



Disaster Mitigation and Response: Planning for Resilience in Affordable Housing

Marlborough, New Zealand
September 29, 2014

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Presentation for Today

1. Who is California Coalition for Rural Housing?
2. Planning for Disaster: Location, Design, Construction, Operation
3. Case Studies of Emergency Preparedness
4. Lessons and Best Practices from California Affordable Housing

But first, some disclaimers

- I am not an engineer
- I am not an architect
- I am not a building contractor
- I am not an elderly services provider
- And, I am not an insurance claims adjuster
- What I am is an affordable housing policy geek



California Coalition for Rural Housing



Mission: Strengthen capacity of nonprofit and public sectors to improve quality of life of rural and low-income Californians via production and preservation of decent and affordable homes.

- ✓ *Public Policy Advocacy*
- ✓ *Leadership Development*
- ✓ *Asset-Building*
- ✓ *Technical Assistance*
- ✓ *Community and Tenant Organizing*
- ✓ *Research and Public Education*



In a Perfect World

- Location Efficiencies
- Design Efficiencies
- Construction Efficiencies
- Operation Efficiencies



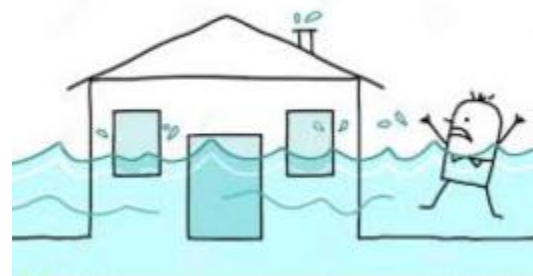
Location-Efficiency Factors



- Avoidance of sites vulnerable to natural disasters:
 - active flood plains
 - active earthquake and volcanic zones
 - unprotected wood-burn areas
 - exposed/unsecured hill slopes (mudslides, slippage)
 - subsiding soil (sinkholes)
 - rising water (global warming, tsunamis)
 - frequent atmospheric events (hurricanes, tornados, wind)
- Avoidance of brownfields (toxic areas)
- Location relative to evacuation routes
- Location relative to emergency services

Design-Efficiency Factors

- Open-pattern pedestrian and vehicular circulation
- Unit/building door orientation to accelerate evacuation
- Designated building and site egress routes for evacuees
- Designated site ingress routes for emergency response vehicles and personnel
- Site positioning of emergency response apparatus
- Minimization of # of units per building entry-way or floor
- Fire escapes and stairwells for non-functioning elevators



Construction-Efficiency Factors

- Earthquake fortification
- Solid footings and foundations
- Fire-resistant, non-combustible materials
- Durable, non-degradable materials
- On-site drainage systems, grading, and elevations
- Drought-resistance measures:
 - low water-use showerheads, toilets
 - flow limiters on faucets
 - high-efficiency drip irrigation
 - on-site water storage and recycling
 - native plants and landscaping
- Plant and masonry buffers from high wind and rain
- Auxiliary solar, electrical, and water systems
- Spacious exterior and interior fire escapes and stairwells



Operation-Efficiency Factors

- Contingency planning – What if?
- Disaster response training for residents and managers
- Close coordination with disaster responders
- Special accommodations for elderly, disabled, children
- Alternative shelter for evacuees and displacees
- Relocation assistance – material and monetary
- Insurance claims assistance
- Plan for rapid re-housing



Seismic Safety – California Leads the Way

Napa earthquake hastens calls for warning system

By ELLEN KNICKMEYER and SUCHIN THANASAKA
The Associated Press

Published: Tuesday, Aug. 26, 2014 - 12:06 am
Last Modified: Tuesday, Aug. 26, 2014 - 8:26 am

Viewpoints: We hate government, but should give it credit in Napa earthquake

By Russ Merson
Special to The Free

Published: Tuesday, Aug. 26, 2014 - 12:00 am

Napa Valley – August 26, 2014

- Magnitude – 6.0
- Deaths – 0
- Injured – 172+
- Homes Destroyed – 6+
- Homes Damaged – 100+



Yunnan Province – August 6, 2014

- Magnitude – 6.1
- Deaths – 600+
- Injured – 3,100+
- Homes Destroyed – 80,000+
- Homes Damaged – 124,000+



Case Studies of Emergency Preparedness

- Community HousingWorks – San Diego, Escondido
- Mercy Housing California – West Sacramento
- Self-Help Enterprises – Visalia
- Burbank Housing Development Corporation – Santa Rosa
- Napa Valley Community Housing - Napa

Community HousingWorks

San Diego, Escondido, California



Mission: Help people move up in the world through opportunities to own, rent and achieve the stability of a good home.

- *Location: San Diego, Escondido*
- *Founded: 1982*
- *31 properties, 1,760 rental and cooperative*
- *Services: Rental housing development and ownership, homebuyer and financial education, lender and realty services, resident programs and services for leadership development, schoolwork assistance, asset accumulation*



San Diego County Fire Impacts

May 2014 Fires

- ✓ About 20 different fires
- ✓ 30,000 acres burned, about 3% of county
- ✓ At least 65 homes burned
- ✓ Estimated cost of \$60 million
- ✓ Cause: Arson



Hillside Village – Poway, California



71 1-4 bedroom units
Family/elderly
Completed 2003



Hillside Village – Street View before Fire



Hillside Village - Aftermath of Fires



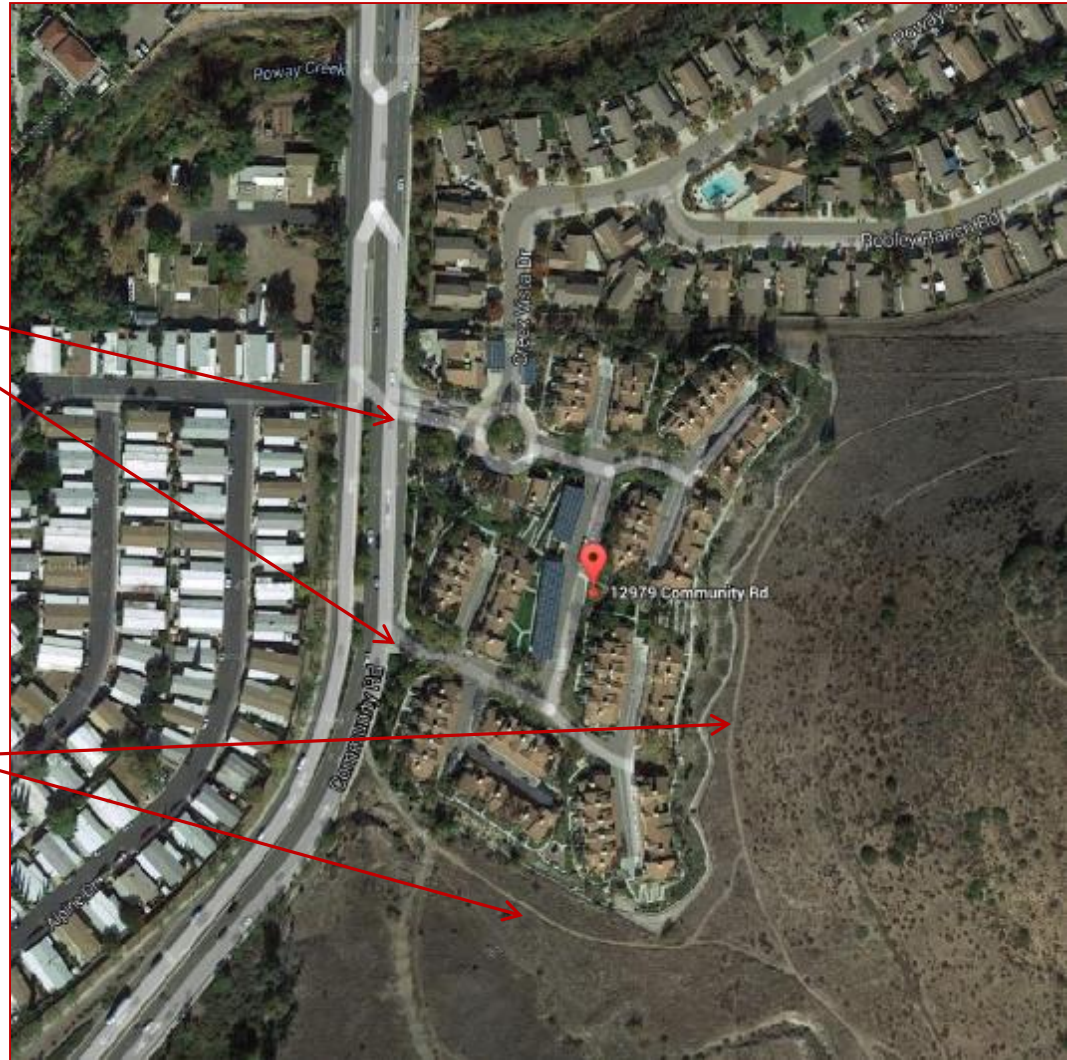
Firebreak, road outside property provided buffer and emergency access



