

HELENA FIRE DEPARTMENT

1987 ANNUAL REPORT

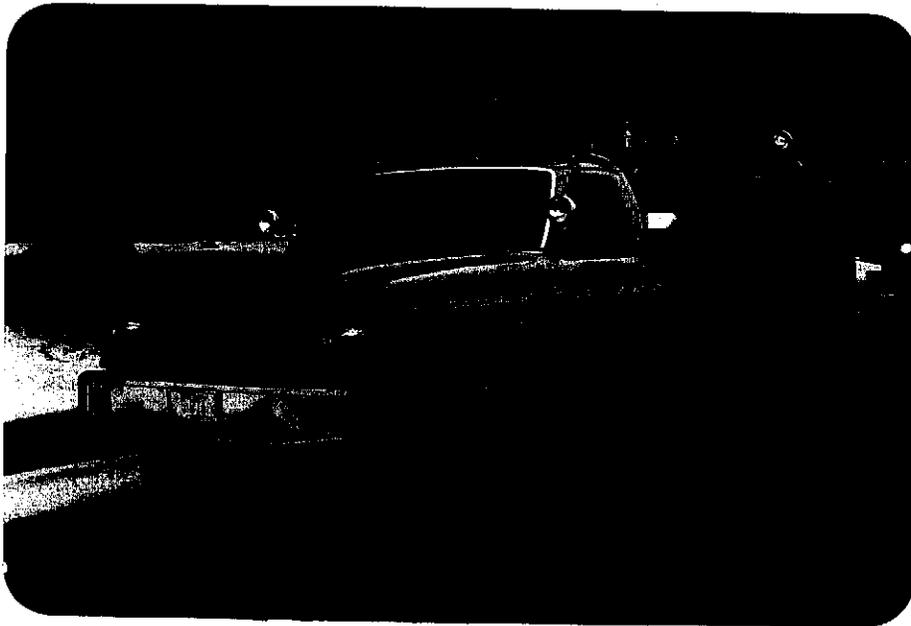
AS SUBMITTED TO

THE HONORABLE MAYOR AND THE CITY COMMISSION

NORM GRAY, FIRE CHIEF

RICH COE, ASS'T CHIEF

BOB KNUDSON, FIRE MARSHAL



SQUAD 1

BUILT BY MEMBERS OF THE
HELENA FIRE DEPARTMENT

INDEX

PAGE 1 & 2.....SUBMITTAL LETTER BY CHIEF, NORM GRAY
PAGE 3.....MAYOR, CITY COMMISSION AND CITY MANAGER
PAGE 4.....MEMBERS OF HELENA FIRE DEPARTMENT
PAGE 5.....MOTORIZED EQUIPMENT
PAGE 6 & 7.....FIRE INCIDENT ANALYSIS
PAGE 8.....FIRE LOSS ANALYSIS
PAGE 9 & 10.....FIRE PREVENTION REPORT, BOB KNUDSON
PAGE 11 & 12.....CODE ENFORCEMENT ACTIVITIES
PAGE 13.....PLAN REVIEW'S
PAGE 14.....FIRE INVESTIGATION
PAGE 15, 16, 17.....HAZARDOUS MATERIALS
PAGE 18.....HISTORY OF FIRE PREVENTION WEEK
PAGE 19.....FIRE PREVENTION WEEK
PAGE 20.....PUBLIC SERVICE ANNOUNCEMENTS
PAGE 21.....COUNSELING JUVENILE FIRE SETTERS
PAGE 22 & 23.....FIRE DEPT. TRAINING-ASS'T CHIEF RICH COE
PAGE 24 & 25.....MECHANIC'S REPORT, LT. DON HURNI
PAGE 26.....YEARLY FUEL REPORT
PAGE 27.....BUILDING MAINTENANCE
PAGE 28 & 29.....OPERATIONAL PROCEDURE
PAGE 30.....FIRE PROTECTION CONTRACTS
PAGE 31.....ALARMS BY AREAS (MAP)
PAGE 32.....ALARMS BY MONTH (CHART)
PAGE 33.....ALARMS BY DAY OF WEEK (CHART)
PAGE 34.....ALARMS BY HOUR OF DAY (CHART)

Commissioners
Russell J. Ritter, Mayor
Rayleen Beaton
Tom Huddleston
Rose Leavitt
Blake J. Wordal



City-County
Administration Building
316 North Park
Helena, MT 59623

Phone: 406/442-9920

William J. Verwolf
City Manager

City of Helena

February 5, 1988

Mr. Bill Verwolf
City Manager
316 N. Park
Helena, MT 59623

Dear Mr. Verwolf,

I am pleased to present to you the 1987 Annual Report of the Helena Fire Department. This report contains statistical data and information on the operation of the Fire Department for the past year.

This year has been very busy in all functions of the Department.

Fire Prevention Bureau: Members of the Bureau conducted 814 initial inspections and 574 re-inspections for a total of 1,388 inspections. During these inspections, 1,140 violations were found with 753 of them being corrected. The Bureau investigated 34 fires during the year. Members of the Bureau gave 89 lectures and demonstrations to 1,737 adults and 3,062 children. Fifteen public service announcements were prepared and put out to the media. Goals for the coming year are to continue serving the citizens of Helena in order to make our City a safer place to live and work.

Fire Suppression: The combat crews responded to 1,000 alarms this past year, 192 of these alarms were actual fires, 548 emergency medical calls, 60 smoke scares, 44 hazardous conditions, 19 public service calls, 113 false alarms, 19 electrical problems and 5 miscellaneous calls. Our building fire loss for this year was \$558,400.00. The largest fire this year was in the old Carson Warehouse. Our outdoor loss, which includes vehicles, was \$45,225.00. The total fire loss for 1987 was \$603,625.00. We had no fire deaths in the City of Helena for 1987. There were 4 civilian injuries and 4 firefighter injuries which were minor. Under the direction of the Fire Department mechanic, the combat crews also rebuilt the new squad truck, which they can be very proud of. Our goals for the coming year are to continue providing the best fire protection possible through dedication and training.

Emergency Medical Services: Combat crews responded to 548 EMS calls during 1987. These calls include car accidents, heart attacks, strokes, home accidents, etc. This service has proven to be one of the most important functions provided by any public safety agency in the area. The 14 firefighter EMT's are very dedicated and we are very proud of these men.

With the dedication of the members of the Helena Fire Department and the support of you and the members of the City Commission, our Department will continue to grow and continue to provide the citizens of the City of Helena the best fire protection possible.

Respectfully submitted,

Norm Gray, Fire Chief
Helena Fire Department

Commissioners
Russell J. Ritter, Mayor
Rayleen Beaton
Tom Huddleston
Rose Leavitt
Blake J. Wordal



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City Manager

City of Helena

MAYOR

RUSS RITTER

COMMISSION

RAYLEEN BEATON
TOM HUDDLESTON
ROSE LEAVITT
BLAKE WORDAL

CITY MANAGER

BILL VERWOLF

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HELENA FIRE DEPARTMENT

FIRE CHIEF

NORM GRAY

ASS'T. FIRE CHIEF

RICH COE

FIRE PREVENTION BUREAU

FM - BOB KNUDSON
DFM - HARRY CRAWFORD
CFFI - FRITZ ZETTEL

COMBAT

SHIFT #1

BATT.CHIEF--Ron Jacobsen
CAPT.-----Ted Simpson
LT.-----Ron Morris
ENG.-----Jim Skinner
FF 1/C-----Warren Ziegler
FF 1/C-----Don Gage
FF 1/C-----Doug Duncan
FF III-----Pat Clinch
FF II-----Larry Ross

