Dept.  
2514 Sealy  
Galveston, TX 77550

Chief Danny Weber  
Galveston Fire Dept  
2514 Sealy  
Galveston, TX 77550

## **3. Proposed Program**

### Objectives

- A) Purchase 10 Thermal Imaging Cameras through private funding sources.
- B) Train 100 firefighters on the safe use and applications of Thermal imaging, through classroom and live fire training
- C) Place Thermal Imaging Cameras on the rescue truck, ladder truck, and engines.
- D) Train 100 firefighters in cultural awareness. The Galveston Historical Foundation will provide a Historical Awareness class so that we may also aid and understand in their mission of historical preservation.
- E) Implement and evaluate this program for continued success.

The Galveston Historical Foundation has endorsed this project. They are committed to the concept that if Galveston firefighters know more about the cultural impact of historical preservation, then the firefighters will understand and appreciate the efforts needed to preserve our past. We are trying to bridge the gap of a lost generation. Our retired firefighters recall, with great detail, the uniqueness of individual buildings. Their generation grew up in the very same houses that are now landmarks. A retired Captain, who served almost 40 years in the Galveston Fire Department, came by our fire station to thank us for saving the Star Drug Store's first floor. He recalled the memorable past, as a child, of drinking fountain drinks with his father. This was a notice that we did not understand the importance of the very buildings we took an oath to protect. That is the reason for the Historical Foundation's class. This will mark the first time in Texas that a fire department will complete a class of this type. This is another example of our fire department responding to the needs of the community in an aggressive manner.

#### **4. Program Timeline**

March 15, 2000 – Submit grants for consideration

March 16, 2000 – Contact Thermal Imaging Cameras vendors for delivery of demo units. A six to eight week evaluation period will begin to determine exactly which camera will suit the needs of the Galveston Fire Department. Contact Galveston Historical District to schedule classes.

June 1, 2000 – Start the purchasing process with acquired grant monies.

June 15, 2000 – Outline the training course based on the camera purchased.

July 10, 2000 – Start department wide thermal imaging training.

August 1, 2000 – Start Historical Foundation classes, department wide.

September 1, 2000 – Have a Thermal Imaging Camera on each fire engine, rescue truck, and ladder truck.

September 15, 2000- Offer training to the Galveston Police Department. This tool can aid in officer safety when searching for suspects. They would have access to the cameras.

**5. Program Budget (revenue and expenses – 5a)**

**Thermal Imaging Project  
Budget Summary**

	<u>Cost Sharing</u>	<u>Grant</u>	<u>Total</u>
3 Thermal Imaging Cameras		\$52,500	\$52,500
Thermal Imaging Training For Firefighters	\$10,000	3,000	13,000
Historical Preservation Training For Firefighters	5,000		5,000
Administrative Costs	250		250
Supplies For Live Fire Training	250	250	500
Honoraria For Galveston Historical Foundation		1,500	1,500
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TOTAL	\$15,500	\$57,250	\$72,750

## **Budget Detail (5b)**

### **1. (3) Thermal Imaging Cameras**

This includes the camera, rechargeable batteries, mounting brackets, battery chargers, miscellaneous items, and one transmitter unit. The transmitter unit allows the command post and safety officer to actually see what the firefighter sees through the camera. It sends a signal to an AC/DC remote screen that can be taped and reviewed for future training.

### **2. Thermal Imaging Training For Firefighters**

The Galveston Fire Department will share the actual cost of firefighter man-hours needed for the classroom and live fire training. The grant will cover the necessary overtime required, for instructors that is not included in the present budget.

### **3. Historical Preservation Training For Firefighters**

The Galveston Fire Department will share the actual cost of firefighter man-hours needed for the training. This class will be presented at no burden of cost to the Fire Department, by the Galveston Historical Foundation. This class will include lecture and hands-on tour of Galveston Historical Foundation buildings.

### **4. Administrative Costs**

The Galveston Fire Department will share all administrative costs occurring during the length of this project.

### **5. Supplies For Live Fire Training**

Supplies will include, but not be limited to, hay bales and lumber for prop development to simulate a degree of realism in live fire training in a safe training environment.

### **6. Honoraria For The Galveston Historical Foundation**

This honoraria will be used to offset the expenses occurred by the GHF during the Historical Preservation Training For Firefighters. They have graciously volunteered their services for this project.

## **6. Sources and Amounts Being Solicited and/or Pledged**

The total budget for this project is approximately \$175,000. Of that, \$15,500 has been covered by cash and in kind cost sharing. We are requesting \$57,500 in this proposal to the *[Local Grant Agency]*. Proposals to the *[Local Grant Agency]*, *[Local Grant Agency]* and *[Local Grant Agency]* are being submitted for the balance of the proposal. The balance left is solely dedicated to the amounts of the 7 remaining Thermal Imaging Cameras needed.

## **7. Future Funding Plans**

At this time, This project is not expected to require funding past September 2000. All repairs will be covered by warranty and miscellaneous expenses will be budgeted in future years.