Hillside Village – Fire Access Routes

Wide ingress/egress
to main road

Perimeter firebreaks/roads



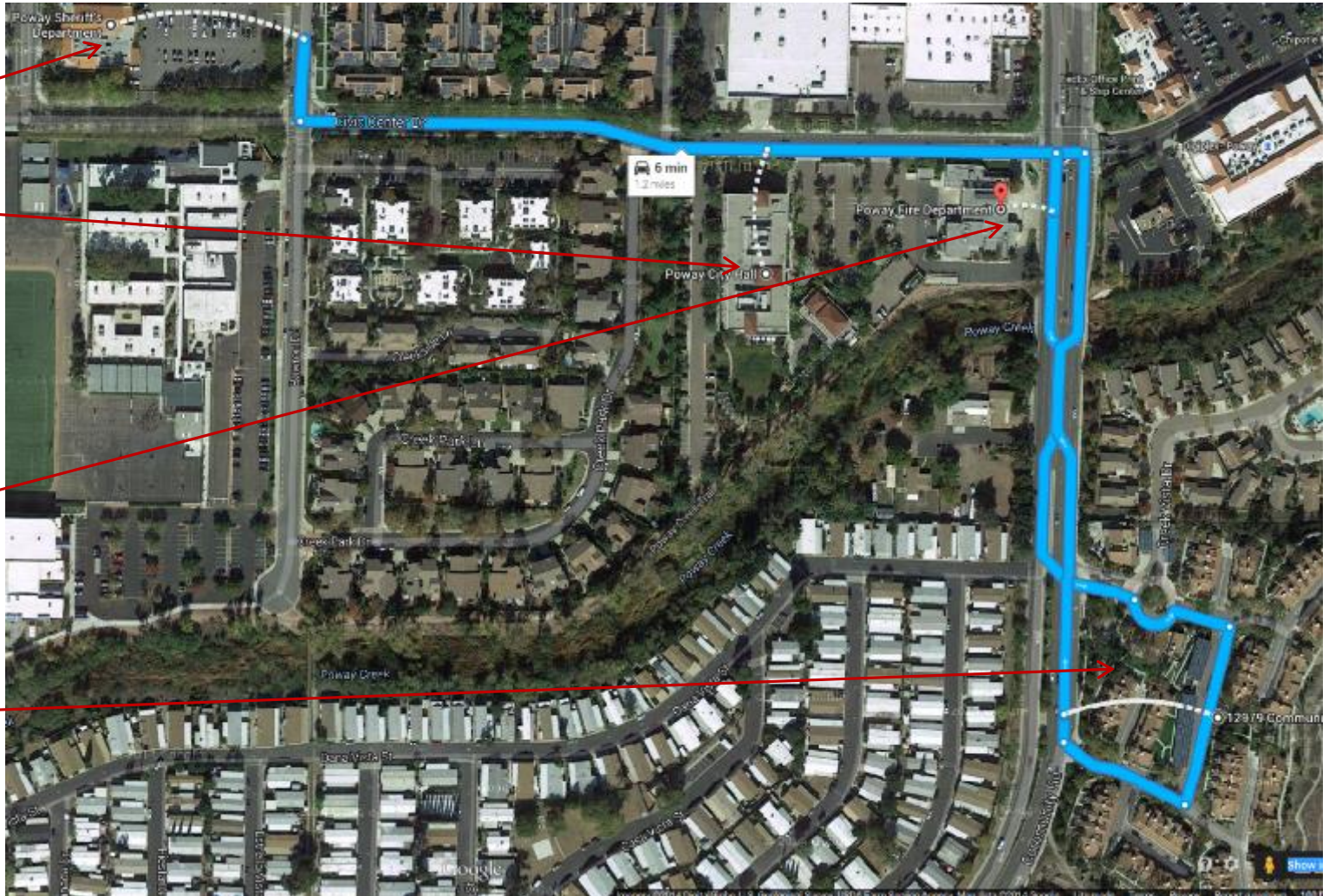
Hillside Village – Close Proximity to Emergency Services

Sheriff

City Hall

Fire Department

Hillside Village with 2 exits to main road





EMERGENCY ACTION PLAN

Emergency Action Plan - for CHW.doc Date Revised: 07/31/14

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Community Housing Works

EMERGENCY ACTION GUIDELINES

Emergency situations have and will continue to arise on our communities from time to time. Each situation will require prompt, efficient reaction on the part of the on-site employees. The better prepared we are to respond to these emergency situations, the easier they will be to handle, and the resulting confusion and disruption will be kept to a minimum.

Regional Portfolio Managers, Community Directors and Maintenance Services Supervisors must ensure their employees are familiar with all procedures to follow in the event of an emergency.

Each community must prepare an emergency telephone list (*see Attachment A*), to include the phone numbers of key employees within the company, contractors, utility companies, as well as the emergency services (*in addition to 911!*).

Advise and encourage residents and employees to create a Disaster Kit. These kits should contain a 3-day supply of canned food with a can opener and a 3-day supply of bottled water (*approximately 1 gallon per person per day*). In addition, the kits may contain at least 1 change of clothing per person, along with sturdy shoes or boots and gloves. Flashlights and a battery operated radio with plenty of extra batteries, sleeping bags for the family, a first aid kit with necessary prescription drugs, an extra sets of car keys and cash should also be included (*see Attachments E and F for additional information and suggestions*).

ATTACHMENT E

DISASTER KIT CHECKLIST

Water, Food and Utensils:

- ☐ Water – 1 gallon of water per person per day, for drinking, cooking, washing and sanitation
- ☐ Store as much water as possible in non-breakable containers, such as 2 or 3-liter soft drink plastic bottles and/or milk jugs
- ☐ Food – non-perishable, needing little or no cooking; high nutrition type with little waste
- ☐ Special dietary foods, if required
- ☐ Bottle and/or can openers
- ☐ Water purifying tablets, 2% tincture of iodine or household bleach (hypochlorite type only)
- ☐ A heating source, such as a camp stove or canned heat with plenty of extra fuel

Communication, lighting, safety:

- ☐ Battery-operated radio with plenty of extra batteries
- ☐ Lantern and plenty of fuel
- ☐ Flashlights, candles
- ☐ Fluorescent distress flag
- ☐ Matches (in waterproof container)
- ☐ Citizen's Band Radio, Scanner and/or NOAA Weather Radio
- ☐ Fire Extinguisher
- ☐ Work gloves
- ☐ Shovel, pry bar and hammer or small (3 lbs.) sledge

Clothing:

- ☐ At least 1 complete change of clothing per person, appropriate for season and weather conditions
- ☐ Sturdy work clothes
- ☐ Sturdy shoes or boots
- ☐ Extra underwear and socks
- ☐ Outerwear: rain gear, coats, jackets, sweaters, rubber boots and ponchos
- ☐ Pillows
- ☐ A sleeping bag or 2 blankets per person

Personal items:

- ☐ Washcloth and small towel per person
- ☐ Reading and writing materials
- ☐ Small toys, dolls, reading books, coloring books with crayons or pencils for children
- ☐ Sewing kit
- ☐ Soap, shampoo, toothbrushes, toothpaste, deodorant
- ☐ Shaving kit
- ☐ Hair care items
- ☐ Contact lens & solution
- ☐ Extra pair of glasses
- ☐ Dentures
- ☐ Sanitary napkins and/or tampons
- ☐ Mirror (may double as signal mirror in an emergency)

ATTACHMENT F

DISASTER PLAN CHECKLIST

Gather Information

- ☐ Contact local offices of the National Weather Service, Emergency Management, American Red Cross and Disaster Preparedness to obtain information regarding hazards and types of disasters which could occur within the area.

Meet with the entire family to create the plan

- ☐ Discuss information gathered.
- ☐ Select two places to meet: 1 place just outside the residence for an emergency, such as a fire and another away from the neighborhood, in case you must evacuate or can not return home.
- ☐ Choose an out-of-state relative or friend as the family check-in contact for everyone to call if the family gets separated.
- ☐ Discuss what steps to take if told to evacuate.
- ☐ Ensure every member has a job to perform in an emergency.
- ☐ Write the plan down on paper.

Implement the plan

- ☐ Post emergency phone numbers next to all phones.
- ☐ Install safety features in the residence, such as fire extinguishers in the kitchen, if possible. Consult with management of apartments prior to purchasing such items.
- ☐ Inspect residence for hazards, such as furniture items that can fall over, glass items and chemical cleaning products that could fall from shelves or things that could catch fire, correct them.
- ☐ Ensure family members learn basic safety measures and techniques, such as CPR, Basic First Aid and operation of a fire extinguisher.
- ☐ Ensure children know their phone number, address and how to dial 911 or the local Emergency Services number, in an emergency.
- ☐ Develop your personal Disaster Kit with provisions for at least 3 days.
- ☐ Put together the Disaster Kit supplies in sturdy easy-to-carry containers, such as duffel bags or back-packs. Keep important family documents in water-proof containers. Assemble smaller Disaster kits to be kept in the trunk of automobiles.

Disaster Preparedness Lessons from Hillside Village

- ❑ Prepare site-specific emergency plans, including evacuation and emergency utility shut-off plans and maps.
- ❑ Provide on-site emergency training for residents by Red Cross, local organizations
- ❑ Form networks of resident leaders and local first responders to quickly deliver information and assistance during disasters.
- ❑ Supply emergency items – radios, lamps, first aid kits.
- ❑ Identify central person for deployment and transmission of communications to residents and staff.

More Lessons from Hillside Village

- ❑ Get residents to sign up on county alert list; computer calls.
- ❑ Provide multilingual training, evacuation information, and personnel at properties and evacuation centers.
- ❑ Outcomes from evacuations of 5 properties in May 2014:
 - ✓ *Residents better informed and evacuated quickly.*
 - ✓ *Elderly and disabled identified in advance and given additional help, neighbors helped neighbors, coordinated by property management.*
 - ✓ *CHW central monitored and disseminated information, deployed staff volunteers where needed, warned staff and partners of road closings.*
 - ✓ *As new fires started, got information out quicker than local media.*
 - ✓ *State and emergency crews responded better, were more effective.*

Mercy Housing California

West Sacramento, California



Mission: Create stable, vibrant and healthy communities by developing, financing and operating affordable, program-enriched housing for families, seniors and people with special needs who lack the economic resources to access quality, safe housing opportunities.

- *Founded: 1981*
- *140 rental properties, 8,000 units acquired, rehabbed, built*
- *3,002 self-help owner units built*
- *Other activities: Property management, resident services, community lending, and technical and portfolio management assistance to communities acquiring, rehabilitating, and reselling foreclosed homes at affordable prices*



McAuley Meadows – Auburn, California



- 60 1-2 bd units, independent living (55 and older)
- 3 stories, 1 elevator, 3 stairwells
- Fire department required design elements – full perimeter access for trucks and equipment
- 4 points of egress
- Location in wildland/urban interface zone
- Construction completed January 2014

McAuley Meadows – Building Exits







Disaster Mission Statement

In the event of a disaster, Mercy Housing will make every effort to provide shelter and a caring environment for staff, residents and guests. By working to protect one another and responding to needs with compassion and mercy, Mercy Housing will maximize staff and resident safety while minimizing disaster-related physical and psychological distress.