SHIFT #2

BATT.CHIEF--Joe Cross
CAPT.-----Dennis Sorrels
LT.-----Bob Olson
ENG.-----Mike Spotorno
FF 1/C-----Jim Feucht
FF 1/C-----Ed Flies
FF 1/C-----Steve Larson
FF II-----Bob Fearon
FF II-----Jim Mitchell

SHIFT #3

BATT.CHIEF--Bob Pare
CAPT.-----Don Hurni
LT.-----Mike Foster
ENG.-----Jay Moore
FF 1/C-----Dale Klugman
FF 1/C-----Norb Roth
FF II-----Joel King
FF II-----Roy Swanby
CFF I-----Kevin Kelly

SECRETARY

BERNIE MARTIAN

Commissioners
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FIRE APPARATUS

<u>APPARATUS #</u>	<u>STATION</u>	<u>TYPE APPARATUS</u>	<u>DESCRIPTION</u>	<u>YEAR</u>
Engine 1	1	1250 Pumper	Sutphen	1986
Engine 2	2	1250 Pumper	Hahn	1980
Engine 3	1	1250 Pumper	Seagraves	1975
Truck 1	1	85' Tower	Sutphen	1976
Truck 2	2	75' Ladder	Pirsch	1946
Squad 1	1	Mini/Rescue	Ford*	1986
Squad 2	2	Mini/Rescue	Chevrolet	1979
#127	1	Staff	Ford 2 dr	1980
#128	1	Staff	Ford 4 dr	1980
#129	1	Staff Pickup	Ford PU	1981
#130	1	Staff Pickup	Ford PU	1985
#131	1	Staff Van*	Ford Van	1986

*New Vehicles

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FIRE INCIDENT STATISTICAL REPORT

Source of Alarm

	<u>This Year</u>	<u>Last Year</u>
Fire Department telephone.....	27	54
Dispatch Center.....	863	795
Alarm Board.....	92	72
Radio.....	9	25
Direct report.....	9	10
Total.....	<u>1000</u>	<u>956</u>

Type of Situation Found

	<u>This Year</u>	<u>Last Year</u>
Fire, explosion, etc.....	192	149
Smoke scare.....	60	63
Rescue, crash emergency.....	548	570
Hazardous condition.....	44	44
Public Service.....	19	14
Alarm - (no fire).....	105	83
False alarm (malicious).....	8	12
Electrical problem.....	19	15
Miscellaneous.....	5	6
Total.....	<u>1000</u>	<u>956</u>

	<u>This Year</u>	<u>Last Year</u>
In City.....	949	921
Fire District.....	39	28
Contract.....	7	2
Mutual Aid.....	5	5
Total.....	<u>1000</u>	<u>956</u>

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Fire Location

	<u>This Year</u>	<u>Last Year</u>
In building.....	74	58
Wild Land.....	26	12
Rubbish near building.....	2	2
Rubbish in vacant lot.....	9	10
Trash cans.....	4	2
Vehicles.....	37	24
Dumpsters.....	33	37
Miscellaneous.....	7	4
Total.....	<u>192</u>	<u>149</u>

Fire Control Method

	<u>This Year</u>	<u>Last Year</u>
By Fire Department.....	149	121
By occupants.....	6	9
Sprinkler system.....	0	1
Fire out on arrival.....	36	18
Other.....	1	0
Total.....	<u>192</u>	<u>149</u>

Fire Causes (In Building)

	<u>This Year</u>	<u>Last Year</u>
Chimneys and wood burning appliances.....	20	26
Combustibles near heaters.....	13	7
Careless use of open flame.....	4	4
Careless use of smoking material.....	6	5
Children with matches.....	1	3
Defective electrical.....	13	6
Flammable liquids.....	1	1
Fireworks.....	0	0
Natural conditions.....	2	2
Incendiary.....	6	1
Suspicious.....	1	0
Unknown.....	0	0
Miscellaneous.....	7	3
Total.....	<u>74</u>	<u>58</u>

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Fire Loss Analysis

	<u>This Year</u>		<u>Last Year</u>	
	<u>Fires</u>	<u>Loss</u>	<u>Fires</u>	<u>Loss</u>
Public buildings.....	3	\$ 1,600.00	1	\$ 0
Dwellings.....	53	\$351,350.00	59	\$172,290.00
Mercantiles.....	13	\$ 45,250.00	4	\$ 5,120.00
Manufacturing.....	4	\$125,000.00	0	\$ 0
Miscellaneous buildings.....	2	\$ 35,200.00	7	\$ 0
Outdoor (vehicles).....	72	\$ 45,225.00	78	\$ 22,440.00

Total Fire Loss

	<u>This Year</u>	<u>Last Year</u>
Outdoor fires (vehicles & dumpsters).....	\$ 45,225.00	\$ 22,440.00
Building fires.....	\$558,400.00	\$177,410.00
TOTAL ESTIMATED FIRE LOSS.....	\$603,625.00	\$199,850.00

Death and Injury

	<u>This year</u>	<u>Last Year</u>
Civilians injured.....	4	4
Firefighters injured.....	4	0
TOTAL.....	8	4
Civilians killed.....	0	1
Firefighters killed.....	0	0
TOTAL.....	0	1



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William J. Verwolf
City Manager

City of Helena

TO: Norm Gray, Fire Chief
FROM: Bob Knudson, Fire Marshal
DATE: February 5, 1988
SUBJECT: Annual Report from the Fire Prevention Bureau
for the Year of 1987

COMMENTARY:

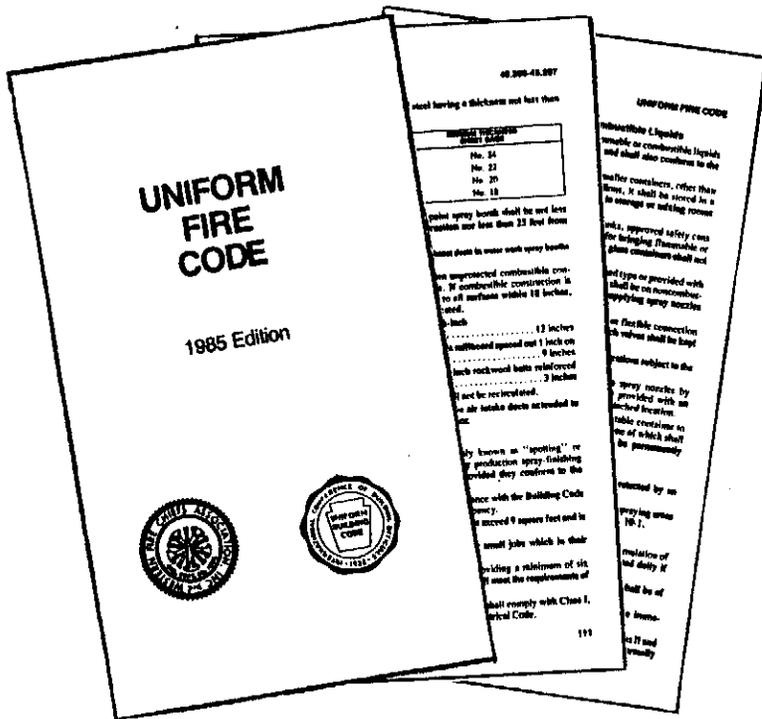
Each year through the Fire Department's annual report to the elected officials and the citizens of Helena, the Fire Prevention Bureau strives to stress the importance of fire prevention. Fire is a fundamental force in nature. Without fire, life as we know it, would not exist. Friendly fires heat our homes, cook our food, and help to generate our energy, in short, it helps make the world go round. But, as powerful as fire is, it also carries the potential for great harm, this destructive potential poses a threat to our lives, property, and resources.

