CITY OF SAN FERNANDO

THE CITY OF SAN FERNANDO

Emergency Response Plan

SA ASSOCIATES

In association wit

B KOCH WATER, INC.

JOHN ROBINSON Consulting, Inc.

December 16, 2021

CITY OF SAN FERNANDO - INFORMATION

PWSID	CA1910143
Street Address	117 Macneil St.
City, State Zip Code	San Fernando, CA 91340
Phone number	(818) 898-1222
Population Served	24,322
Service connections	5,238
Prepared by	Bart Koch, B Koch Water, Inc. Brandon Mesker, SA Associates
Reviewed by	John Robinson, John Robinson Consulting, Inc.
Approved by	Alex Mendez
Date completed	December 16, 2021
Date Self Certified	December 17, 2021

This ERP should be reviewed and updated

- Annually
- Following any ERP exercises
- Within two months of any significant plant modifications or water system change.
- Upon staff changes that involve the Emergency Response Organization (ERO)
- Upon any change in roles or responsibilities of the ERO
- Upon changes in internal or external contacts
- EPA required update/review and self-certification every five years (commencing December 31, 2021).

PLAN DISTRIBUTION

Please fill in the recipient's name and title, the person who gave them the plan and on what date.

RECIPIENT/TITLE	DISTRIBUTED BY	DATE

Distribution of the ERP is limited to those individuals directly involved in the City's emergency planning and response activities. The master copy of this Emergency Response Plan shall be maintained at the office of the Superintendent of the Water System. A controlled copy of the latest and most accurate version of this Emergency Response Plan shall be maintained in the Operations Office at the Public Works Building and shall be available to all Water Operations Personnel at all times. The electronic files reside in the shared drive:

I drive: WP51/Water/ Emergency Response Plan

CHANGE HISTORY

Please describe the changes made to this plan since its original development, who made the changes and on what date the changes were incorporated into this plan.

DESCRIPTION OF CHANGE	NAME/TITLE	DATE

Every five years, the City must review the RRA and submit a recertification to the U.S. EPA that the assessment has been reviewed and, if necessary, revised. Within six months of submitting the recertification for the RRA, City must certify it has reviewed and, if necessary, revised, its ERP.

ACRONYMS

AFY – acre-feet per year

AST – above ground storage tank

AWIA – America's Water Infrastructure Act of 2018

BES – Business Enterprise System

CalARP - California Accidental Release Prevention

Cal OES – California Office of Emergency Services

CalWARN - California Water/Wastewater Agency Response Network

Cal-CSIC – Cal OES Cybersecurity Integration Center

CERRA - Crisis Event Response and Recovery Access

cfs – cubic feet per second

CUPA - Certified Unified Program Agencies

DDW – State Water Resources Control Board Division of Drinking Water

DHS – Department of Homeland Security

DTSC - California Department of Toxic Substance Control

EERD - Enforcement and Emergency Response Division of the DTSC

EMS – emergency medical services

EOC – Emergency Operations Center

EPA – Environmental Protection Agency

ERO – Emergency response organization

ERP – Emergency Response Plan

FEMA – Federal Emergency Management Agency

Gpm – gallons per minute

HAZWOPER - Hazardous Waste Operations and Emergency Response

HPC - heterotrophic plate count

IAP - Incident Action Plan

IC – Incident Commander

ICP – Incident Command Post

ICS – Incident Command System (ICS)

IT – Information Technology

LACDPH – Los Angeles County Department of Public Health

LASAN – City of Los Angeles Sanitation

LEPC - Local Emergency Planning Committee

LOA – letters of access

MFA - Multi-factor authentication

MGD – million gallons per day

MWD – Metropolitan Water District of Southern California

NCCIC - National Cybersecurity and Communications Integration Center

NIMS – National Incident Management System

NPDES – National Pollutant Discharge Elimination System

OEM – Office of Emergency Management

OSHA – Occupation Safety and Health Administration

PPE = personal protective equipment

PIO – Public Information Officer

PLC - programmable logic controllers

PSPS - Public Safety Power Shutoff

RTU – remote terminal unit

RWQCB - Regional Water Quality Control Board

SCADA - Supervisory control and data acquisition

SCAQMD - South Coast Air Quality Management District

SDS – Safety Data Sheets

SEMS – State of California Standardized Emergency Management System

SOP – Standard Operating Procedure

SWRCB – State Water Resources Control Board

UPS – uninterrupted power supply

USGS – United State Geological Survey

UWMP – Urban Water Management Plan

U.S.A. Underground Service Alert

UST – underground storage tank

WaterISAC - Water Information Sharing and Analysis Center

Vpn – virtual private network

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INTRODUCTION

Emergency planning is essential to ensure the continued operation of the water system and delivery of safe drinking water to City of San Fernando's Water System customers. The plan addresses the utilities critical facilities, resources, contacts, mitigation actions and detection strategies that will help guide staff during an emergency event. Practicing the plan ensures staff's ability to effectively respond during an emergency.

This Emergency Response Plan (ERP) presents the City's Water System organization, functional responsibilities, and operational procedures for addressing multi-hazard emergencies caused by natural hazards, malevolent acts, or other unavoidable circumstances. This Emergency Response Plan presents the City's Water System emergency response organization and strategy for emergencies caused by natural hazards or malevolent acts. The organization is based on the State of California Standardized Emergency Management System's (SEMS) and Federal National Incident Management System (NIMS) organization structure and nomenclature.

This ERP provides a guide for City staff to provide the necessary information (utility, resources), strategies, procedures, mitigation actions, and detection strategies to address both natural and malevolent hazards. Although this plan provides a framework for emergency preparedness and response, it does not attempt to identify and discuss every potential situation or problem which may arise during an emergency. This plan is intended to guide disaster management planners and emergency responders, and to provide a consistently high level of preparedness at all the facilities.

This plan utilizes the EPA ERP Template to ensure compliance with the America's Water Infrastructure Act of 2018. This plan incorporates findings from the City's Risk and Resilience Assessment (2021). Resilience strategies, mitigation measures and detection strategies have been included in the ERP. This plan incorporates elements from the City's Water System ERP (March 2020).

Every five years, the City must review the RRA and submit a recertification to the U.S. EPA that the assessment has been reviewed and, if necessary, revised. Within six months of submitting the recertification for the RRA, City must certify it has reviewed and, if necessary, revised, its ERP.

1 UTILITY INFORMATION

1.1 Utility Overview

The City is located in the San Fernando Valley northwest of downtown Los Angeles and is bounded on all sides by the City of Los Angeles. The City's total area is 1,550 acres or 2.42 square miles overlies both the San Fernando and Sylmar groundwater basins. The City's water system serves a population of 24,322. The water service area comprises the entire City limits and serves all of the City's residents. The City is primarily a residential community but also has a mixture of commercial, industrial, and landscape water users.