The priorities are:

- Ensure the safety of staff, residents and guests immediately following the event, helping compromised persons access emergency medical attention;
- Continue to operate a safely functioning housing/shelter environment while working with external resources to coordinate crucial necessities, including water, food and basic sanitation;
- Help staff, residents and guests regain stability as quickly as possible by collaborating with external community resources to address longer-term needs, including emotional and psychological distress;
- Thoughtfully investigate the integrity of physical assets and proactively respond to operational needs, ensuring that properties return to normalcy as soon as possible.

Adopted by the Disaster Preparedness Committee on October 16, 2012

Crisis Response Property Data
To be placed in the Crisis Response Binder behind Tab 3

EMERGENCY CONTACT LIST

AND

LOCATION OF EMERGENCY

SUPPORT DOCUMENTATION

FOR THE

McAULEY MEADOWS APARTMENTS

EMERGENCY CONTACT LIST

Emergency Services

Fire Department 485 High St. Auburn, CA (530) 823-4211
Police Department Auburn PD: 1215 Lincoln Wy. Auburn, CA (530) 823-4237
Ambulance AMR: 451 Grass Valley Hwy. Auburn, CA (530) 823-3474
Poison Control Center (530) 822-7327
FBI 4500 Orange Grove Ave. Sacramento, CA (916) 461-9110
Red Cross ARC: 144 Hughes Rd. Grass Valley CA (530) 272-3265

Answering Service

Name McAuley Meadows
Primary Contact Recorded Information
Phone (530) 210-2677

Local Area Services

Health Department Placer County Public Health - 11475 C Ave. Auburn, CA 95603 (530) 889-7205
Electric Company PGE - 343 Sacramento St. Auburn, CA
Water Company PCWA - 144 Ferguson Rd. Auburn, CA
Gas Company PGE - See above
Phone Company ATT - 1850 Grass Valley Hwt. #370, Auburn, CA
Sewer Company Placer County Utilities - 11476 C Ave. Auburn, CA

**Area Hospital
Trauma Center**

Name Sutter Auburn Faith Hospital	Location 11015 Education St. Aub.	Phone (530) 888-4562
Name Sutter Auburn Faith Hospital	Location See above	Phone See above

Vendor Resources List

Carpet Service
Clean Water Extraction

Name [Redacted]	Phone (Business Hours) [Redacted]
Primary Contact [Redacted]	Phone (After Hours) [Redacted]

General Contractor
Window Board Up

Name Sunset Construction	Phone (Business Hours) (530) 891-8444
Primary Contact Erich Gordon	Phone (After Hours) [Redacted]

Courtesy Patrol Service

Name N/A	Phone (Business Hours) [Redacted]
Primary Contact [Redacted]	Phone (After Hours) [Redacted]

Electrician

Name Hand D Electric	Phone (Business Hours) (916) 332-0794
Primary Contact [Redacted]	Phone (After Hours) [Redacted]

HVAC
Heating/Cooling

Name BJS Heating & Air	Phone (Business Hours) (530) 882-8801
Primary Contact [Redacted]	Phone (After Hours) [Redacted]

Roofer

Name Harbert Roofing Inc.	Phone (Business Hours) (530) 885-4180
Primary Contact [Redacted]	Phone (After Hours) [Redacted]

Glass
Repair/Replace

Name Mou's Foothill Glass	Phone (Business Hours) (530) 885-4180
Primary Contact [Redacted]	Phone (After Hours) [Redacted]

Refuse

Name Recology	Phone (Business Hours) (530) 885-3738
Primary Contact [Redacted]	Phone (After Hours) [Redacted]

Telephone Company

Name Granite Telecommunications	Phone (Business Hours) (866) 847-8600
Primary Contact [Redacted]	Phone (After Hours) [Redacted]

Emergency Generator Service

Name N/A	Phone (Business Hours) [Redacted]
Primary Contact [Redacted]	Phone (After Hours) [Redacted]

Vendors for Repair and Replacement

Emergency Services

**Needs of Residents Requiring
Additional Assistance**

Resident Special Needs

Community McAuley Meadows

Building # 1	Apt # 101	Name Arlene Turcott	Nature of Need Hearing
		Phone (916) 435-9730	
Building # 1	Apt # 102	Name Kathleen Geiszler	Nature of Need Mobility
		Phone (530) 745-4070	
Building # 1	Apt # 103	Name Sharon Code	Nature of Need Hearing
		Phone (530) 885-8993	
Building # 1	Apt # 106	Name Margie Lemanski	Nature of Need Mobility
		Phone (916) 625-9147	
Building # 1	Apt # 111	Name Diana Long	Nature of Need Stroke
		Phone (530) 823-6519	
Building # 1	Apt # 303	Name Norman Kent	Nature of Need Mobility
		Phone (530) 863-0673	
Building # 1	Apt # 310	Name Carol Thompson	Nature of Need Mobility
		Phone (530) 863-0673	
Building # 1	Apt # 316	Name Paula Gordon	Nature of Need Stroke
		Phone (530) 401-6767	

Disaster Preparedness Lessons from McAuley Meadows

- ❑ Confer closely with police/firefighters at project design stage and after completion. Supply list of special-needs residents.
- ❑ Expensive and time-consuming to incorporate site access:
 - ✓ \$300,000 US for emergency driveway
 - ✓ Delayed construction – fire department required driveway built first
- ❑ Elevators expensive and unreliable for evacuation:
 - ✓ \$100K US to add second elevator, \$5-10K US annual maintenance
 - ✓ During emergency, elevators not used
- ❑ Tenant education and disaster planning critically important for preparedness design elements to be effective.

Self-Help Enterprises

Visalia, California



Mission: Working together with low-income families in the San Joaquin Valley to build and sustain healthy homes and communities via self-help housing, sewer and water development, housing rehabilitation, multifamily housing and homebuyer programs.

- *Founded: 1964*
- *26 rental properties, 1,306 units*
- *6,029 self-help units built*
- *6,220 homes rehabilitated*
- *1,630 families 1st-time homebuyer loans*
- *1,914 people pre-purchase counseling*
- *1,728 people mortgage delinquency counseling*
- *91 people financial literacy training*
- *28,592 water/sewer systems improved*