In 1986, the latest year that figures are available, more than 2.2 million fires were reported, with a loss of 5,850 civilian lives, more than 26,800 civilian injuries, and an estimated \$6.7 billion in property damage. Not to mention the loss of over 100 firefighters lives. Even though these figures are declining a small percentage each year, the United States still stands heads above all other countries.

Reducing the number of deaths, injuries, and the billions of dollars in property loss, begins with three basic principles: Engineering, education and enforcement. Engineering principles related to fire prevention and fire protection include, but are not limited to, building design, building construction and fire protection systems. Education, the Fire Prevention Bureau is responsible for developing and implementing an educational program for the public. This would include such programs as Fire Prevention Week, demonstrations and lectures, public service announcements, and the counseling of juvenile fire setters. Enforcement, the

Annual Report from the Fire Prevention Bureau
page 2

enforcement of fire and building codes is the major role of the Fire Prevention Bureau. Today both the State of Montana and the City of Helena adopt the "Uniform Fire Code", which is a model code that is used in over forty states to protect its citizens from the threat of fire. A more complete summary of the Bureau's activities are contained in the following pages.



CODE ENFORCEMENT ACTIVITIES

The Uniform Fire Code was initially developed by the California Fire Chiefs Association and was first published in 1971 by the International Conference of Building Officials and the Western Fire Chiefs Association. A revised edition was published in 1973 and subsequent editions have been published at three-year intervals. New editions incorporate changes approved at annual meetings of the Western Fire Chiefs Association.

It is the intent of the International Conference of Building Officials and the Western Fire Chiefs Association to

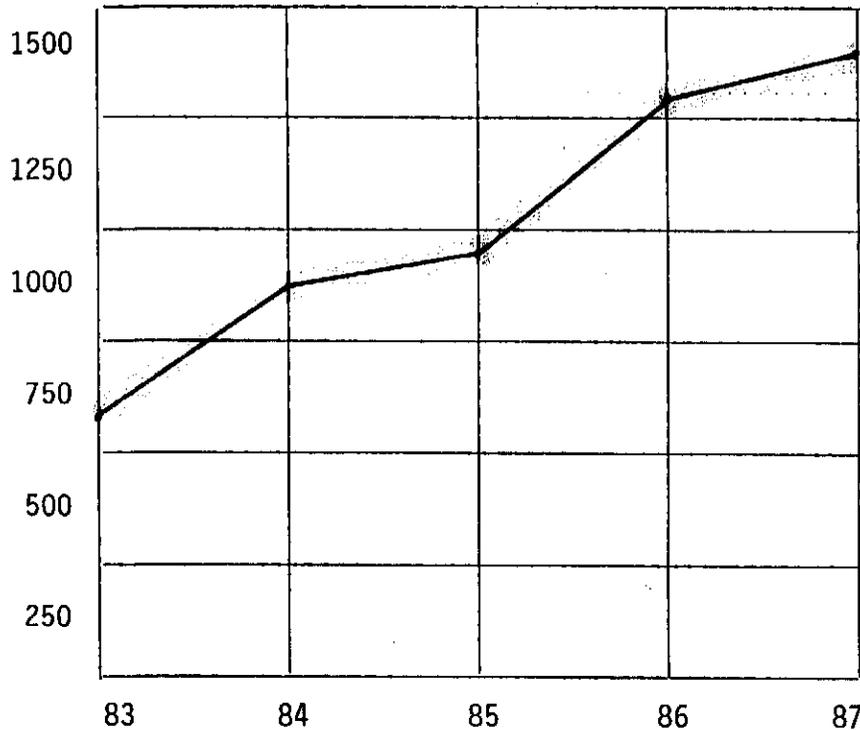
correlate the provisions of the Uniform Fire Code and the Uniform Building Code so that there is no conflict between them. Neither code is intended to stand alone; rather, the total package, i.e., the Uniform Fire Code, the Uniform Building Code, the Uniform Mechanical Code, the Uniform Plumbing Code and the National Electrical Code, give cities and counties a complete and comprehensive program of model codes that are compatible with each other.

Both the State of Montana, and the City of Helena adopt the Uniform Fire Code. The Fire Prevention Bureau is required to inspect, as often as may be necessary, all buildings and premises, including such other hazards or appliances as the chief may designate for the purpose of ascertaining and causing to be corrected any conditions which would reasonable tend to cause fire or contribute to its spread, or any violation of the purpose or provisions of the Fire Code and of any other law or standard affecting fire safety.

INSPECTIONS

<u>OCCUPANCY TYPE</u>	<u>NUMBER OF INSPECTIONS 1987</u>	<u>NUMBER OF INSPECTIONS 1986</u>
Mercantile.....	168.....	159.....
Educational.....	27.....	22.....
Public Assembly.....	70.....	62.....
Residential.....	104.....	124.....
Business.....	211.....	286.....
Industrial.....	208.....	176.....
Miscellaneous.....	26.....	50.....
Sub-Total.....	814.....	879.....
Re-inspections conducted.....	574.....	483.....
TOTAL INSPECTIONS FOR 1986-87.....	1388.....	1362.....

TOTAL INSPECTIONS - FIVE YEAR COMPARISON



NOTICES, ORDERS AND CITATIONS:

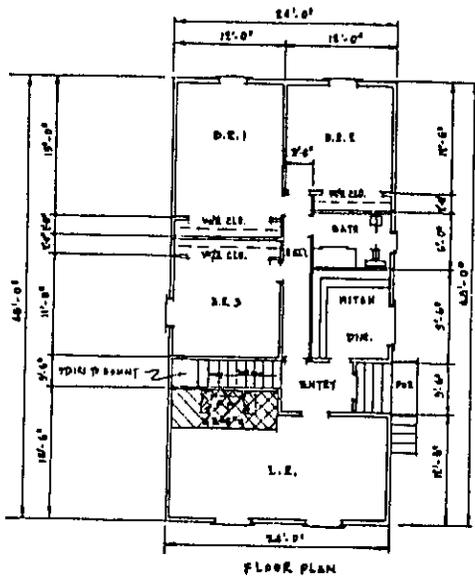
Notices are issued for the correction of routine code violations, orders are issued for the correction of more hazardous violations, and to gain code compliance, after all other measures have failed, a citation is issued.

During 1987, the Bureau issued 506 notices, 19 orders, and 13 citations.

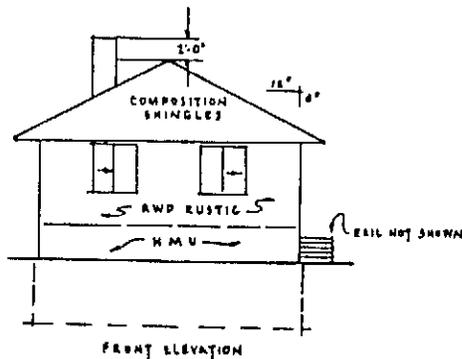
COMPLAINT INVESTIGATIONS:

The Fire Prevention Bureau conducts investigations of complaints received from local businesses and the citizens of Helena, concerning code violations, hazardous conditions, and public safety. During 1987, the Bureau received and investigated 40 complaints. Some of the complaints received concerned:

- Vehicles parked in the fire lanes at Capital and Helena High Schools.
- Gasoline/solvent fumes entering a business from a sewer line.



FLOOR PLAN
Figure 1-3



FRONT ELEVATION
Figure 1-4

PLAN REVIEWS

Traditionally, the activity of the Building Department has involved the design, construction, and final occupancy inspection of the building. The Fire Department's role has usually begun upon occupancy of the building and has concerned the maintenance of life safety conditions and the handling of contents.

Today, the Fire Department's role in the building construction process is changing. The participation of the Fire Marshal in the review of building plans and specifications and the construction process, has become an increasingly important fire prevention function. The plan review process is conducted in close cooperation with the Building and Safety Department, and provides the Fire Department with its best opportunity to see that fire protection standards are met prior to the completion of construction and occupancy of the building.