The City has two sources of water, ground water from Sylmar Groundwater Basin and imported water from the Metropolitan Water District of Southern California (MWD). The MWD connection is off of the East Valley Feeder and is pumped directly to Reservoirs 2A and 5. The City draws water from Well 2A and 4A and blends with MWD imported water. Well 7A is treated for nitrate by ion exchange and then blended with the imported water. The City uses 85 to 90 groundwater and the remainder is imported water.

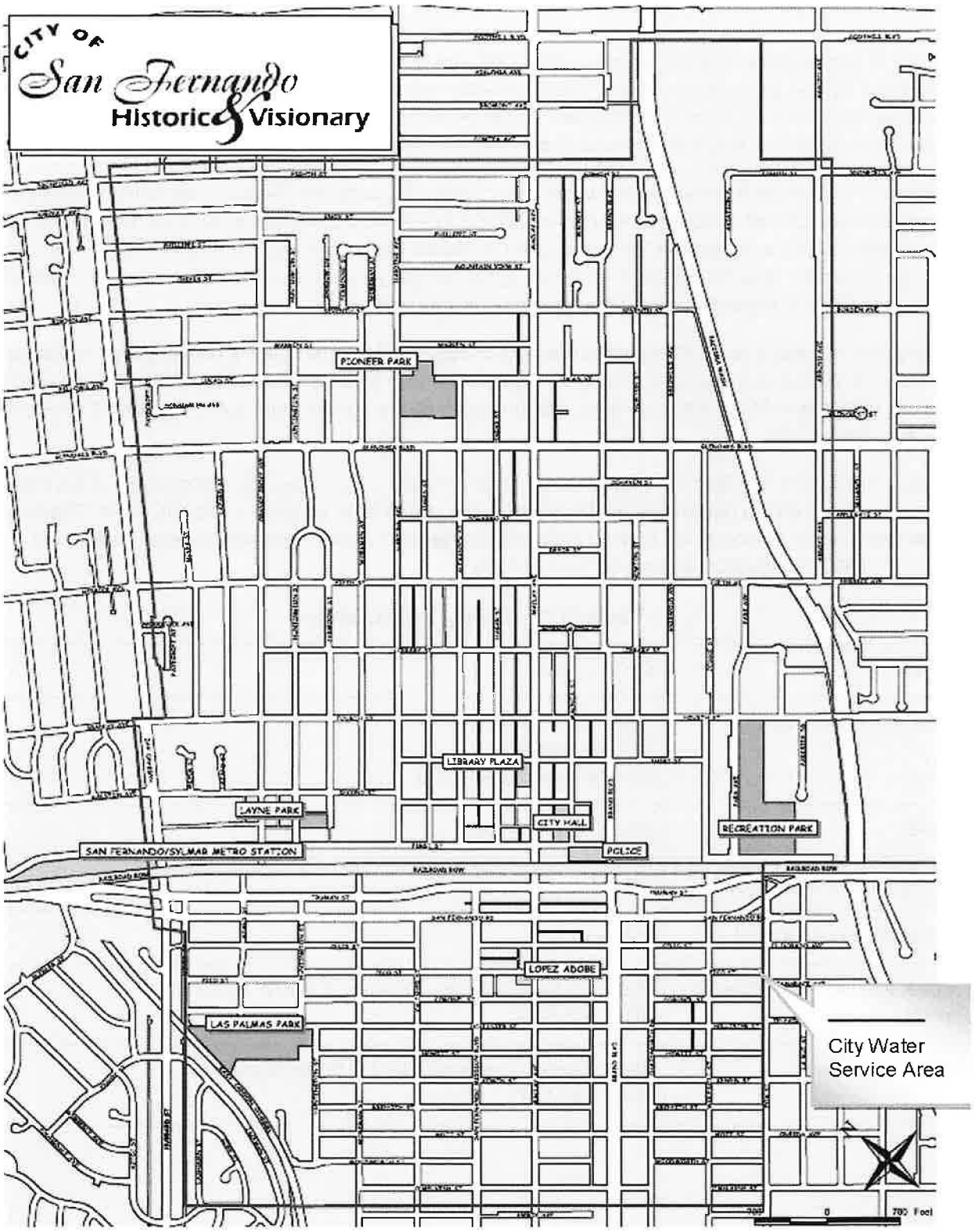
The City distributes water to 5,238 service customers through a 66.5- mile network of distribution mains ranging in size from4 to 20 inches in diameter. The water system consists of two pressure zones that provide modified pressure to customers. There are three pump stations to serve the two pressure zone. **Figure 1-1** shows the service area for the City.

For storage needs, the City maintains four storage reservoirs with a combined storage capacity of 8.9 MG. The City's reservoirs, which are designated as 2A, 3A, 4, and 5, are located adjacent to the City limits. Reservoir 4 is being replaced with a new reservoir that will increase storage by 1.1 MG, therefore, the total storage will increase to 10 MG. Completion is expected by mid 2023.

Table 1-1: Utility Information

PWSID	CA1910143
Utility name and address	City of San Fernando 117 Macneil St. San Fernando, CA 91340
Owner	City of San Fernando
Total population served and	24,322
total service connections	5,238
Name, title, phone number of primary contact	Matthew Baumgardner – Director of Public Works (818) 898-1237
Alternate contact	Alex Mendez - Superintendant of Water System (818) 898-1293

Figure 1-1: City of San Fernando Service Areas



1.2 Personnel Information

The City of San Fernando's Water System is managed by the Director of Public Works who reports to the City Manager. **Figure 1-1** shows the organization structure. **Table 1-2** shows the key contacts for the City Water System organization. A complete list of contacts is shown in Section 2.2.1 (**Table 2-3**).