## **8. Plans For Evaluation of Progress and/or Results of Program**

The Fire Chief will have sole authority in the administration of this project from the Fire Department level. Monthly status reports will be review, by the Fire Chief for safety and quality control. The Training Chief will be the immediate supervisor during the live fire training. A Safety Officer, extensively trained in thermal imaging training, will be present at all live fire training burns to ensure quality training in a safe working environment. A review of actions taken and actions encountered during actual fires will be reviewed and shared. Standard Operating Procedures will be enacted as policy, with changes updated as lessons learned dictate. The Galveston Fire Marshal will be consulted in the review of fires in historical buildings. Quarterly meetings will be held by the Fire Chief's designee and representatives of the Galveston Historical Foundation to ensure an open line of communication between the firefighters, GHF staff and volunteers. Fire losses will be tracked by the Galveston Fire Marshals' office and recommendations will be relayed through the chain of command.

## 9. Organization Information

The Galveston Fire Department is a proud group of 100 firefighters dedicated to the saving of lives and property, as well as serving our community. These firefighters installed smoke detectors in all the homes of senior citizens on the Island that needed them in order to stop the trend of our aged population perishing in fires. They are the best firefighters in Texas when it comes to fighting fires in 100-year-old homes that are 6 feet apart, with prevailing winds blowing. The firefighters of Galveston have stood their ground during hurricanes and tropical storms in order save lives and property under the fieriest of conditions. The Galveston Fire department has been recognized by national leaders in the fire service for their ability to stop fire losses. Firefighters have been injured and have died in the line of duty saving these lives and property these properties. A memorial has been erected in remembrance of these brave firefighters. It is located at Central Fire Station, at 2514 Sealy. The Department was established in 1885 after the “Great Fires” of that decade. The Fire Chief has the respect of the community and his department. He is known for his compassion and caring for those who can not fend for themselves. He is committed to breaking the current trend of a fire death each year. Almost all of the fire deaths in Galveston involve the aged population or our children. The firefighters are working to assist the Galveston Fire Marshals’ office in the delivery of fire prevention programs.

Ms. Perachio, Executive Director of the *[Local Grant Agency]*, had asked that the City of Galveston Budget not be included with this request.

## *Thermal Imaging Attachment - Frequently Asked Questions*

### **HOW DOES THERMAL IMAGING WORK?**

- Thermal Imagers detect thermal energy similar to the way your eye detects light. All objects have a certain temperature and emit waves of thermal energy called infrared radiation. The hotter an object, the more energy waves are emitted.
- Thermal Imagers cannot see through walls, glass or other solid objects, but they can detect as little as a .05 C difference in surface temperature. That difference helps to identify hidden fire.
- Using this technology, firefighters can see heat signatures as small as that of footprints or handprints.

### **HISTORY OF THERMAL IMAGING**

- Thermal imaging was first developed for U.S. military applications to enable soldiers to better visualize the battlefield.
- The current technology provides vastly improved performance over the first generation devices. Cameras that were \$25,000 dollars 3 years ago, now cost under \$18,000 dollars. Due to reduced size and lowered cost, these newer devices have become available for use in a range of applications, including police suspect searches, medical burn evaluations and a variety of applications with the fire industry.

### **WHAT DIFFERENCE DOES THERMAL IMAGING MAKE?**

In the February 1999 issue of Fire-Rescue Magazine, Editor Larry Stevens summarized the results of a nation-wide study of the effectiveness of thermal imaging cameras. Firefighters in test burns around the country represented a cross-section of America and included seasoned veterans from Seattle, Chicago and Boston.

Without cameras:

- 60 percent of the time, firefighters were unable to rapidly locate the victim.
- Over 30 percent of the time, firefighters couldn't find their way out of the burning house.

With cameras:

- 99 percent of the time, firefighters were able to locate the victim.
- 100 percent of the time, firefighters found their way out of the burning house.
- The time required to satisfactorily complete a search, dropped by 75 percent.

These statistics demonstrate the usefulness of this technology in the fire industry for both locating victims and guiding firefighters through burning structures.

## WHAT ARE SOME WAYS FIREFIGHTERS USE THERMAL IMAGING?

- Size up – Thermal Imagers allow firefighters to find the source of the fire quickly, helping them save lives and property damage.
- Attack – Thermal imagers help incident commanders intelligently allocate resources at a fire and to quickly get water on the fire, not just on the smoke. Proper use saves the lives of firefighters by warning them of potential ceiling collapses and other dangers.
- Search and Rescue – Firefighters used to crawl through burning buildings, groping in blinding smoke for unconscious victims. With thermal imaging, it takes firefighters seconds to scan a room.
- Overhaul – After the fire has been put out, firefighters can scan the fireground in seconds to locate hot spots that might re-ignite. Using a thermal imager, overhaul can be done in 75% less time. This frees up firefighters to make other calls. This also prevents heat stress injuries.
- Training – Using transmitter systems, incident commanders can observe in real-time and videotape at the scene. Videotapes can be used for review and teaching later.
- Haz Mat – Firefighters can identify sources of vapors and gases, and determine liquid levels in containers, helping to manage hazardous materials spills and other accidents more effectively.
- Wildland Firefighting – using thermal imagers, firefighters can quickly scan large areas for hot spots, aiding them in getting the fire under control quickly.