If questions and issues concerning the effect of construction on fire safety are discussed during the plan review process with the architect, engineers, contractors and other code officials, misunderstandings and conflicts that may arise during the construction or final finish phase can be prevented, if not eliminated. Design professionals benefit from this process as well because problems which would otherwise cost them time and money are eliminated before construction begins.

During 1987, the Fire Prevention Bureau devoted 68.5 hours to plan reviews.



FIRE INVESTIGATIONS

As required by State law, the Fire Prevention Bureau is responsible for investigating all fires within its jurisdiction. The term "fire investigation", describes a broad range of activities dealing with post-fire data gathering and analysis to document fire ignition scenarios, fire development, material identification, human behavior, and important fire safety lessons learned.

Investigations of this type are usually concerned with ignition scenario and area of origin determination, with particular emphasis on the investigation of incendiary and suspicious or fatal fires. Fire incidents are also investigated for loss analysis and prevention purposes. These investigations are usually conducted to determine what can be learned from a particular fire incident. Investigations conducted for loss analysis purposes focus on the reasons for fire spread, performance of fire protection features, and those factors contributing to life loss or property damage in addition to the fire cause and origin details.

At the present time all Fire Prevention Bureau personnel have completed the State Fire Marshal Bureau's basic and advanced arson investigation programs and are members of the International Association of Arson Investigators.

In 1987, the Bureau investigated a total of 34 fires, 24 were determined accidental, 7 incendiary, and 3 suspicious.

FIVE YEAR COMPARISON

<u>YEAR</u>	<u>NO. INVESTIGATED</u>	<u>INCENDIARY</u>	<u>ARRESTS</u>	<u>CONVICTIONS</u>
1987	34	7	1	0
1986	16	6	1	0
1985	24	8	0	0
1984	16	1	0	0
1983	28	15	1	1



HAZARDOUS MATERIALS

Hazardous materials are regulated under a number of provisions of the Uniform Fire Code. In addition to which the Fire Prevention Bureau participates in a number of programs in conjunction with the National Fire Protection Agency, and the Montana Department of Health and Environmental Sciences. The Bureau is also responsible for compliance with certain provisions of the Employee/Community Hazardous Chemical Information Act.

The Bureau conducts an on-going hazard assessment and risk analysis of all facilities involved in the transportation, storage, handling and use of hazardous materials within the city. This is done as part of the Bureau's uniform inspection procedure. A summary of some of the programs dealing with hazardous materials is included in this section.

Underground Storage Tank Program

The United States Environmental Protection Agency (EPA) estimates that three to five million underground tanks in the United States contain petroleum or "hazardous substances". It has been estimated that thousands of these tanks are currently leaking, and many more are expected to leak within the next five years.

In addition to the fire and explosion potential, growing evidence indicates that such tanks are a major cause of groundwater contamination. Because half the population of the United States depends on groundwater as a source of drinking water, the underground-storage-tank problem has been recognized as one of national significance requiring federal legislation.

Congress responded to the problem by incorporating a new subtitle in the Hazardous and Solid Waste Amendments of 1984, which President Reagan signed on November 8, 1984. This Subtitle I provides for the development and implementation of a comprehensive regulatory program for underground storage tanks.

The installation, operation and use of underground storage tanks, piping and related fuel handling equipment is regulated under the provisions of Article 79 of the Uniform Fire Code, and as such the Fire Prevention Bureau has the primary responsibility for conducting inspections of underground storage tanks, piping and equipment to insure compliance with the Fire Code and other applicable regulations.

During 1987, the Bureau has worked with the State Solid and Hazardous Waste Bureau to improve the Fire Department's inspection program and has provided local businesses with information and forms regarding the notification of the Solid and Hazardous Waste Bureau concerning underground storage tanks as required under the new provisions of State and Federal law.

LIQUEFIED PETROLEUM TANK FIRE



At approximately 6:22 PM on the evening of July 18, 1987, a fire occurred at the Sinclair Service Station on North Montana Avenue, involving a motorhome and the service station's 1,150 gallon propane tank. The fire occurred during filling of the motorhomes L.P.G. tank after the outage valve on an auto-stop fill valve froze open. The resulting fire totally destroyed the motorhome, damaged the service station and threatened to BLEVE the propane tank. A BLEVE is an acronym for a boiling liquid expanding vapor explosion. A BLEVE can occur

a very short time after initial exposure to fire. To date the shortest period has been about 10 minutes. When a BLEVE occurs, large sections of tanks can rocket as far as 3,400 feet from the original point; with devastating velocity, trailing flame and unburned liquid. In addition the ground flash and fire ball which occurs on rupture of the tank, may result in a fire ball covering areas several hundred feet from the point of origin in all directions. It can engulf men, equipment and buildings in a mass of flame. As the fire ball rises, it also gives off a fringe of radiated heat sufficient to ignite most combustibles and cause severe burns.

A BLEVE involving a 500 gallon propane tank in Buffalo, New York in December of 1983, damaged 130 buildings in a 16 square block area, completely destroying 18 buildings and causing severe structural damage to 55 others. Five Firefighters were killed in the blast and 11 others injured with over 50 civilian casualties.

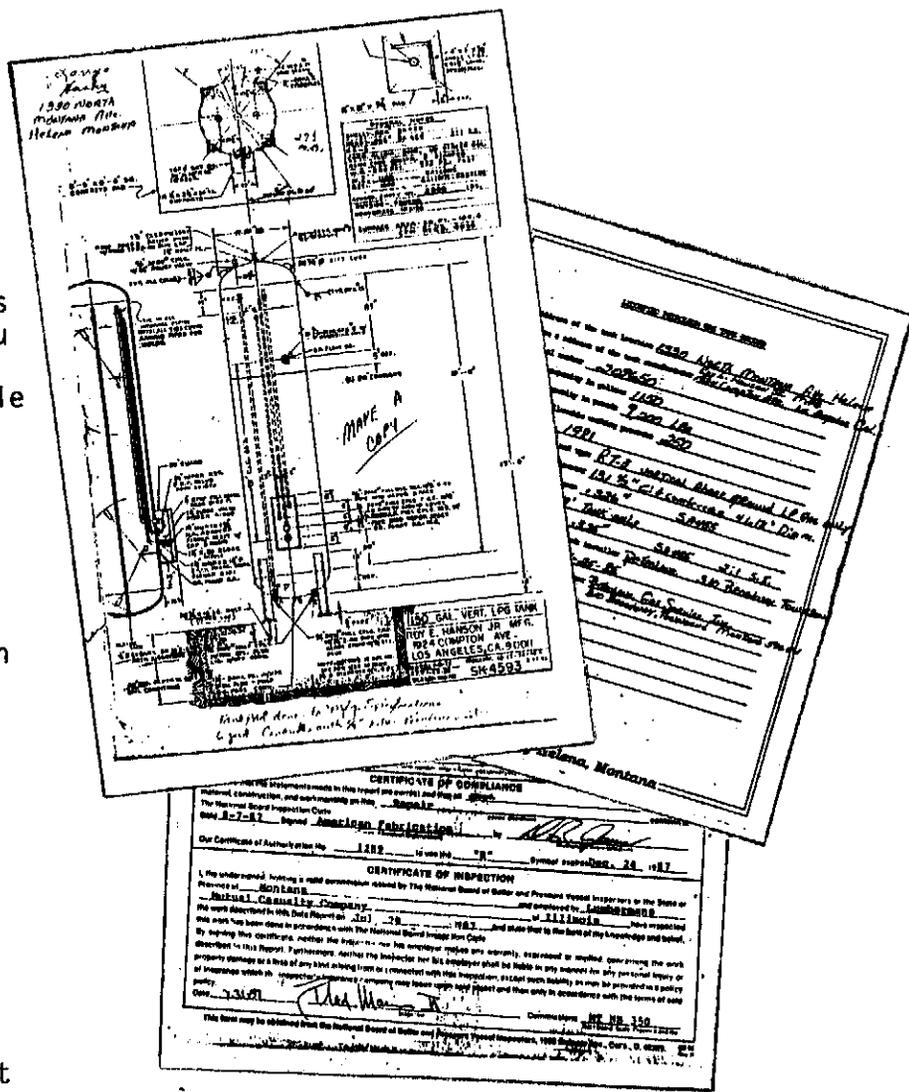
One of the many functions of the Fire Prevention Bureau is the issuing of permits to maintain, store, use or handle materials, or to conduct processes which produce conditions hazardous to life or property, or to install equipment used in connection with such activities. A permit is required to install, maintain and use liquefied petroleum gas tanks of greater than 119 gallons water capacity or to operate any tank vehicle which is used for the transportation of LP gas.