Figure 1-2 City of San Fernando Water System Organization Structure

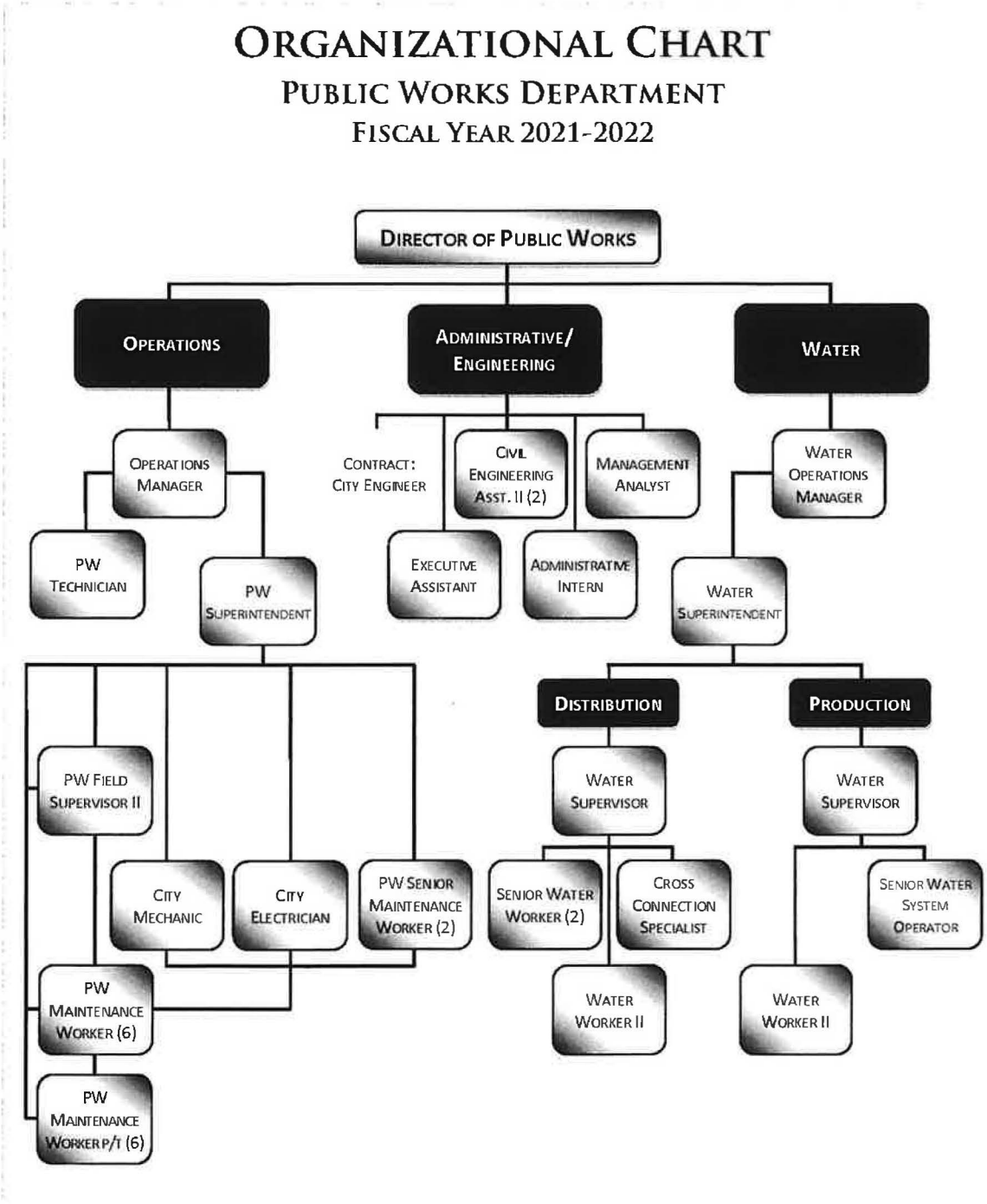


Table 1-2: Personnel Contacts

Name	Title	Phone (office)	Phone (mobile)	Phone (home/other)	Email
Matthew Baumgardner	Director of Public Works	(818) 898-1237	(818) 282 8167		MBaumgardner@sfcity.org
Alex Mendez	Superintendant of Water System	(818) 898-1293	(818) 966-6065		AMendez@sfcity.org
Danny Garcia	P.W. Field Supervisor II	818-898-1293	(818) 367-0951	818-367-0951	dgarcia@sfcity.org
Ramiro Arias	P.W. Field Supervisor I	818-898-1293	(818) 403 9257	818-899-1883	rarias@sfcity.org

1.3 Primary Facilities and Water System

The City operates three wells and has imported water from the MWD service connection. There is an ion exchange treatment plant at Well 7A. There are three pump station and four reservoirs. The distribution system is comprised of 66.5 miles of pipeline serving two pressure zones.

The following tables and figures show the facilities.

- **Table 1-3** facility/property locations
- **Table 1-4** source water information
- **Table 1-5** pump plants
- **Table 1-6** treatment and chlorination
- **Table 1-7** storage reservoirs
- **Figure 1-3 s**ystem schematic of reservoirs and pump plants
- **Figure 1-4** pressure zones

Table 1-3: Facility/Property Locations

Facility/Location	Location
City Hall **Main City Office**	117 Macneil St. San Fernando, CA 91340 (818) 898-1222
City Yard	501 First St San Fernando, CA 91340
Public Works Building **Public Works Operations Office** **Water Operations Office**	120 Macneil St. San Fernando, CA 91340 (818) 898-1293
Source Water	
Well 2A	14060 Sayre St. Sylmar, CA (corner of Sayre and Dyer St.)
Well 4A	12900 Dronfield Ave. Sylmar, CA (corner of Astoria and Hubbard St.)
Well 7A	13186 Dronfield Ave. Sylmar, CA (corner of Astoria and Hubbard St.)
MWD	MWD East Valley Feeder – connects to Distribution System locations MWD Pump Station 60 Jessie St. cross street First Street
Treatment	
Ion Exchange	Well 7A 12900 Dronfield Ave. Sylmar CA 91342
Pump Stations	
MWD	60 Jessie St. San Fernando CA 91340
Arroyo	543 Glenoaks Blvd. San Fernando, CA 91340
Hubbard	12900 Dronfield Ave. Sylmar, CA
Reservoirs	
Lower Reservoirs	
Reservoir 2A	12900 Dronfield Ave.

Table 1-3: Facility/Property Locations

Facility/Location	Location
	Sylmar, CA
Reservoir 5	12900 Dronfield Ave. Sylmar, CA
Upper Reservoirs	
Reservoir 3A	13655 Foothill Blvd Sylmar, CA (North of Foothill Blvd, west of Hubbard St.)
Reservoir 4	13655 Foothill Blvd Sylmar, CA (North of Foothill Blvd, west of Hubbard St.)