Rancho Lindo Apartments

Lamont Village – Lamont, California

Rancho Lindo Apartments



44 units, 2-4 bedrooms for farm workers
Completed 2009

Lamont Village



36 units, 2-4 bedrooms
Completed 2013

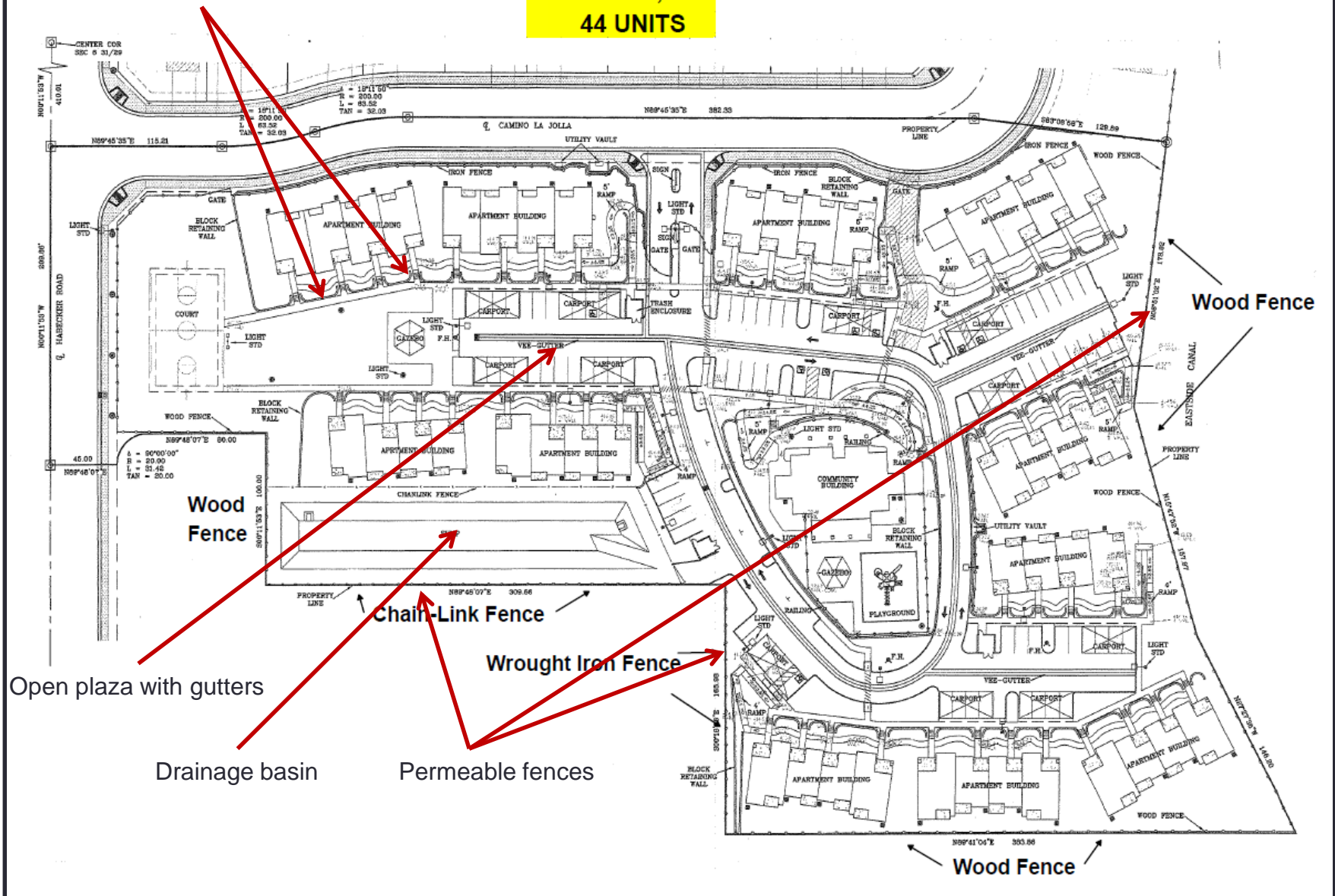


Rancho Lindo Apartments and Lamont Village – Aerial View



**RANCHO LINDO
LAMONT, CA
44 UNITS**

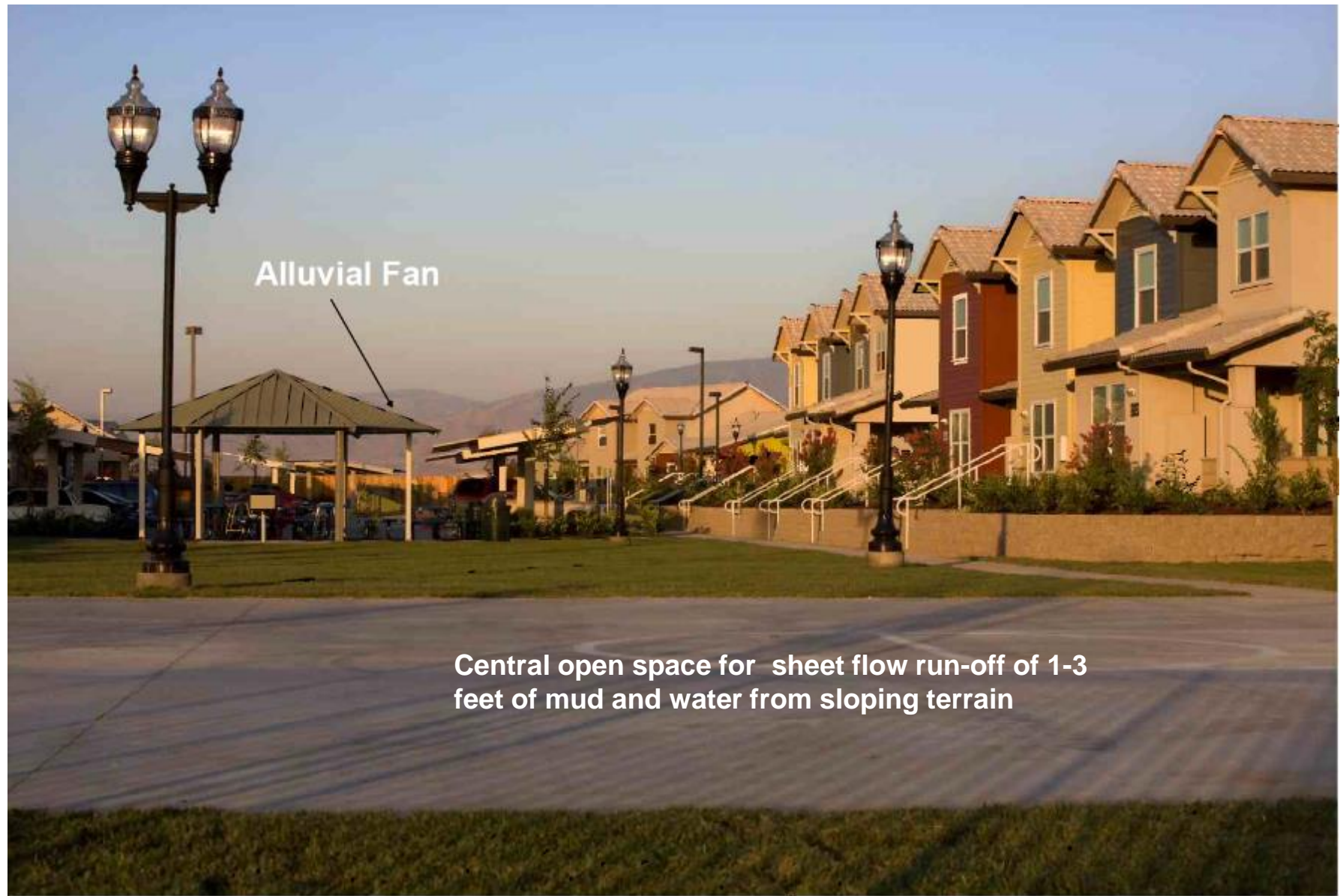
4 ft. Elevations



Rancho Lindo – Mountain backdrop with landslide risk



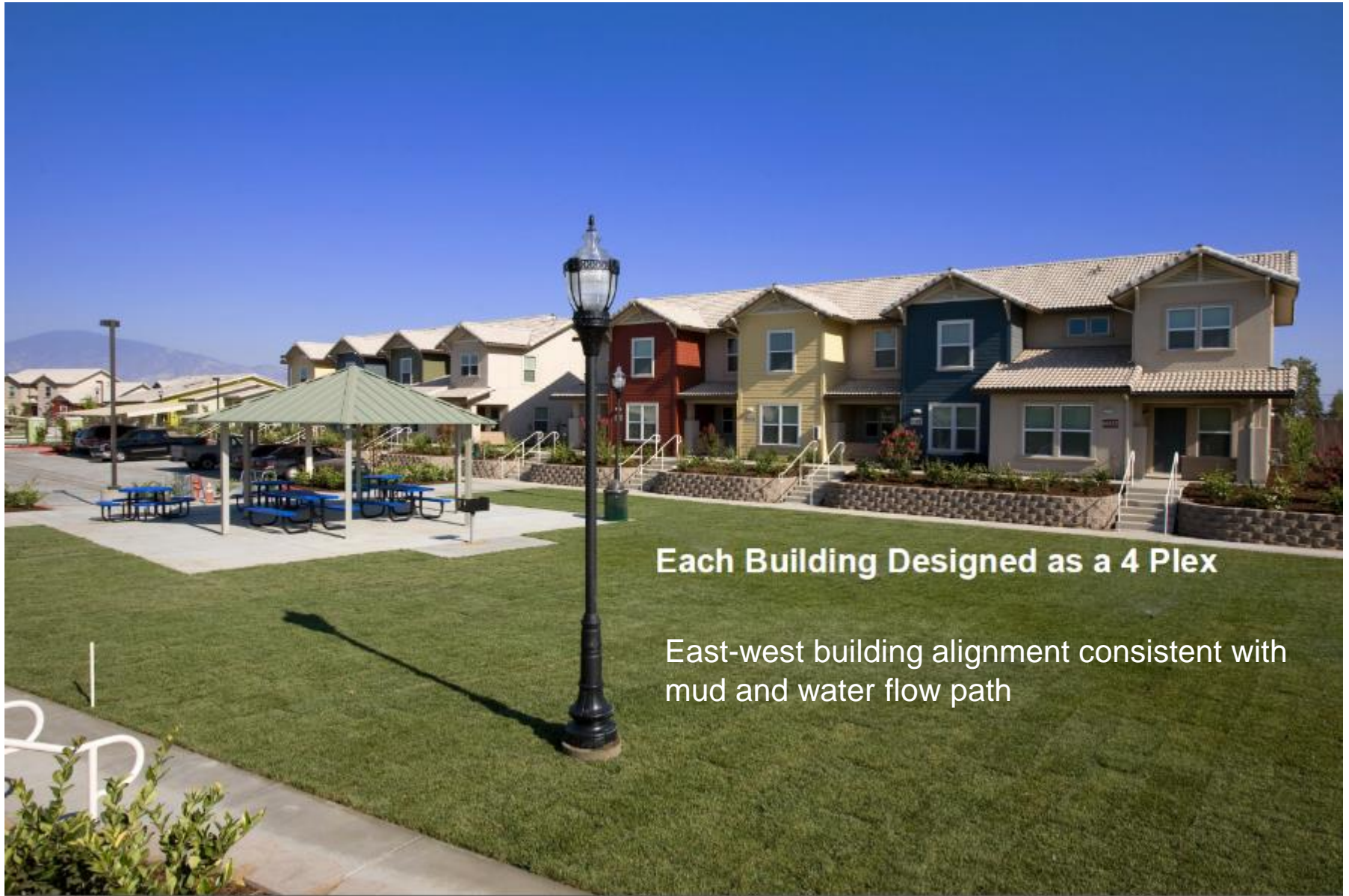
Rancho Lindo – Mountain backdrop with landslide risk



Rancho Lindo – Elevated foundations to reduce flood damage



Rancho Lindo – More views of elevations and open space



Each Building Designed as a 4 Plex

East-west building alignment consistent with mud and water flow path

Rancho Lindo – Permeable, rather than block, fencing to allow uninterrupted water flow

Wrought Iron and Wood Fencing for Water Flow



Summary of emergency procedures posted at rental housing sites



EMERGENCY PROCEDURES

IN AN EMERGENCY CALL 9-1-1

**REPORT ALL INCIDENTS TO THE
RESIDENT MANAGER**

GENERAL INFORMATION

Emergency Phone Numbers:

Fire: _____

Police/Sheriff: _____

Medical/Emergency Room: _____

Poison Control Center: _____

Rental Office: _____

When calling the emergency number CALMLY state:

- ☐ Your name
- ☐ Location of emergency (building, unit number, etc.)
- ☐ Nature of the emergency (i.e. fire, chemical spill, etc.)
- ☐ Any injuries
- ☐ Hazards present which may affect responding personnel
- ☐ A phone number near the scene where you can be reached
- ☐ DO NOT HANG UP UNTIL INSTRUCTED TO DO SO

In the event of an emergency, the Resident Manager and Maintenance Personnel will give instructions to other employees and any residents in the public or community buildings, close doors, and provide other required assistance unless otherwise directed by Emergency Medical Services Personnel.

This posting is a brief guide to familiarize AWI employees, residents, vendors, and/or visitors with the guidelines to follow in the event of an emergency. The contents of this posting is not all-inclusive, but is designed to emphasize emergency situations which may occur. The time to become familiar with emergency procedures is BEFORE an emergency.

Some emergencies may require evacuation of the buildings or apartments. In this event:

- 1) Verbal notice and/or alarms will be used to sound the evacuation.
- 2) Remain calm and orderly; walk quickly but do not run.
- 3) Follow instructions of the Resident Manager or Emergency Medical Services Personnel.
- 4) Give assistance to any disabled persons in the area.
- 5) Exit by stairway; **DO NOT USE THE ELEVATOR.**
- 6) Go to an open, outside area away from the building(s). Keep roadways and walkways clear for Emergency Medical Services Personnel and vehicles. Our designated meeting place is the:
- 7) Check in with the Resident Manager or Maintenance Personnel so that you can be accounted for.
- 8) **WAIT FOR INSTRUCTIONS.** Do not re-enter the building until instructed to do so by the Resident Manager or Emergency Medical Services Personnel.