While permit conditions vary somewhat dependent on many factors. Through the permit process the citizens of Helena may be assured that all precautions and safety measures are taken to insure the safety of L.P.G. tanks and tank vehicles within the city.

Some of the items which may be required include:

- Design drawings and specifications for tanks and equipment.
- Site plans.
- Tank certification and qualification documents.
- Transport vehicle inspection certificates.
- Tank record documents.

At the present time L.P.G. tanks may be found scattered throughout the city limits. These range in size from the 1½ pound tank sold in hardware and other stores to the railcar size (30,000 gallon) tanks located at the Northern Energy Bulk Plant. It is the opinion of the Fire Prevention Bureau staff, that the members of Shift 2 of the Helena Fire Department are to be commended for the actions on July 18, 1987 in adverting what might well have been a major disaster.





NEW MASCOT — 'Sparky,' the new Helena Fire Department mascot, joined Central School second graders this morning at

the Civic Center station to watch a demonstration on how fires are caused. The students also toured the station and got fire

hats. It was all part of National Fire Prevention Week. (Staff photo by Gene Fischer)
(Independent Record)

THE HISTORY OF FIRE PREVENTION WEEK

On the night of October 9, 1871, a fire broke out in the vicinity of the barn owned by Mr. and Mrs. Patrick O'Leary at 137 DeKoven Street (now the site of the Chicago Fire Department Training Academy). Tradition lays the blame for the start of the fire and resulting conflagration on Mrs. O'Leary's cow who supposedly kicked over a kerosene lantern and kindled the fire. Whether the cow was to blame or not remains unknown, but most other circumstances surrounding the fire, including the extent of losses, are well known. The fire burned for twenty-seven hours, destroying 17,500 buildings, killing 250 to 300 people, and leaving approximately 100,000 homeless. The fire loss was estimated at \$200 million dollars.

On the same day that Chicago was being devastated by fire, the small lumbering community of Peshtigo, Wisconsin, suffered one of the most severe fires in terms of loss of life experienced in the history of the United States. On October 9, 1871, a forest fire in the area surrounding Peshtigo, accelerated into a fire storm and swept through the town destroying every building except for one home under construction. Being a lumbering town, Peshtigo was built of wood. Not only were the buildings and sidewalks constructed of wood, but sawdust was used on the roads to reduce dust. The fire moved so fast the people could not flee in time to escape, and nearly 800 people perished in the fire that destroyed timber in an area sixty miles north and south and twenty miles east and west.

Fire Prevention Week, established in 1922 on the anniversary of these fires, is intended to serve as a reminder of the destructiveness of fire and the importance of its prevention.



PUBLIC SERVICE ANNOUNCEMENTS

Among the many measures that can be taken to reduce fire losses, perhaps none is more important than educating people about fire. Americans must be made aware of the magnitude of fire's toll and its threat to them personally. They must know how to minimize the risk of fire in their daily surroundings. They must know how to cope with fire, quickly and effectively, once it has started.

The prevention of fires due to human carelessness is not all that fire safety education can hope to accomplish. Many fires caused by faulty equipment rather than carelessness could be prevented if people were trained to recognize hazards. And, many injuries and deaths could be prevented if people knew how to react to a fire, whatever its cause.

Each year through the use of Public Service Announcements, conducted with the cooperation and assistance of the local news media, the Fire Prevention Bureau strives to make the public aware of various fire hazards.

Some of the subjects covered by these PSA's include spring clean-up week, fireworks safety, fire prevention week, and holiday and Christmas safety.

During 1987, the bureau conducted 15 Public Service Announcements.

PUBLIC EDUCATION

During the year of 1987, the Fire Prevention Bureau conducted both demonstrations and lectures to the general public upon request.

Demonstrations.....	64
Number of adults.....	1479
Number of students...	2628
Lectures.....	21
Number of adults.....	258
Number of students...	434



COUNSELING JUVENILE FIRE SETTERS

Learning about fire is a part of every child's growth process. A passing interest in fire is quite normal from the ages of approximately 2 - 7 years. This interest is often exhibited when children light small fires or play with matches, lighters, or candles. Children are great imitators. They mimic the adults they see lighting cigarettes, candles, and fireplaces. To most children under seven there is little understanding of fire and its destructive consequences. To them fire has a magical quality. Small children can strike a match and start a small fire. They can then touch the lighted match to a small pile of papers and create a large, warm, bright fire, all through the magic of their match.

If the fire rapidly spreads beyond the initial pile of papers, the curious fire players will usually attempt to extinguish the fire or run for help. This fire play, however innocent, is dangerous and must be controlled. Each year the Fire Prevention Bureau receives requests from parents of children playing with fire for counseling. As part of the Bureau's public education program the Fire Marshal works with the parents and child involved to channel this curiosity about fire into protective and non-destructive areas. During 1987, the Fire Prevention Bureau counseled fifteen (15) juvenile fire setters.

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City-County
Administration Building
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William J. Verwolf
City Manager

City of Helena

TO: Norm Gray, Fire Chief
FROM: Rich Coe, Ass't Fire Chief
DATE: February 5, 1988
SUBJECT: Fire Department Training

Beginning in March 1987, City Fire Department personnel were occupied for several months building a new squad truck. This project was done in addition to training and other duties.

Department training last year included:

- 1) There were 12 company inspections.
- 2) C.P.R. re-certification.
- 3) Fire Command II school (14 men).
- 4) Schools dealing with Cryogenic Gases and Sodium Cyanide (the latter is stored in large quantities at Great Western Chemical).
- 5) Rope and Knot school (8 hours) attended by 11 men.
- 6) International Fire Service Training Association courses completed by one or more men including: ladder practices, hose practices, first aid, fire streams, salvage and overhaul, forcible entry, rescue, apparatus and self contained breathing apparatus.
- 7) During 1987, two (2) men passed the Firefighter II test and two (2) passed the "Essentials" test. These are a part of the promotion requirements.

Fire Department Training
page 2

- 8) Miscellaneous courses taken by Department members also included: arson workshops, C.P.R. (updated) instructor, confined spaces rescue, pumps and hydraulics and officer training.
- 9) Approximately 500 hydrants were flow tested.
- 10) The Department's 20,000 plus feet of hose was given it's annual test.

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TO: Norm Gray, Fire Chief
FROM: Don Hurni, Mechanic
DATE: February 5, 1988
SUBJECT: 1987 Truck and Equipment Maintenance

Major work on apparatus and equipment is performed by the Fire Department mechanic, and most minor work and preventative maintenance is performed by shift members.