Figure 1-3 Schematic of System

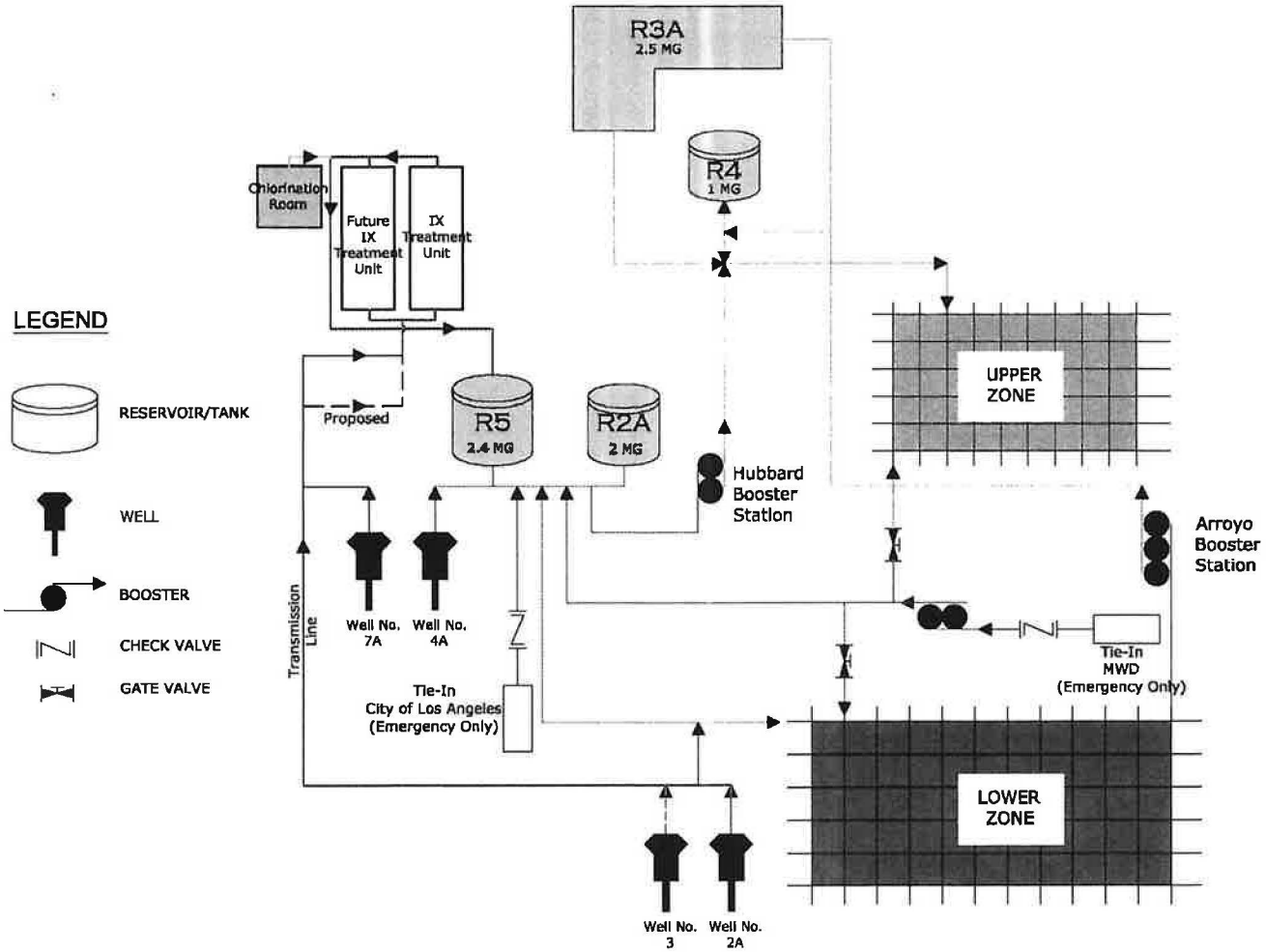


Figure A-2 City of San Fernando Schematic Diagram

1.4 Source Water

The City currently has three active wells (Wells 2A, 4A, and 7A) for groundwater extraction. All of the City's ground water wells are located along the Sylmar Groundwater Basin. Well 3 is currently on stand-by due to high nitrate levels; however, a nitrate treatment plant for this well is currently in the planning stages. Well 2A is the City's most productive well with a rated capacity of 2,100 gpm.

The City's imported water supply is delivered through its 48-inch connection to MWD. The MWD connection is off of the East Valley Feeder and is pumped directly to Reservoirs 2A and 5. MWD imported water used in emergency only.

The City has recently completed the installation of a nitrate treatment ion-exchange plant for Well 7A, and the well was reactivated in 2018. A similar ion-exchange treatment plant is also in the planning stages for Well 3. All four wells combined provide the City the capabilities to pump at a rate of 4,450 gpm.

Table 1-4 shows information on source water.

Table 1-4: Source Water

Source Supply	Feeder/size	Flow Capacity (gpm)	Flow Capacity (cfs)	Treatment Requirements/Associated Treatment Plant or blending	Feeds to
Imported Water					
MWD	48 inch	Pump # 3 - 2,240 Pump # 4 – 2,240		Metropolitan's Weymouth Water Treatment Plant. Conventional treatment: 1) disinfection/pre-treatment; 2) coagulation; 3) flocculation; 4) sedimentation; 5) filtration	Lower Reservoirs (2A and 5)
Groundwater					
Well 2A		2,100		Free chlorine disinfection	Lower Reservoirs (2A and 5) and distribution system
Well 4A		400		Free chlorine disinfection	Lower Reservoirs (2A and 5)
Well 7A		900		Ion exchange for nitrate removal	Lower Reservoirs (2A and 5)

Note: The City has an adjudicated annual right to extract 3,570 AF.

1.5 Pump Stations

There are three pump stations. These pump stations operate either on level control of the reservoir they fill, or by manual control. Each pump station is equipped with a stationary emergency generator (**Table 1-12**). **Table 1-5** shows the pump stations, booster numbers, pump capacity, reservoir source and reservoir destination.

Table 1-5: Pump Stations

Pump Stations	Booster Number	Flow Capacity (gpm)	Pumps from	Pumps to
MWD			MWD Upper Feeder	Lower Reservoir (2A and 5)
	#3	2240		
	#4	2240		
Arroyo			Lower distribution system	Upper Reservoirs 3A and 4) and Distribution system
	#1	250		
	#2	250		
	#3	250		
Hubbard			Lower Reservoirs (2A and 5)	Upper Reservoir (3A and 4)
	#1	500		
	#2	500		

1.6 Treatment, Chlorination and Blending

The City has recently completed the installation of a nitrate treatment ion-exchange plant for Well 7A, and the well was reactivated in 2018. A similar ion-exchange treatment plant is also in the planning stages for Well No. 3. The primary disinfectant within the distribution system is free chlorine. Chlorine disinfection is conducted at each well. **Table 1-6** provides information on the treatment and chlorination. **Figure 1-3** shows a schematic of the system.

Table 1-6 Treatment, Chlorination, and Blending

Site	Capacity gpm	Treatment	Pumps to
Well 7A	See **Table 1-5**	• Ion Exchange for nitrate removal • Chlorination	Lower Reservoirs (2A and 5)
Well 2A	See **Table 1-5**	• Chlorination	Lower Reservoirs (2A and 5)
Well 4a	See **Table 1-5**	• Chlorination	Lower Reservoirs (2A and 5)

1.7 Storage

For storage needs, the City maintains four storage reservoirs with a combined storage capacity of 8.9 MG. The City's reservoirs, which are designated as 2A, 3A, 4, and 5, are located adjacent to the City limits. Reservoir 4 is being replaced with a new reservoir that will increase storage by 1.1 MG, therefore, the total storage will increase to 10 MG. **Figure 1-3** shows a schematic of the system.