MEETING PLACE

The meeting place for our community is:

In the event of an emergency that requires evacuation, please proceed with caution to the "meeting place." It is important to gather at the designated location to allow complex staff members to account for the residents and determine those who may be in need of assistance.

FIRE

Know the location of the extinguishers in your area and how to use them. Know where the emergency exits are.

Upon discovery of any fire, large or small, immediately contact the local fire department or 911, then call the Resident Manager.

If someone's clothes are on fire, he/she should drop to the floor and roll. Smother the fire with a blanket, rug, or heavy coat. Call for help.

Upon discovery of a small fire:

- 1) Immediately call the local fire department or 911, then the Resident Manager.
- 2) Promptly direct the charge of a fire extinguisher toward the base of the flames.
- 3) Get help if necessary.

Upon discovery of a large fire:

- 1) Pull emergency alarm or give verbal alarm.

- 2) Call the local fire department or 911, then the Resident Manager.
- 3) Evacuate the building(s), alerting people as you go. Seek and assist any disabled persons in the area. Exit the stairways.
- 4) Make sure all doors are closed to prevent further spread of the fire. Do not lock doors.
- 5) Once outside, move to an open area at least 150 feet away from the affected building. Keep roadways and walkways clear for emergency vehicles.
- 6) Wait for further instructions from Emergency Medical Services Personnel.
- 6) Do not re-enter the building until they instruct you to do so.

EARTHQUAKE

During an earthquake:

- 1) Stay in building. Do not evacuate.
- 2) Take shelter under a table, desk, in a doorway, or similar place.
- 3) Keep away from overhead fixtures, windows, filing cabinets and bookcases.
- 4) Assist any disabled persons in the area and find a safe place for them.
- 5) If you are outside, move to an open area away from the building, trees, power lines and roadways.

After an earthquake:

- 1) Check for injured employees or residents, then call local emergency medical services or 911.
- 2) Check for safety hazards; fire, electrical, gas leaks, water supply, etc.
- 3) Do not use telephones and roadways unless necessary.
- 3) Keep them open for emergency use.
- 4) Be prepared for aftershocks.
- 5) Cooperate, keep informed, remain calm and help clean up.

If evacuation is ordered:

- 1) Seek out any disabled persons in the area and give assistance. Exit by the stairway. **DO NOT USE THE ELEVATOR.**
- 2) Beware of falling debris or electrical wires as you exit.
- 3) Go to an open area away from the building, trees, power lines and roadways.
- 4) Wait for further instructions from Emergency Medical Services Personnel.

EXPLOSION

In the event of an explosion in the building:

- 1) Immediately take cover under tables, desks, or other such objects which will give protection against flying glass or debris.

Signs for readiness trainings and programs posted at rental housing sites



**American
Red Cross**

Prepare
Central Valley

Readiness Programs

The American Red Cross Central Valley Region is working every day to ensure our communities are ready for disaster by training individuals in lifesaving skills and empowering local businesses and community organizations to develop the necessary skills, resources and networks needed to prepare for a disaster. By fostering a culture of readiness through personal preparedness and collaboration between location organizations, communities become much more resilient and are able to recover quickly following a disaster. Below is a list of resources and programs that the American Red Cross Central Valley Region can offer your community:

Individual Preparedness Programs

Are you and your family prepared to take care of your own needs for the first 72 hours after a disaster or emergency? Get started with the following **FREE** programs:

Personal Preparedness Training

Free one-hour Be Red Cross Ready training courses cover the action steps necessary to ensure that individuals, families and their communities are prepared and ready to respond to any disaster and emergency, large or small. Also available in Spanish.

Youth Preparedness Training

It is important that children and teens know what to do in an emergency. Youth can be better prepared by participating in one of the following free one-hour courses: Be Red Cross Ready Teens (grades 6-12), Ready K.I.D.S (grades 4-5), or Masters of Disasters (grades K-2).

The Pillowcase Project - Presented by Disney

Students (grades 3-5) will learn emergency preparedness skills for themselves, their family, and the community in this interactive one-hour program. Students will learn about local hazards and receive helpful coping skills for stressful situations. All Pillowcase project participants receive a pillowcase, workbook, and completion certificate.

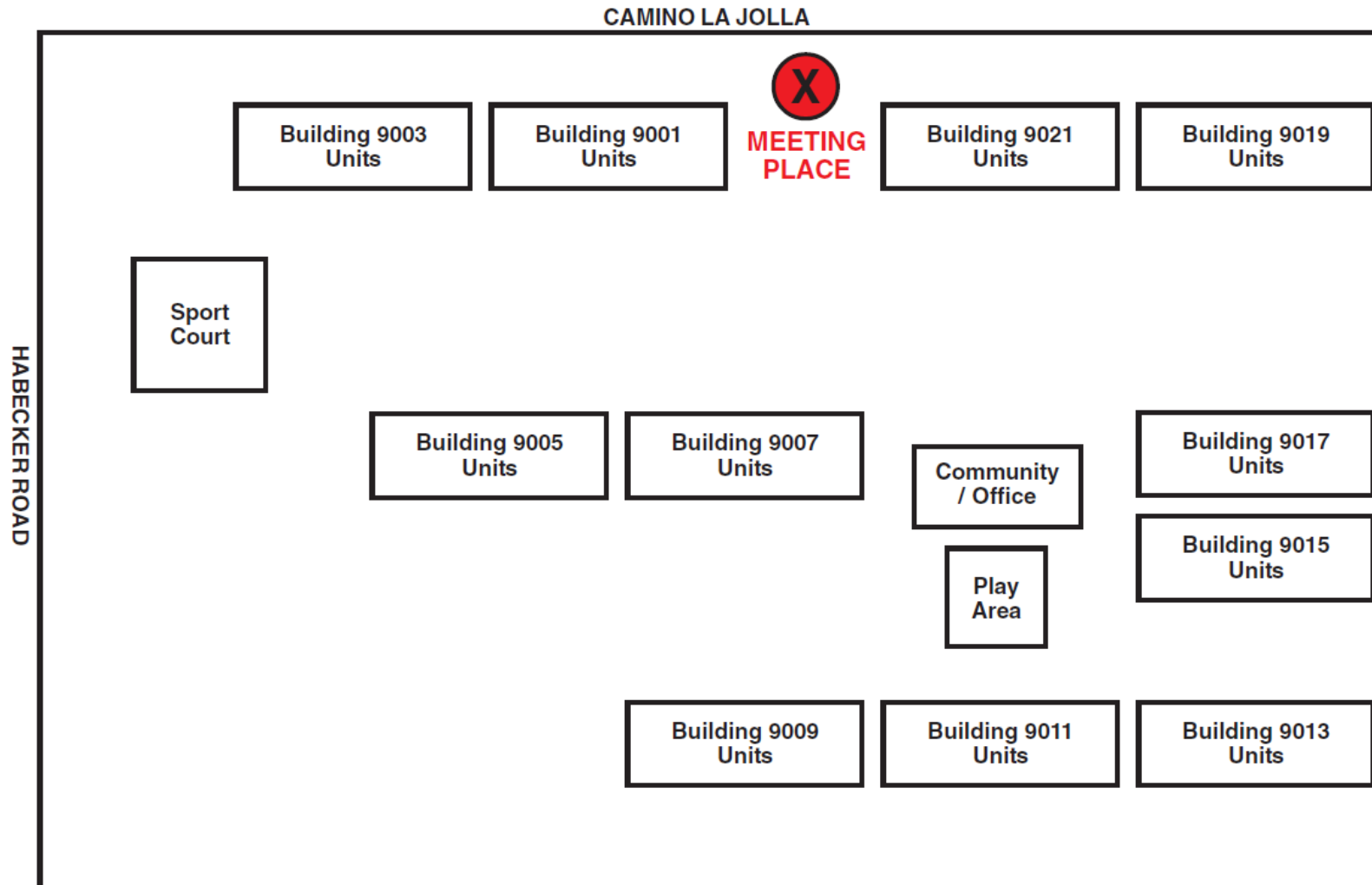
Firefighter Frank & Friends Puppet Show

Parents know the importance of learning fire safety skills, but may not have the resources to make the process fun and non-threatening to children. Join Firefighter Frank and his friends as they prepare youth ages 4-9 in this 45-minute puppet show extravaganza that educates participants in how to perform fire drills, how to stop, drop and roll, match safety, and crawling low in smoke.