Following is a breakdown of costs of repairs by vehicle

Engine 1 (1986 Sutphen).....	\$ 51.90
Engine 2 (1980 Hahn).....	\$ 1,296.54
Engine 3 (1975 Seagraves).....	\$ 464.14
Truck 1 (1976 Sutphen).....	\$ 999.91
Truck 2 (1946 Pirsch).....	\$ 2.23
Squad 1 (1976 Dodge).....	\$ 34.74
Squad 1 (1986 Ford).....	\$ -0-
Squad 2 (1980 Chevrolet).....	\$ 1,238.58
#127 (1980 Ford Sedan).....	\$ 55.19
#128 (1980 Ford Sedan).....	\$ 33.49
#129 (1980 Ford Pickup).....	\$ 368.34
#130 (1985 Ford Pickup).....	\$ 118.49
#131 (1986 Ford Van).....	\$ 2.41

-continued on next page

page 2

City Shop service charge.....	\$ 2,375.52
Total vehicle repairs.....	\$ 4,665.96
Total equipment repairs.....	\$ 3,574.88
Total vehicle and equipment repair 1987.....	\$10,616.36
Total man hours for mechanic.....	750 hours
Total man hours shift personnel.....	4,045 hours

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HELENA FIRE DEPARTMENT

YEARLY FUEL REPORT

(January 1, 1987 to December 31, 1987)

<u>VEHICLE</u>	<u>FUEL TYPE</u>	<u>FUEL GAL</u>	<u>MILES YTD</u>	<u>MILES ODO</u>	<u>MPG</u>
Engine #1.....	Diesel.....	556.8.....	2462.7.....	6449.1.....	4.4
Engine #2.....	Diesel.....	506.1.....	2345.4.....	15865.0.....	4.6
Engine #3.....	Diesel.....	190.9.....	558.1.....	14123.1.....	2.9
Squad #1.....	Gasoline.....	203.0.....	545.0.....	545.0.....	2.6
Squad #2.....	Gasoline.....	377.4.....	1762.7.....	9521.7.....	4.6
Truck #1.....	Diesel.....	492.5.....	956.0.....	10544.0.....	1.9
Truck #2.....	Gasoline.....	41.0.....	71.5.....	1862.5.....	1.7
#127 Ford.....	Non-Lead.....	181.7.....	2982.0.....	31280.0.....	16.4
#128 Ford.....	Non-Lead.....	307.9.....	4204.9.....	31810.0.....	13.6
#129 Ford Pickup.....	Non-Lead.....	571.5.....	6425.0.....	31785.0.....	11.2
#130 Ford Pickup.....	Non-Lead.....	377.7.....	5603.0.....	16409.2.....	14.8
#131 Ford Van.....	Non-Lead.....	273.3.....	4077.5.....	4084.0.....	14.1
TOTAL GALLONS OF GASOLINE (NON-LEAD).....		1,712.1			
TOTAL GALLONS OF GASOLINE (REGULAR).....		580.4			
TOTAL GALLONS OF DIESEL.....		1,746.3			
TOTAL GALLONS OF FUEL.....		4,038.8			
TOTAL MILES (ALL VEHICLES).....		31,993.8			
AVERAGE MPG (ALL VEHICLES).....		7.9			
TOTAL ODO (ALL VEHICLES).....		174,288.6			

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BUILDING MAINTENANCE

Members of the Helena Fire Department devote many hours each year to building maintenance. This includes all janitorial work and most minor repairs. Members of the Helena Fire Department take pride in keeping their quarters clean and in good repair.

Following is a breakdown of building maintenance costs and utility costs for both stations from January 1, 1987 to December 31, 1987.

BUILDING MAINTENANCE COSTS:

Station 1.....\$	162.21
Station 2.....\$	<u>217.69</u>
Total...\$	379.90

UTILITY COSTS: (1987)

Station 1	
Gas.....\$	3,304.56
Water & Sewer.....\$	405.20
Sanitation.....\$	271.39
Station 2	
Electric.....\$	2,053.30
Gas.....\$	1,926.14
Water & Sewer.....\$	615.87
Sanitaion.....\$	<u>243.72</u>
Total Utilities....\$	8,820.18

JANITORIAL COST: (1987)

Station 1 & Station 2....\$	1,051.50
-----------------------------	----------

MAN-HOURS SPENT IN BUILDING MAINTENANCE - 3,296 hours

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HELENA FIRE DEPARTMENT OPERATIONAL PROCEDURE

IN-CITY ALARMS:

Small fires: Grass, brush, cars, dumpsters, garbage, etc.

Two (2) men - either squad or 1250 pumper
East of Montana - Eastside Station
West of Montana - Main Station

Small structure fire: (Initial attack)

East of Montana - Engine 2 and three (3) men
Engine 1 and two (2) men

West of Montana - Engine 1 and three (3) men
Engine 2 and two (2) men

Extra man - Truck 1

Large structure fire: (Initial attack)

East of Montana - Engine 2 and three (3) men
Engine 1 and two (2) men
Truck 1 and one (1) man

West of Montana - Engine 1 and two (2) men
Truck 1 and one (1) man
Engine 2 and three (3) men

MUTUAL AID:

East Helena;

Engine 2 and two (2) men (call in two (2) men to standby)

West Valley:

Engine 2 and two (2) men (call in two (2) men to standby)

page 2

OPERATIONAL PROCEDURE:

Fire District #3:

Engine 1 and three (3) men (Squad 2 and Engine 2 move to Main Station if working fire)

V.A. Hospital:

Engine 1 and three (3) men (Squad 2 and Engine 2 move to Main Station if working fire)

(Call in three (3) men to standby if working fire)

Highway Shops:

Engine 1 and three (3) men (Squad 2 and Engine 2 move to Main Station if working fire)

(Call in three (3) men to standby if working fire)

Fairgrounds:

Engine 1 and three (3) men (Squad 2 and Engine 2 move to Main Station if working fire)

(Call in three (3) men to standby if working fire)

If additional help is needed call Police desk and instruct dispatcher how many men will be needed. If only one shift is needed call in shift which was relieved.