Table 1-7: Storage Reservoirs

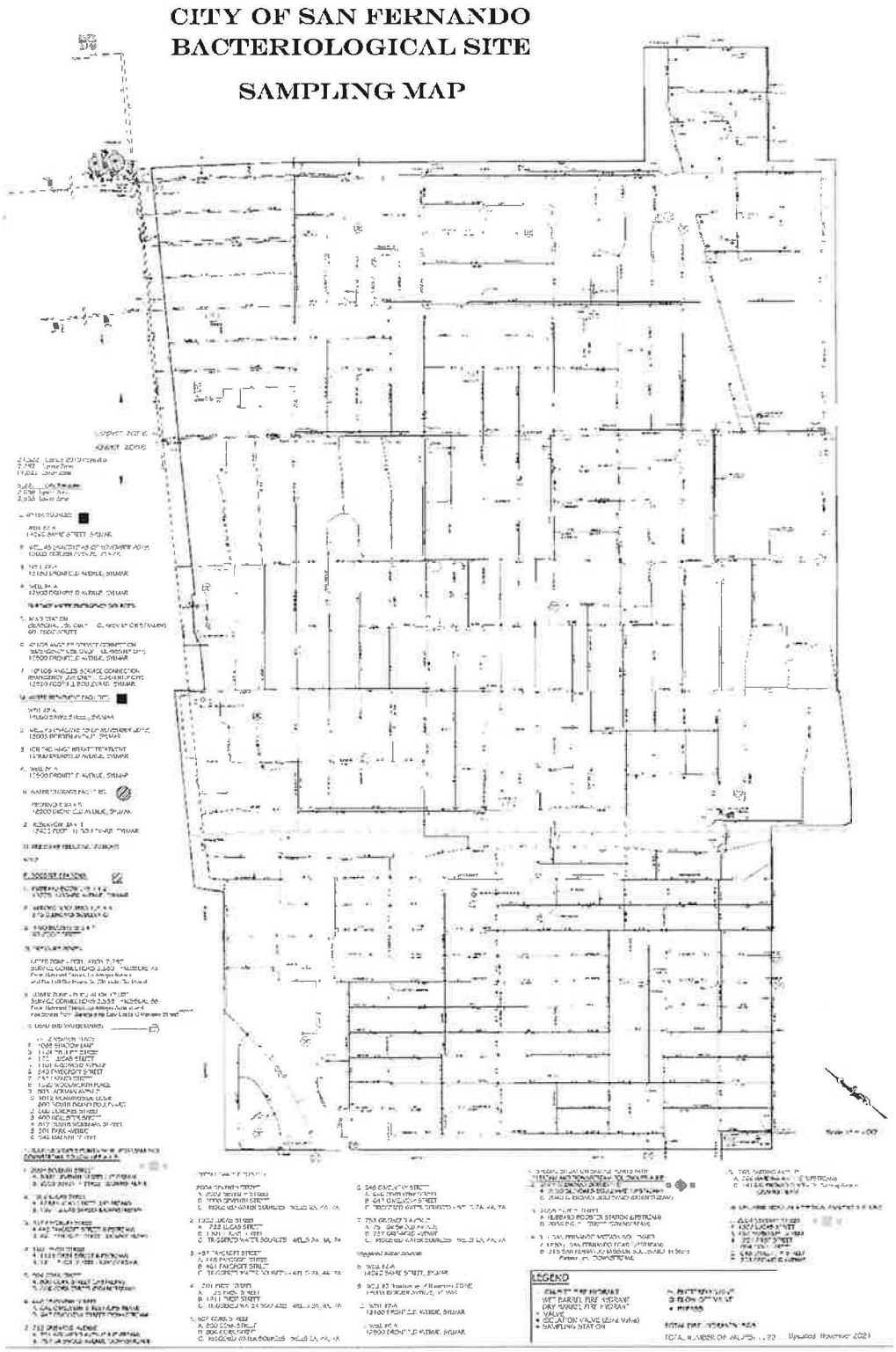
Reservoir*	Receives from	Delivers to Pressure Zone	Capacity (MG)	Material	Type
Lower Reservoirs					
Reservoir 2A	Well 4A, 2A, 7A, MWD connection and LADWP emergency connection	Lower Zone	3	Reinforced concrete	Partially underground
Reservoir 5	Well 4A, 2A, 7A, MWD connection and LADWP emergency connection	Reservoirs 3A and 4	2.4	Reinforced concrete	Partially underground
Upper Reservoirs					
Reservoir 3A	Reservoirs 2A and 5	Upper Zone	2.5	Reinforced concrete	Partially underground
Reservoir 4	Reservoirs 2A and 5	Upper Zone	1	Reinforced concrete	Partially underground
Total			8.9		

* Common Inlet/outlets are located at the bottom of each reservoir.

1.8 Distribution System and Pressure Zones

The City distributes water to approximately 5,238 service customers through a 66.5-mile network of distribution mains ranging from 4 to 20 inches in size. The water system consists of two pressure zones the Upper and Lower Zones with Seventh Street being the boundary. For more information see Operations Manual (November 1997).The City's Bacteriological Site Sampling map shows the pressure zones (**Figure 1-4).**

Figure 1-4 Pressure Zones and Facility Locations



1.9 Chemical Handling and Storage Facilities

The City produces chlorine on-site (at each well) using delivered sodium chloride and softened water. The city maintains supplies of sodium hypochlorite for backup in the event that chlorine cannot be produced. The sodium hypochlorite is stored at several locations (**Table 1-8**).

Table 1-8: Bulk Chemical Storage

Location	Chemical(s)*	Capacity
Well 2A	Sodium hypochlorite (1%)	1,500 gal
Well 4A	Sodium hypochlorite (1%)	100 gal
Well 7A	Sodium hypochlorite (1%)	1,500 gal
Ion Exchange Treatment Plant	Sodium hypochlorite (12.5%)	Two (2) 50 gal drums

* All chemical storage tanks have secondary containment

1.10 Proximity Hazards

There are no industrial sites in City's service area. Therefore, there are no industrial proximity hazards adjacent to or close to City's facilities.

1.11 Resources

Resources documents, safety supplies, equipment and chemicals are discussed in this section. The equipment, safety supplies, and chemical supplies are arranged to respond to incidents and are described in this section.

- **Table 1-9** Document information
- **Table 1-10** Safety supplies
- **Table 1-11** Safety and environmental materials, information
- **Table 1-12** response resources - equipment
- **Table 1-13** essential services (e.g., fuel, grocery stores)
- **Table 1-14** vendors

1.11.1 Documents

Table 1-10 shows the City's reference document information and storage location. These include O&M manuals, equipment specification, and instructions.

Table 1-9: Document Information

Document	Document Title	Location
Pump, Reservoirs, and Distribution system diagram/schematics	Pump System Schematic Main Schematic Schematic	Water Operations office – Public Works Building Pump Stations
Operations Manuals:		Water Operations office – Public Works Building Pump Stations
Pump stations		
Reservoir		
Equipment specifications and operation instructions – pumps, motors, valves	Operations manuals and specifications documents	Water Operations office – Public Works Building
Emergency generators	Generator operations manual and specifications documents	Water Operations office – Public Works Building Pump Stations
Supervisory Control and Data Acquisition (SCADA) system operation instructions	SCADA operations manual	Public Works Office
Communications systems operation instructions	Radio manuals	Water Operations office – Public Works Building

1.11.2 Safety and Emergency Materials, Supplies, and Information

The City maintains safety equipment and supplies for emergency response. That equipment is maintained at the locations listed in **Table 1-10**. The equipment and supplies include detection and monitoring equipment, personnel protective equipment, emergency food and water, and stormwater management equipment.