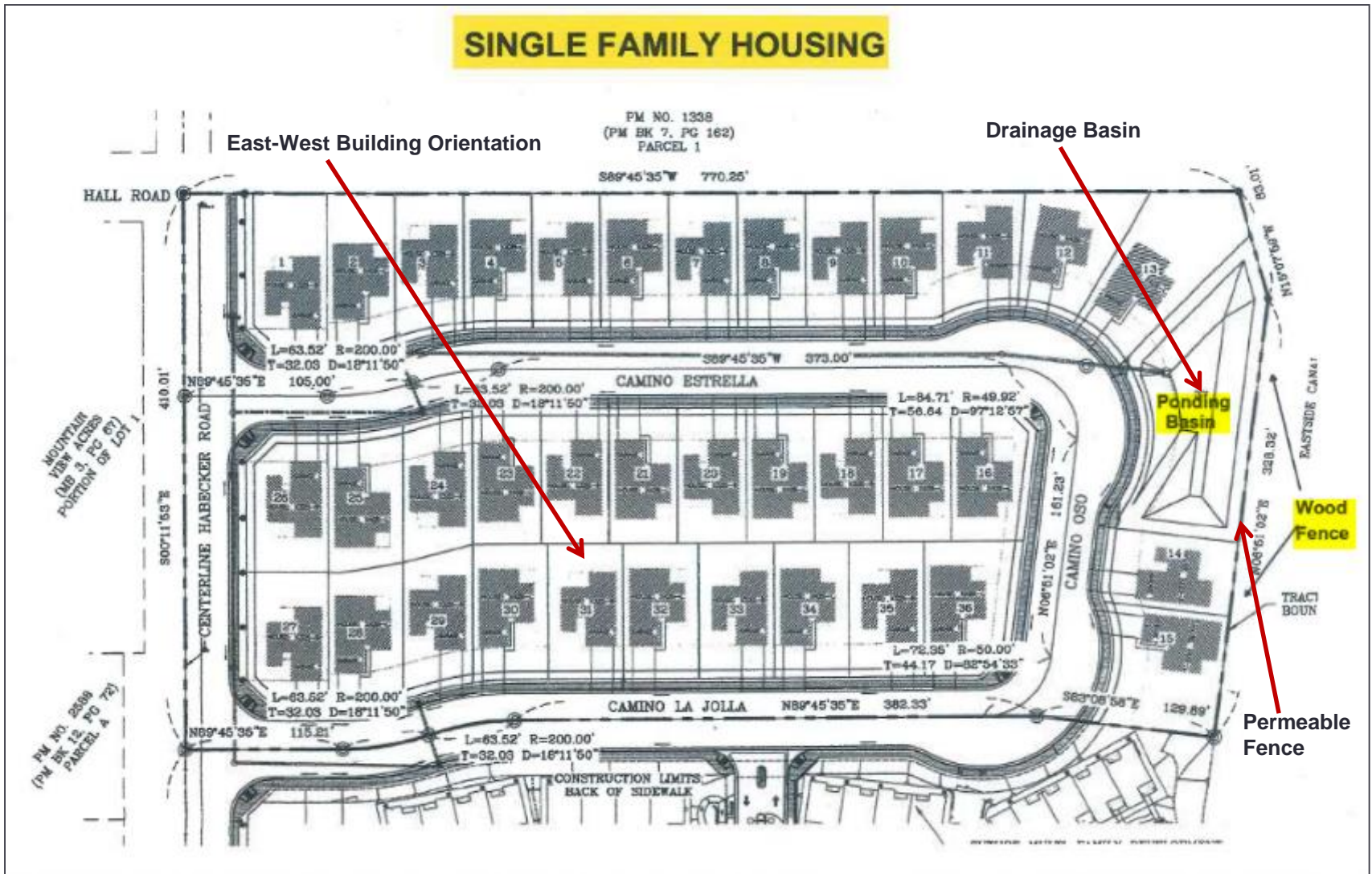


Rancho Lindo Emergency Evacuation Plan

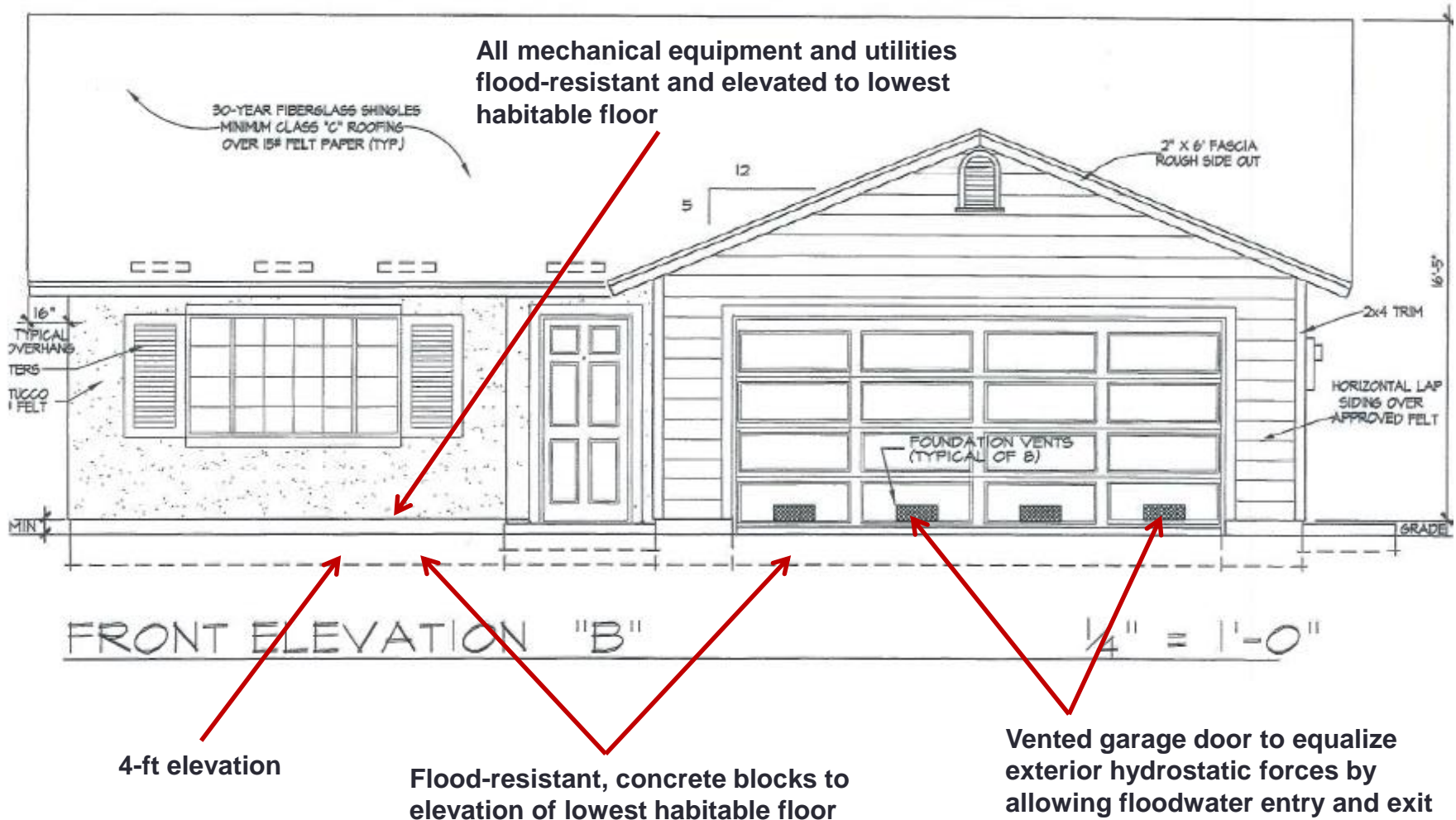
(Please note your apartment's location and shortest route in relation to the designated "meeting place")



Lamont Village – Site Plan



Lamont Village – Flood Protection Features



Lamont Village – View of Pads



Lamont Village - Measuring Elevations



Lamont Village – Views of Finished Homes



Disaster Preparedness Lessons from Rancho Lindo and Lamont Village

- ❑ Early detection of possible disasters and familiarity with community emergency plans are critical
- ❑ Development team must do everything possible via site design, e.g., emergency/fire lanes, to reduce disaster impacts
- ❑ Each property should have site-specific emergency procedures
- ❑ On-site personnel must be trained and serve as key contacts
- ❑ Residents require on-site training, including youth and senior preparedness, by Red Cross and others

Burbank Housing Development

Santa Rosa, California

Mission: Increase supply of housing in Sonoma County, so low-income people of all ages, backgrounds, and special needs will have better opportunity to live in decent and affordable housing.



Charles Street Village, Senior rental



Larkfield Oaks, Family rental, Photo by Owen Scott Shirwa

- *Founded: 1980*
- *61 rental properties, 2,843 rental units:*
 - 2,221 family*
 - 451 senior*
 - 60 farm worker*
 - 111 special needs*
- *815 ownership units:*
 - 203 contractor-built*
 - 612 mutual self-help*



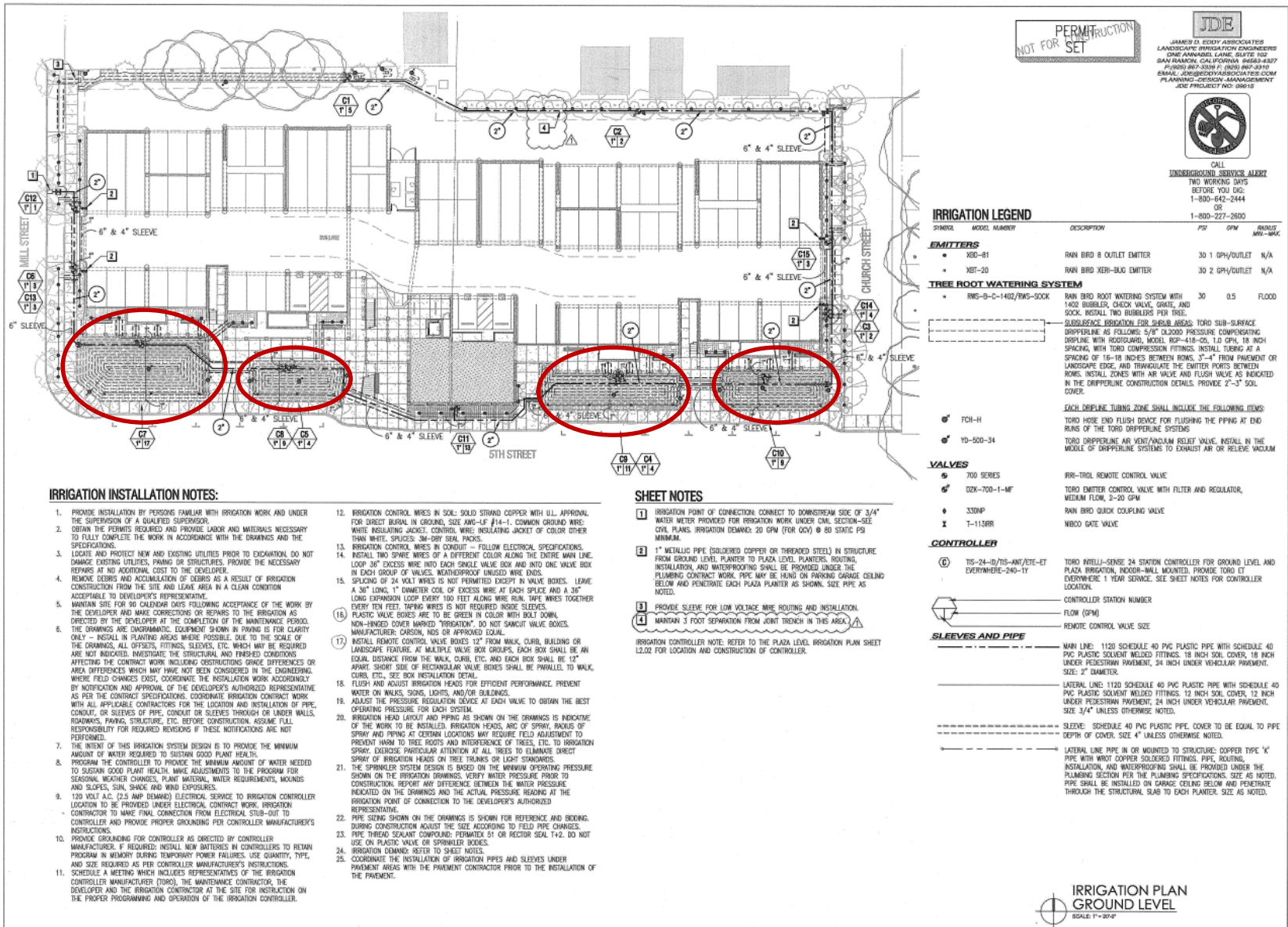
Hearthstone Village, Mutual self-help ownership