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FIRE PROTECTION CONTRACTS

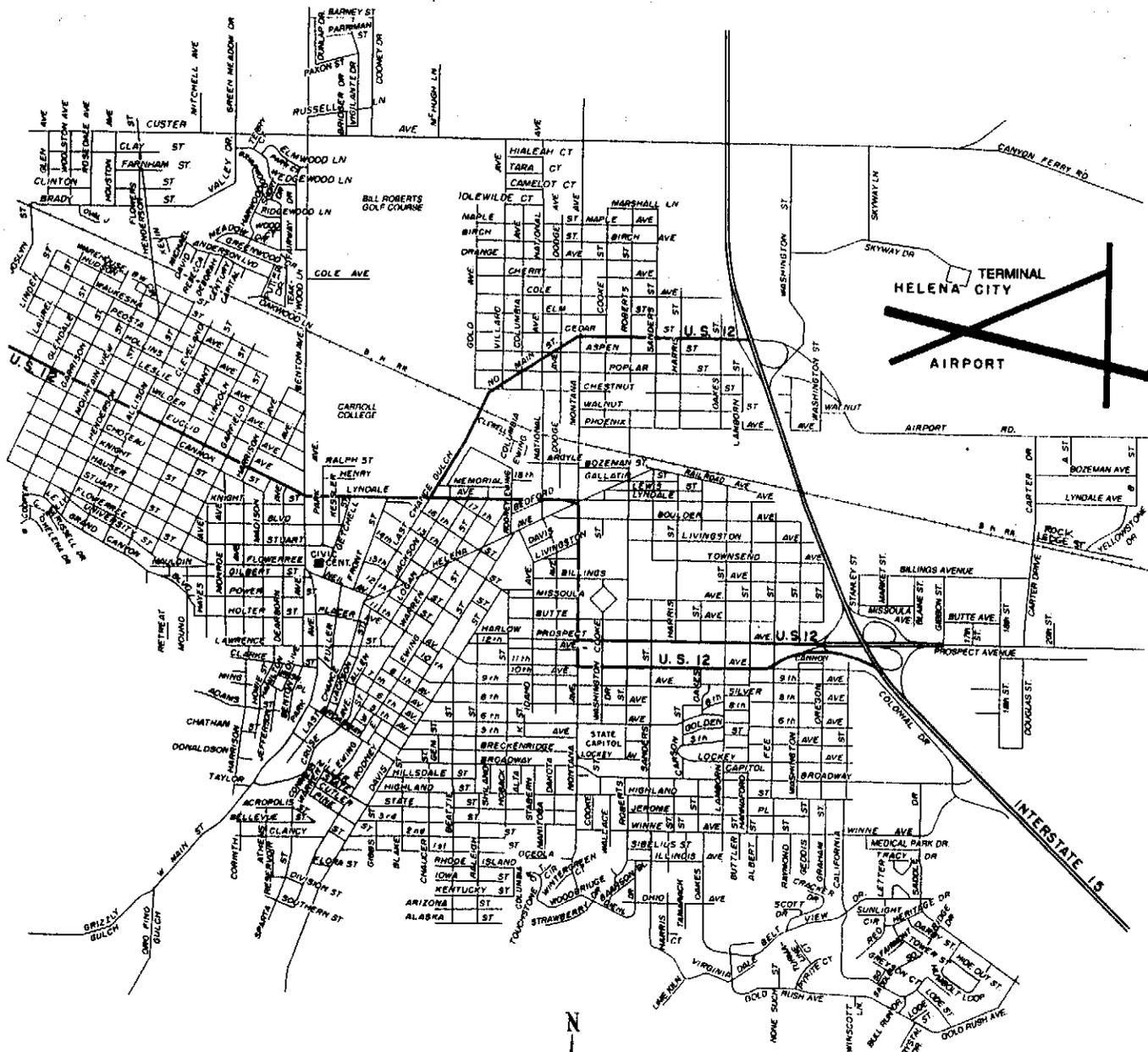
At the present time the City of Helena has several Fire Protection contracts with areas outside the city limits. These include the Veteran's Administration Hospital, the State Highway Shops, and the area west of the city which is Fire District #3. We cover these areas with one (1) pumper and three (3) men. The cost of the fire protection for these areas is computed by mill levy necessary for operating the Helena Fire Department. The cost for taxpayers in the fire district is computed on the same basis as the people who live in the city limits. The private protection contracts are re-negotiated each year after it is determined what the operational budget for the Helena Fire Department is.

Following is a breakdown of the money received by the City of Helena from these contracts:

VETERAN'S ADMINISTRATION HOSPITAL.....	\$ 22,082.00
HIGHWAY SHOPS.....	\$ 1,596.00
FIRE DISTRICT #3.....	<u>\$ 29,066.00</u>
TOTAL.....	\$ 52,744.00

The Helena Fire Department also has two (2) Mutual Aid contracts. These contracts are with the West Helena Valley Volunteer Fire Department and the East Helena Volunteer Fire Department. These contracts state that in the event of a large fire, the Helena Fire Department would receive one (1) pumper and ten (10) men from each fire department for a total of two (2) pumpers and twenty (20) men. If either of the volunteer fire departments should need our help, we are obligated to send one (1) pumper and two (2) men.

MAP OF HELENA



WEST OF MONTANA

Fires - 138
 EMS - 138
 Misc. - 353
 Total - 629

EAST OF MONTANA

Fires - 54
 EMS - 122
 Misc. - 195
 Total - 371

TOTAL CALLS BOTH EAST AND WEST SIDE - 1000

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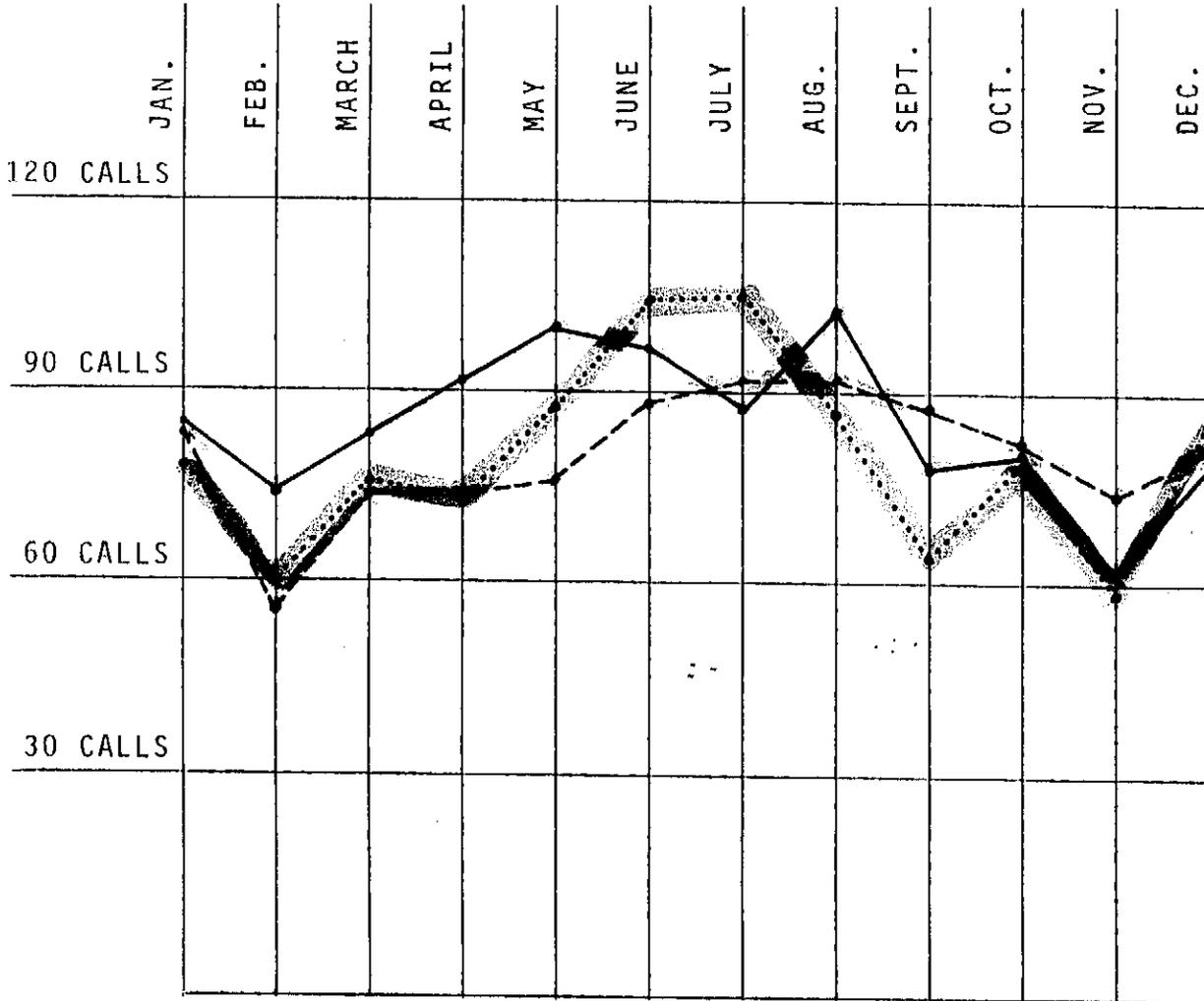