The City also maintains standard operating procedures and conducts training to address safety and environment compliance. **Table 1-11** shows the SOPs and training for critical safety procedures and environmental compliance.

Table 1-10: Safety Supplies

Type	Location
Gas monitoring equipment	City Yard
PPE – Gloves, eye protection, hard hat, steel toe boots, chemical resistant gloves and aprons, respirators (and cartridges), hearing protection	City Yard
Boots	City Yard
Reflective safety vests	City Yard
First Aid kits	City Yard
Bottled water	City Yard
Emergency food and water supplies	City Yard
Batteries	City Yard
Flares	City Yard
Tarps	City Yard
Tape – (caution, do not enter)	City Yard
Rope	City Yard
Rain/water gear	City Yard
Cots/blankets	City Yard
Stormwater management (e.g., sand, sandbags, fiber rolls, bio-logs, or straw tubes, other absorbents, k-rails)	City Yard

Table 1-11: Safety and Environmental Information

Topic	Training	Standard Operating Procedure (SOP)
Safety		
Confined Space	In-house training	SOP on file
Heat Illness prevention	In-house training	SOP on file
Fall Protection		Fall Prevention Factsheet on file and available to staff.
Electrical and arc flash		Occupational Safety and Health Administration (OSHA) Factsheet Working with Electricity. Electrical Shock Hazard Factsheet. Both on file and available to staff.
Hearing protection		An Earful of Sound Advice About Hearing Protection.
IIPP (Injury Illness Prevention Plan)#		On file and available to staff
Hazardous materials (e.g., asbestos, lead, solvents) – Haz Com		The Worker Safety Orientation Check list is on file and available to staff
Safety Data Sheets (SDS)		On file and available to staff at City Yard
Environmental		
Hazardous Waste Operations and Emergency Response (HAZWOPER)	Toolbox training	Each site with chemicals has spill kit and directions. Used oil instructions
AQMD permitting		Procedure in place to permit generators and maintain log books

1.11.3 Response Resources - Equipment

Emergency equipment resources are shown in **Table 1-14**.

Table 1-12: Response Resources Equipment

Equipment	Specifications/ Instructions	Quantity	Size/ capacity	Operation hours per full tank	Location
Heavy Equipment					
Dump truck	Public Works manages				City Yard
Backhoe	Public Works manages				City Yard
General Equipment					
Emergency Generator (portable)	Diesel.	1	200 kw/ 260 gal	32	Hubbard Pump Station
Emergency Generator (portable)	Diesel	1	300 kw 200 gal	18	Well 2A
Emergency Generator (portable)	Diesel	1	140kw 160 gal	28	Well 7A
Emergency Generator (portable)	Diesel	1	107 kw 160 gal	38	Public Works City Yard
Fuel	Diesel	1			City Yard Public Work Fleet Division has tank truck for refueling.
Air compressors					City Yard
Fans and blowers					City Yard
Shop vacuums					City Yard
Traffic control					
Traffic Control	Arrow Board				City Yard
Traffic Control	Street Traffic sign				City Yard
Traffic Control	Cones				City Yard
Traffic Control	Barricades				City Yard

1.12 Key Local Services

Table 1-13 shows a list of essential services (e.g., hospitals, gas stations, supermarkets) in the area.

Table 1-13: Essential Services

Facility	Location/Description	Location/Description	Location/Description
Hospital	Mission Community Hospital 14850 Roscoe Blvd Panorama City, CA 91402 (818) 787-2222	Olive View-UCLA Medical Center 14445 Olive View Dr, Sylmar, CA 91342 (747) 210-3000	Providence Holy Cross Medical Center - Mission Hills 15031 Rinaldi St Mission Hills, CA 91345 (818) 365-8051
Gas station	Sinclair 1601 Truman St. San Fernando, CA 91340 (818) 898-9225 Diesel supplier	Arco 1753 Truman St. San Fernando, CA 91340 (818) 361-6464 Diesel supplier	Valero 601 N Maclay Ave San Fernando, CA 91340 (818) 365-5664 Diesel supplier
Pharmacy	CVS 1204 San Fernando Rd, San Fernando, CA 91340 (818) 361-2679	Hubbard Pharmacy 2012 Glenoaks Blvd San Fernando, CA 91340 (818) 639-0173	Walgreens 2050 Glenoaks Blvd San Fernando, CA 91340 (818) 741-1103
ATM	BofA 120 S Brand Blvd San Fernando, CA 91340	Wells Fargo 807 San Fernando Rd San Fernando, CA 91340	Chase 402 S Brand Blvd San Fernando, CA 91340
Grocery store	El Super 315 San Fernando Mission Blvd San Fernando, CA 91340	Vallarta Supermarkets 757 S Workman St San Fernando, CA 91340	Food 4 Less 12765 Van Nuys Blvd Pacoima, CA 91331

1.13 Vendors

Table 1-14 shows a list of vendors and contractors that can be contacted in an emergency event.

Table 1-14 Vendors

Vendor	Contact Information	Type of Services
General Contractors		Pipe installation and repairs, flood protection.
Doty Brothers	11232 E. Firestone Blvd Norwalk, CA 90650 (562) 864-6566 https://dotybros.com/	Construction – water transmission
WA Rasic Construction	4150 Long Beach Boulevard Long Beach, CA 90807 (562) 928-6111 (866) 927-2742 https://www.warasic.com/	Construction – water systems (pipeline, pump stations, treatment)
Pipeline Installation and Repair		Construction
JDC Julian De Sigio Jr.	626-480-8900 5055 Bleeker St. Baldwin Park CA, 91706	Pipeline installation and repair.
Allen Pipeline Inc. Kevin Allen	(626) 358-1565 (626) 476-0621	Pipeline installation and repair.
Brkich Construction Co	450 W Evergreen Ave Monrovia, CA 91016 (626) 305-7246 (626) 305-7428 (fax) http://www.brkichconstruction.com/	Pipeline Construction
Reservoirs (underwater investigations and cleaning)		
DiveCorr	DIVE/CORR, INC P.O. BOX 30427 LONG BEACH, CA 90853 562-439-8287 562-438-7151 (FAX) https://divecorr.com/	Underwater inspections, cathodic protection - Hand hole liner grommets
Waterworks Suppliers		Pipes, valves, fittings, tanks
Cla-Val Co.	PO Box 1325 Newport Beach, CA 92663 (949)772-4600	Automatic valves