Fife Creek Commons – Guerneville, California



48 units
51% special needs – elderly,
disabled, formerly homeless
Completed 2012

Fife Creek Commons – irrigation plan showing detention ponds



KELLOGG
ARCHITECTS
11000 110000
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imaginepro.com

BURANK HOUSING DEVELOPMENT CORPORATION
FIFE CREEK COMMONS
GLENVIEW, ILLINOIS



DRAWN
PCH
DATE
12.14.2009 PERMIT SET
08.10.2010 REVISED

9-SHEET
L2.01

OVERALL PLAN - PLAZA LEVEL
SCALE: 1/16"=1'-0"
63'-0"

OVERALL PLAN - GRADE LEVEL
SCALE: 1/16"=1'-0"

PLAZA LEVEL DETAILS:

- BUILDING 6 SEE SHEET A2.32 (PLAN B726)
- BUILDING 7 SEE SHEET A2.33 (PLAN B72A)
- BUILDING 8 SEE SHEET A2.22 (PLAN B718)
- BUILDING 9 SEE SHEET A2.31 (PLAN B72A)
- BUILDING 10 SEE SHEET A2.21 (PLAN B71A)
- BUILDING 5 SEE SHEET A2.41R (PLAN 3THA REVERSE)
- BUILDING 4 SEE SHEET A2.42 (PLAN 3THB)
- BUILDING 3 SEE SHEET A2.11 (COMMUNITY CENTER)
- BUILDING 2 SEE SHEET A2.42R (PLAN 3THC REVERSE)
- BUILDING 1 SEE SHEET A2.41 (PLAN 3THA)

GRADE LEVEL DETAILS:

- 3 HR COILING FIRE DOOR
- 3 HR WALLS
- 3 HR FIRE DOOR
- 2 HR ELEVATOR ENCLOSURE
- TACTILE WARNING TYP
- 3 HR COILING FIRE DOOR
- 3 HR WALLS
- TRASH
- 3 HR WALLS

STREET FRONTAGE:

- MILL STREET
- FIFTH STREET
- ACCESS EASEMENT

- A. WALL BETWEEN BUILDING 7 AND BUILDING 8 SHALL BE 2 HOUR FIRE WALL SEPARATION
- B. ELEVATOR SHAFT IS 2-HOUR FIRE RATED
- C. PARTY WALLS BETWEEN UNITS ARE 1 HOUR FIRE RATED
- D. LAUNDRY ROOM TO BE SEPARATED WITH 1 HOUR FIRE RATED WALL
- E. SEE BUILDING PLANS AND UNIT PLANS FOR ADDITIONAL INFORMATION
- F. 3 HOUR HORIZONTAL SEPARATION BETWEEN GARAGE & DWELLING UNITS
- G. TRASH CHUTES TO BE ENCLOSED W/ 2 HR WALLS
- H. SIGNAGE TO COMPLY W/ CBC 1107.6

INDICATES ACCESSIBLE PATH
INDICATES IMAGINARY PROPERTY LINE
INDICATES 1 HOUR FIRE RATED WALL
INDICATES 2 HOUR FIRE RATED WALL
INDICATES 3 HOUR FIRE RATED WALL
INDICATES DIRECTION OF EXIT
= FIRE EXTINGUISHER
= FIRE VALVE
= ADAPTABLE UNIT
= ACCESSIBLE UNIT
= HEARING IMPAIRED UNIT
= SIGN- INTERNATIONAL SYMBOL OF ACCESSIBILITY
= DIRECTIONAL SIGN- INTERNATIONAL SYMBOL OF ACCESSIBILITY

UNIT DATA
GROSS AREAS NOT INCLUDING COVERED PATIOS, EXTERIOR STORAGE

UNIT TYPE	UNIT AREA (S.F.)	NO. OF UNITS	TOTAL AREA
APT1A-1-1ST FLR	920	4	2,480 S.F.
APT1A-1-1ST FLR	824	1	824 S.F.
APT1A-1-1ST FLR	824	2	1,648 S.F.
APT1A-2-2ND FLR	905	4	2,890 S.F.
APT1A-1-2ND FLR	707	1	707 S.F.
APT1A-2-2ND FLR	952	2	1,904 S.F.
APT1A-3-3RD FLR	897	1	897 S.F.
APT1A-3-3RD FLR	839	1	1,340 S.F.
APT1A-1-1ST FLR	830	4	3,352 S.F.
APT1A-2-1ST FLR	830	1	830 S.F.
APT1A-3-1ST FLR	830	1	830 S.F.
APT1A-3-2ND FLR	875	1	3,500 S.F.
APT1A-1-2ND FLR	875	4	3,500 S.F.
APT1A-2-2ND FLR	967	1	967 S.F.
APT1A-3-2ND FLR	889	1	889 S.F.
THCA	1,200		5,160 S.F.
THCB	1,200		4,800 S.F.
THCC	1,230		4,890 S.F.
TOTAL		43	42,652 S.F.

OCCUPANCY:		S-2
PARKING GARAGE:		R-2
COMMUNITY CENTER:		S-2
CONSTRUCTIVE USE:		H-AT-52 AND VB-AT-52 AND OGC
ALLOTTED BUILDING AREA (TABLE 606)		
BDO	CGD	CONST. AREA INCREASE ALLOWABLE TABLE 607
PARADISE 32	VB	3,029 - 4,180 (2) (MULTI-STORY)
1	VB	3,029 - 4,180 (2) (MULTI-STORY)
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79	VB	3,029 - 4,180 (2) (MULTI-STORY)
80	VB	3,029 - 4,180 (2) (MULTI-STORY)
81		

SCALE: 1/8"=1'-0"

BURBANK HOUSING DEVELOPMENT CORPORATION
FIFE CREEK COMMONS
CITY OF BURBANK, CALIFORNIA

DRAWN
DATE
12.14.09
REVISED
09.04.10

5.2-1	5.2-2	5.2-3	5.2-4	5.2-5	5.2-6	5.2-7	5.2-8	5.2-9	5.2-10	5.2-11	5.2-12	5.2-13	5.2-14	5.2-15	5.2-16	5.2-17	5.2-18	5.2-19	5.2-20	5.2-21	5.2-22	5.2-23	5.2-24	5.2-25	5.2-26	5.2-27	5.2-28	5.2-29	5.2-30	5.2-31	5.2-32	5.2-33	5.2-34	5.2-35	5.2-36	5.2-37	5.2-38	5.2-39	5.2-40	5.2-41	5.2-42	5.2-43	5.2-44	5.2-45	5.2-46	5.2-47	5.2-48	5.2-49	5.2-50	5.2-51	5.2-52	5.2-53	5.2-54	5.2-55	5.2-56	5.2-57	5.2-58	5.2-59	5.2-60	5.2-61	5.2-62	5.2-63	5.2-64	5.2-65	5.2-66	5.2-67	5.2-68	5.2-69	5.2-70	5.2-71	5.2-72	5.2-73	5.2-74	5.2-75	5.2-76	5.2-77	5.2-78	5.2-79	5.2-80	5.2-81	5.2-82	5.2-83	5.2-84	5.2-85	5.2-86	5.2-87	5.2-88	5.2-89	5.2-90	5.2-91	5.2-92	5.2-93	5.2-94	5.2-95	5.2-96	5.2-97	5.2-98	5.2-99	5.2-100	5.2-101	5.2-102	5.2-103	5.2-104	5.2-105	5.2-106	5.2-107	5.2-108	5.2-109	5.2-110	5.2-111	5.2-112	5.2-113	5.2-114	5.2-115	5.2-116	5.2-117	5.2-118	5.2-119	5.2-120	5.2-121	5.2-122	5.2-123	5.2-124	5.2-125	5.2-126	5.2-127	5.2-128	5.2-129	5.2-130	5.2-131	5.2-132	5.2-133	5.2-134	5.2-135	5.2-136	5.2-137	5.2-138	5.2-139	5.2-140	5.2-141	5.2-142	5.2-143	5.2-144	5.2-145	5.2-146	5.2-147	5.2-148	5.2-149	5.2-150	5.2-151	5.2-152	5.2-153	5.2-154	5.2-155	5.2-156	5.2-157	5.2-158	5.2-159	5.2-160	5.2-161	5.2-162	5.2-163	5.2-164	5.2-165	5.2-166	5.2-167	5.2-168	5.2-169	5.2-170	5.2-171	5.2-172	5.2-173	5.2-174	5.2-175	5.2-176	5.2-177	5.2-178	5.2-179	5.2-180	5.2-181	5.2-182	5.2-183	5.2-184	5.2-185	5.2-186	5.2-187	5.2-188	5.2-189	5.2-190	5.2-191	5.2-192	5.2-193	5.2-194	5.2-195	5.2-196	5.2-197	5.2-198	5.2-199	5.2-200	5.2-201	5.2-202	5.2-203	5.2-204	5.2-205	5.2-206	5.2-207	5.2-208	5.2-209	5.2-210	5.2-211	5.2-212	5.2-213	5.2-214	5.2-215	5.2-216	5.2-217	5.2-218	5.2-219	5.2-220	5.2-221	5.2-222	5.2-223	5.2-224	5.2-225	5.2-226	5.2-227	5.2-228	5.2-229	5.2-230	5.2-231	5.2-232	5.2-233	5.2-234	5.2-235	5.2-236	5.2-237	5.2-238	5.2-239	5.2-240	5.2-241	5.2-242	5.2-243	5.2-244	5.2-245	5.2-246	5.2-247	5.2-248	5.2-249	5.2-250	5.2-251	5.2-252	5.2-253	5.2-254	5.2-255	5.2-256	5.2-257	5.2-258	5.2-259	5.2-260	5.2-261	5.2-262	5.2-263	5.2-264	5.2-265	5.2-266	5.2-267	5.2-268	5.2-269	5.2-270	5.2-271	5.2-272	5.2-273	5.2-274	5.2-275	5.2-276	5.2-277	5.2-278	5.2-279	5.2-280	5.2-281	5.2-282	5.2-283	5.2-284	5.2-285	5.2-286	5.2-287	5.2-288	5.2-289	5.2-290	5.2-291	5.2-292	5.2-293	5.2-294	5.2-295	5.2-296	5.2-297	5.2-298	5.2-299	5.2-300	5.2-301	5.2-302	5.2-303	5.2-304	5.2-305	5.2-306	5.2-307	5.2-308	5.2-309	5.2-310	5.2-311	5.2-312	5.2-313	5.2-314	5.2-315	5.2-316	5.2-317	5.2-318	5.2-319	5.2-320	5.2-321	5.2-322	5.2-323
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T4