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CALLS PER MONTH OF YEAR - 1987 ————
 CALLS PER MONTH OF YEAR - 1986 - - - - -
 CALLS PER MONTH OF YEAR - 1985 ······

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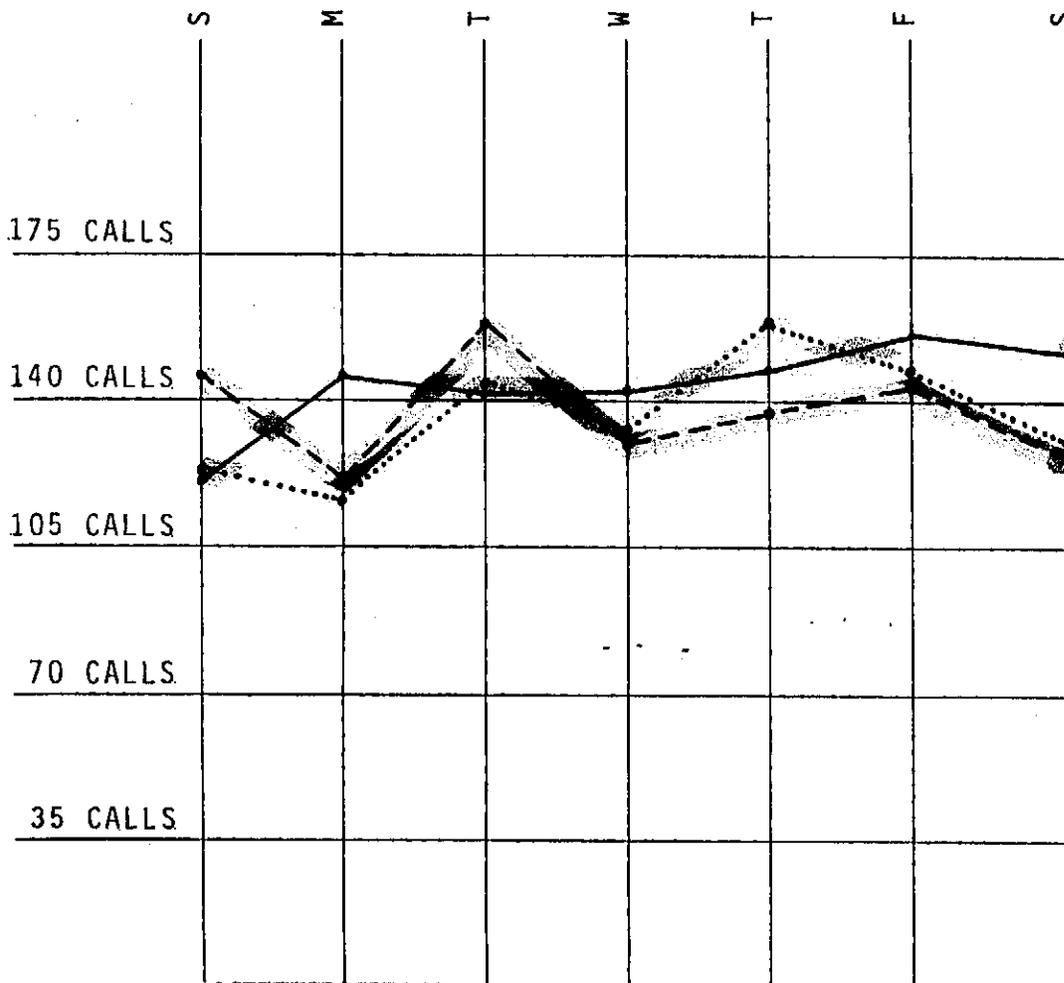


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CALLS PER DAY OF WEEK - 1987

CALLS PER DAY OF WEEK - 1986

CALLS PER DAY OF WEEK - 1985

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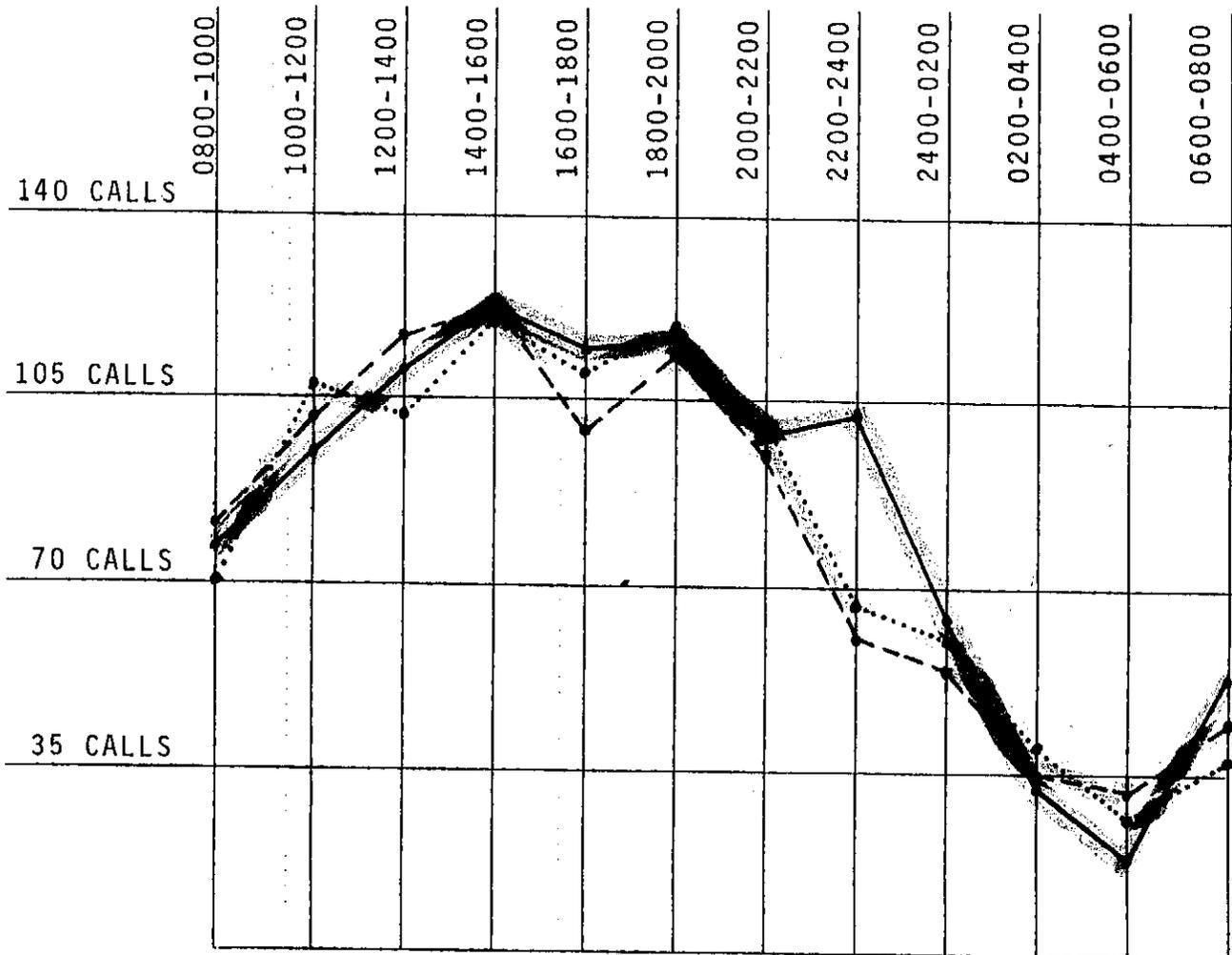


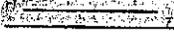
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CALLS PER HOUR OF DAY - 1987 
 CALLS PER HOUR OF DAY - 1986 
 CALLS PER HOUR OF DAY - 1985 