Table 1-14 Vendors

Vendor	Contact Information	Type of Services
Western Water Works	5831 Pine Ave Chino Hills, CA 91709 (909) 597-7000 (800) 834-2666 (909) 597-7050 (after hours) (909) 597-7000 (pager)	Pipeline supplies
Kelly Pipe	11680 Bloomfield Avenue Santa Fe Springs, CA 90670 (562) 868-0456 phone (800) 305-3559 Toll Free https://kellypipe.com/	Pipe supplier
Rain For Rent	6400 Fischer Road Riverside, CA 92507 (951) 653-2171	liquid handling solutions including pumps, tanks, filtration and spill containment
Road Repair/Asphalt/ grading		
AMS Paving	11060 Rose Ave Fontana, CA 92337 (909) 357-0711	Road repair
Paveco Construction	5049 Bleecker St Baldwin Park CA 91706 (626) 337-5589	Road repair
SRD Asphalt	4164 Verdugo Rd Los Angeles, CA 90065 (323) 255-8463	Road repair
Pump and Motor Repair & Well Drilling		
General Pump	159 N Acacia St San Dimas, CA 91773 (909) 599-9606 (909) 342-0244 (cell)	pump equipment contractor Pump installation, repair and servicing
A.G.E. Drilling, Inc	14661 Myford Rd, Tustin, CA 92780 714-731-3371	
Grooman's Pump & Well Drilling	13855 Central Ave. Chino, CA 91710 (909) 627-1521 (909) 828-1233 (fax)	Pump and well drilling
Brithinee Electric	620 S Rancho Ave Colton, CA 92324 (909) 825-7971 (main office) {909) 825-6312 (FAX)	Electric motors –repair

Table 1-14 Vendors

Vendor	Contact Information	Type of Services
Layne Christensen Co	11001 Etiwanda Ave Fontana, CA 92337 (909) 390-2833	Well construction and drilling
Emergency Generator Rental and Repair		Emergency generator repairs and maintenance
Aggreko Inc	13230 Cambridge St Santa Fe Springs, CA 90670 (562) 802-7972 (877) 603-6021 https://www.aggreko.com/en	Generator rental
Duthie Power Services	2335 E Cherry Industrial Circle Long Beach, CA 90805 (800) 394-7697 (714) 778-0275	Generator service and repair and rental
United Rentals	231 West Orange Grove Ave Burbank, CA 91502 (818) 842-5288	Generator rentals
Electrical/Switchgear/ controls		
Brithinee Electric	620 S Rancho Ave Colton, CA 92324 (909) 825-7971	Electric motors – sales and repair
Golden West Electric	6246 Loma Ave Temple City, CA 91780 (626) 446-4460 Gary Boggle (626) 695-7654	Electricians
Treatment/Disinfection		
HASA	23119 Drayton St. Saugus, CA 91350 661-259-5848	Bulk Chlorine
Matt Chlor	4107 N. Arden Dr El Monte, CA 91731 (626) 443-5034 (619) 542-0155	Water line chlorination, pipeline disinfection
Chemicals, Chemical Feed Equipment, & Pipeline Disinfectionsus		
HASA	23119 Drayton St. Saugus, CA 91350 661-259-5848	Bulk Chlorine
Charles P. Crowley Co.	15861 Business Cntr Dr Irwindale, CA 91706	Chemical Feed Equipment

Table 1-14 Vendors

Vendor	Contact Information	Type of Services
	(626) 856-5656 http://www.cpcrowley.com/	
Hazmat		Hazardous materials emergency cleanup
Hazardous Waste Transportation HTS	10600 South Painter Ave. Santa Fe Springs, 90670 562-906-2633	Hazardous materials cleanup
Equipment Rentals and Repair		Heavy equipment rentals
Aggreko Inc	13230 Cambridge St Santa Fe Springs, CA 90670 (562) 802-7972 (877) 603-6021 https://www.aggreko.com/en	Generator rental
Coastline Equipment	12435 Foothill Blvd Sylmar, CA 91342 (818) 890-3353	Equipment rental
United Rentals	231 West Orange Grove Ave Burbank, CA 91502 (818) 842-5288	Equipment rental
Security		Security contractor, video/alarm monitoring and maintenance
Major Metropolitan Security	20974 Knapp St. Chatsworth CA, 91311 (818) 407-0277	Security contractor, video/alarm monitoring and maintenance
Information Technology		
Saalex Information Technology Victor Chilgevorkyan	805-844-9590	IT Support
SCADA Support		
Cricket Consulting SCADA Integration John May	717-618-6052 Cricket.scada@gmail.com	SCADA support
Telephone, Telemetry Line, Radios		Telephone support (landline), telemetry line support, and 2-way radio support
City of San Fernando	Police and Public works	Telephone support (landline), telemetry line support, and 2-way radio support

Table 1-14 Vendors

Vendor	Contact Information	Type of Services
NIDA Companies	2712 Foothill Blvd. La Cresenta, CA 91214 818 957 1248	Telephone support (landline), telemetry line support, and 2-way radio support
Safety Equipment		Barricades, Handtools, Safety equipment & Lighting
Airgas	525 Commercial St. Glendale, CA 91203 (818) 240-5917	Safety supplies
J. G. Tucker & Sons	294 W Bonita Ave Pomona, CA 91767 (909) 392-3442	Safety supplies

2 RESILIENCE STRATEGIES

This section contains strategies and resources to improve the resilience of the system, including the emergency response organization roles and responsibilities, external partner roles and responsibilities, contact information (internal and external), media outreach, and public notification templates.

2.1 Emergency Response Roles

2.1.1 Emergency Operations Center and Incident Command Post Roles

Organizational roles and responsibilities for the emergency response organization are based on the California Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS). The SEMS nomenclature is utilized in the City's Water System emergency response organization structure. The City of San Fernando is required to use SEMS when the EOC is activated or a local emergency is declared in order to be eligible for state funding of response-related personnel costs. A description of the NIMS Incident Command System is provided in **Appendix A**.

The emergency response organization for the City's Water System is shown in **Figure 2-1**. The roles and responsibilities for City include both the EOC and the ICP roles and are consistent with SEMS and NIMS definitions (**Table 2-1**). The EOC Water System Emergency Response Organization operates as the overall lead for the incident and the ICP may reside at the EOC or a specific field location. The first to arrive at the EOC during an emergency is responsible until senior staff arrives. Chain of command will be as shown in **Figure 2-1** and **Table 2-1**, depending on staff present:

- **Table 2-1** shows the Emergency Response Roles with primary and alternate assignments
- **Table 2-2** shows the external partner roles and responsibilities
- **Figure 2-1** shows the City's EOC organization