Fife Creek Commons – units sit on podium



15 feet above street level; 1 foot above 100-year flood level

Street access

Fortified columns



Fife Creek Commons – uses of areas under podium



Garage

Plan for car removal, clean-up, disinfectant during and after flood

Elevator programmed to lift to podium level and lock during flood

Playground



Fife Creek Commons – on-site drainage

Drainage ponds

Flood- and drought-resistant plants



County required no net increase in run-off. All storm water detained on site

Fife Creek Commons – on-site drainage



Older single-family homes
at ground level

Rocks capture drainage
from corner roof and
downspouts

Fife Creek Commons – units on top of podium



Interior plaza for evacuees
Boat launches at ends of podium

Disaster Preparedness Lessons from Fife Creek Commons

- ☐ Building in floodplains equates to high design and production costs. Only do if no other sites in area and high concentration of needy
- ☐ Ensure early and full support of local government agencies (e.g., funders, planners, public works, fire, police)
- ☐ Maintain strong relationships with local emergency service providers
- ☐ Plan in advance for higher than typical management costs (e.g., replacement/repair/clean up after flood event).
- ☐ Plans, e.g., flood evacuation, must be customized to specific property site and demographic characteristics; consistent with corporate plans

Disaster Preparedness Lessons from Fife Creek Commons

- ❑ Within remote areas and complex building systems, post and distribute maps clearly marked with assembly areas and exit routes
- ❑ Ensure managers, key tenants, and maintenance staff are well trained in plan content, review annually
- ❑ Make sure tenants w/ special needs considered in creation, training, distribution, implementation of emergency/disaster plans, including appropriate re-housing.

Napa Valley Community Housing

Napa, California

Mission: Develop, preserve and manage affordable homes and, through our Resident Services Program, teach successful life and leadership skills.



- *Founded: 1977*
- *15 properties built, 787 units:*
 - 559 family rental*
 - 195 senior rental*
 - 29 farm worker rental*
 - 41 self-help ownership*
- *8 properties acquired/rehabbed*
 - 192 family rental/mobile homes*
 - 12 group home beds*
- *Other services: property management, resident services, health access, job training, and remedial education*



MAGNOLIA PARK
APARTMENTS & TOWNHOMES
2000 Imola Avenue, Napa



MAYACAMAS VILLAGE
70 Calaveras Court, Napa



VISTA DEL VALLE
3043 St. Helena Highway, St. Helena



VON BRANDT
NEIGHBORHOOD CENTER
1042 Von Brandt Street, Napa



WHISTLE STOP TOWNHOMES
2220 Yajome Street, Napa



YOUNT STREET APARTMENTS
6776 Yount Street, Yountville

The Reserve at Napa – Napa, California



117 1-2 bd units
100% Elderly
Completed 2002



The Reserve at Napa – Site Plan

**Emergency gate
vehicle access**

**Internal vehicle
access**

**Main vehicle
access**



The Reserve at Napa – Planning for Disaster

I Emergency Preparedness Plan



The Reserve at Napa

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The Reserve at Napa – Customized Emergency Contacts and Evacuation Instructions

Get CONNECTED

- Napa Counties web site (www.countyofnapa.org) will always have the most up-to-date information in an emergency
- Listen to KVON radio (1440 AM) for emergency updates
- Call (707) 299-1595 for Napa County road conditions (recorded information, for use when EOC is activated only)
- Call (707) 299-1593 for Napa County emergency public information (recorded information, for use when EOC is activated only)
- Follow Napa County Office of Emergency Services on Facebook
- Subscribe to Nixle text/email updates on your phone or computer <http://www.nixle.com/>

Get SAFE

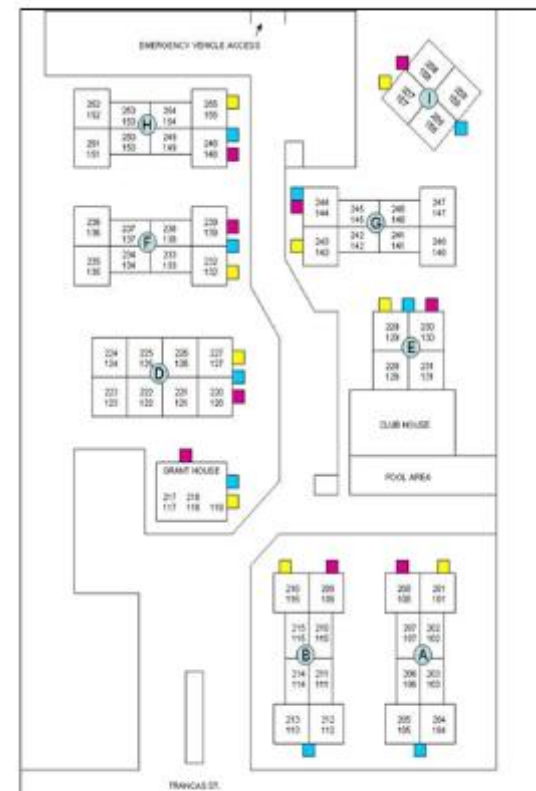
Evacuation Sites

In the case of a Natural Disaster that requires the evacuation of the property the Napa County Red Cross will open emergency shelter(s) as determined at the time of the emergency based on the need. The location of the shelter(s) will be announced via radio, television or in person depending on the type of communication available.

In the event of a disaster which does not require evacuation of all tenants, the designated site of evacuation is the office/community room. The Resident Manager (Unit #247), Maintenance Technician (Unit #204) and the Site Monitor (Unit #216) have the keys to access the room.

Property Map

The following map shows locations of utility shut offs for each unit (pink is electrical, yellow is gas, blue is water) and the location of the three exits for the property. The main vehicle and pedestrian exits should be the only exits used unless one or more is not accessible, then the rear emergency gate should be used.



Disaster Preparedness Lessons from The Reserve

- ❑ Originally designed with no elevators for younger tenants 55 yrs+. As residents age, difficulty with stairs. Universal design in future sites.
- ❑ Deliver on-site Red Cross demonstrations. Residents must be principally responsible for own safety in emergency.
- ❑ Encourage residents to independently take Community Emergency Response Team (CERT) training offered at little or no cost.
- ❑ Agency personnel must maintain close ties to local first responders, e.g., police, fire, Red Cross.
- ❑ Seniors need age-friendly training and evacuation procedures in recognition of physical and cognitive impairments.

Challenges of Disaster Planning and Response for Older-Adult Residents of Affordable Housing

- By definition, do not have income, savings, insurance
- May not have family support systems
- May have physical and cognitive disabilities
- Require age-friendly training, counseling, relief services
- Evacuation route accessibility absolutely critical
- Suffer severe transfer trauma
 - ✓ Profound psychological and physical health impacts
 - ✓ Disruption of critical family and social support networks
 - ✓ Lack of appropriate alternative accommodations with accessibility, e.g., wheel-chair mobility, low-hanging counters, grab bars

Emergency Preparedness for Older Adults

Compliance aids preparedness

- Fair Housing Act of 1968 – prohibits discrimination in housing for people with disabilities
- Rehabilitation Act of 1973 – requires all newly constructed, federally-assisted housing be accessible
- Americans with Disabilities Act of 1990 – requires public and common-use areas in housing be accessible

Emergency Preparedness for Older Adults

What's required?

- Housing with 4+ units must make ground-floor units accessible; with elevator, all units must be accessible
- Generally, provider must make physical modifications to unit or site, if requested, unless undue financial burden
- All federally-assisted new housing of 5+ units must design and construct 5% of units for mobile accessibility

Emergency Preparedness for Older Adults

Universal Design improves emergency preparedness, minimizes need for modifications, facilitates aging in place

Common features in a UD bathroom



Summary of Emergency Preparedness Best Practices

- ❑ Incorporate preparedness design and construction features on site and in building to mitigate disaster impacts
- ❑ Share site and building plans with local police and fire officials during design phase and deploy disaster apparatus on site
- ❑ In consultation with local first-responders, prepare multilingual, site-specific plans on evacuation routes, auxiliary power, utility shut-offs, local services, accommodations, etc.
- ❑ Train asset and resident management staff in coordination with Red Cross and local first-responders e.g., CPR and First Aid
- ❑ Create centralized command and control systems

Summary of Emergency Preparedness Best Practices

- ❑ Identify residents most vulnerable and notify police, fire authorities in advance
- ❑ Provide frequent training to residents on disaster readiness and response practices and procedures
- ❑ Create site-specific networks of tenant leaders
- ❑ Encourage residents to sign up for emergency alerts and prepare personalized Disaster Kits
- ❑ Stage periodic evacuation drills
- ❑ Integrate age-friendly design, training, and operations

Above all

Be preemptive and proactive incorporate Location, Design, Construction, and Operation Efficiencies!!!!

A Gram of prevention is worth a kilogram of cure.