Figure 2-1: City EOC Organization

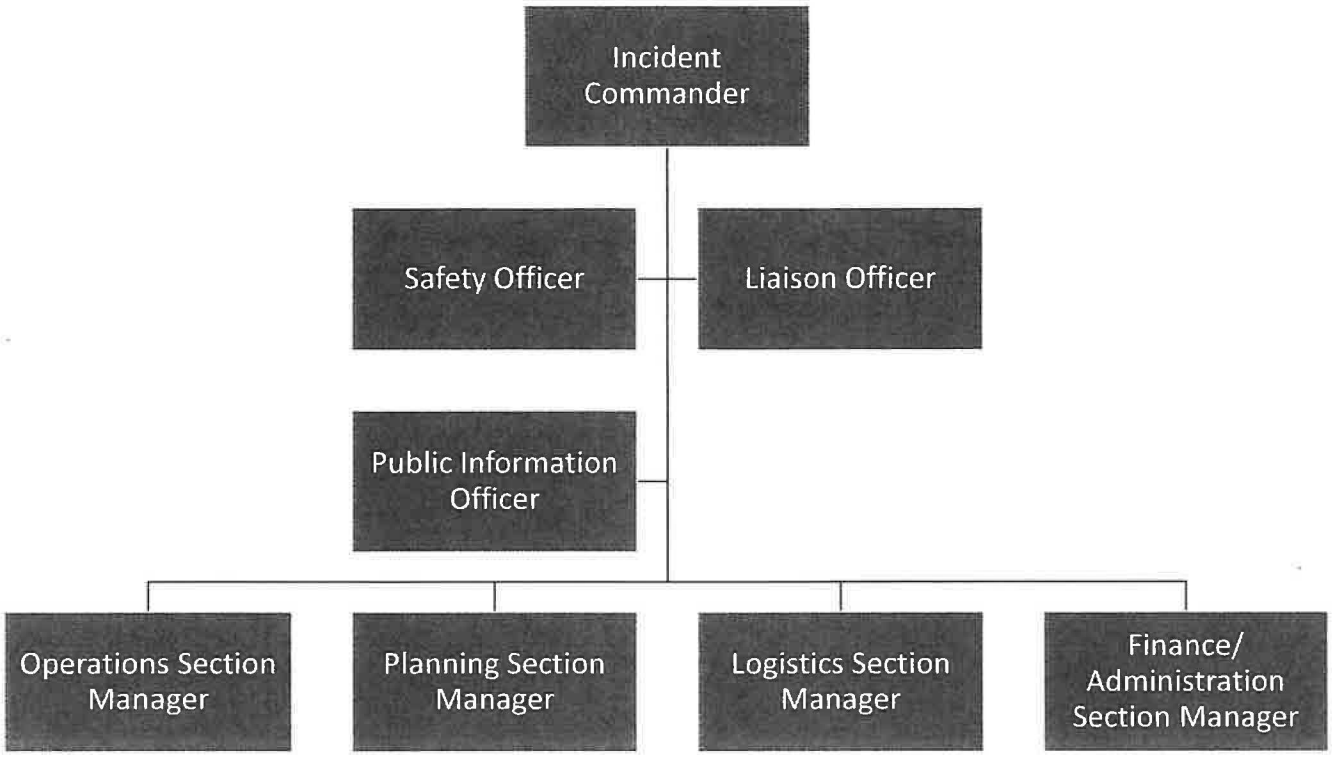


Table 2-1: City of San Fernando Water System Emergency Response Roles			
Name	**Title**	**Alternate**	**Responsibilities**
Matthew Baumgardner	Incident Commander (IC)	Alex Mendez	• Assesses the situation • Determines incident objectives and strategy • Establishes immediate priorities • Establishes incident command post • Establish an appropriate organization • Ensures adequate safety measures are in place and appoints a Safety Officer as soon as possible • Coordinates all activity for staff (approves emergency repairs) • Requests mutual aid • Coordinates with Management at Member Agencies, regulatory agencies, and other officials (e.g., city, Fire department and Law enforcement) • Approves requests for additional resources • Keep Board of Directors informed of incident status • Authorizes the release of public information to news media and contacts media • Approves and delivers public communications (including public notifications and advisories) • Approves all the external contacts. • Shuts down incident when appropriate (i.e., transitions to business continuity or normal operations).

Alex Mendez	Operations Section Manager	Danny Garcia	• Assists in the development of the operations portion of the incident Action Plan
			• Supervises and executes the operations portion of the Action Plan
			• Manages tactical operations
			  ○ Gather reports on condition of facilities, water quality data
			  ○ assess capability of system to deliver safe water
			  ○ Assign maintenance and repair duties
			• Serves as Field Crew Supervisor (FCS)
			• Works with EOCM to develop staffing plans

Table 2-1: City of San Fernando Water System Emergency Response Roles			
Name	**Title**	**Alternate**	**Responsibilities**
			• Request resources as needed and approves release of resources from assigned status (not incident) • Communicates with IM and EOM and subordinate positions • Ensures safe tactical operations • Maintains documentation
Danny Garcia	Logistics Section Manager	Ramiro Arias	• Manage all incident logistics • Provides logistical input to the (ICM) in preparing an incident Action Plan • Brief management as needed • Identify anticipated and known service and support requirements • Requests additional support and resources as needed (e.g. mutual aid) • Provides input on communication, medical, and traffic plans • Supervises requests for additional resources • Oversees the shutdown of the section • Maintains documentation
Alex Mendez	Planning/ Intelligence Section Manager	Danny Garcia	• Collect and process situation information about the incident • Supervises the preparation of the incident Action Plan • Provides input to the (ICM) and Operations section • Reassigns out of service personnel already on-site to organizational positions as appropriate • Establishes information requirements and reporting schedules • Determines needs for specialized resources for incident • Assembles information on possible alternatives • Provides periodic predictions on incident potential • Reports any significant changes in incident status • Oversees preparation of incident shut down and transition to business continuity or normal operations • Maintains documentation
Matthew Baumgardner	Finance Administration Section Manager	Nick Kimball	• Receive customer calls, maintain phone log

Table 2-1: City of San Fernando Water System Emergency Response Roles			
Name	**Title**	**Alternate**	**Responsibilities**
			• Maintain administrative functions • Maintains records of expenses • Serves as Treasurer • Gather pertinent information from briefings with responsible agencies • Ensure all personnel's time records are kept accurately • Brief mangement on financial issues needing attention and follow-up • Maintains documentation
Nick Kimball	Public Information Officer (PIO)	Chief of Police	• Participates in planning meetings • Determine any limits on news releases • Develops material for news briefings • Approves all new releases • Notifies media and conducts briefings • Arranges tours and interviews as required • Obtains media information that may be useful to the incident Action Plan • Maintains documentation
Alex Mendez	Liaison Officer	Danny Garcia	• Be a contact point for member agency and MWD representatives • Assists in establishing and coordinating interagency contacts • Maintain a list of assisting and cooperating member agencies • Keeps member agencies and MWD supporting the incident aware of incident status • Monitors incident progress to identify current or potential inter-organizational problems • Participates in planning meetings • Provides resources status, limitations, and capabilities of assisting agencies • Maintains documentation
Ramiro Arias	Safety Office	Danny Garcia	• Monitors incident operations and advises the Incident Commander on matters relating to the health and safety of incident personnel • Responsible for establishing the systems and procedures necessary to assess, communicate, and mitigate hazardous environments.

Table 2-1: City of San Fernando Water System Emergency Response Roles			
Name	**Title**	**Alternate**	**Responsibilities**
			○ includes developing and maintaining the incident Safety Plan, coordinating multiagency safety efforts, and implementing measures to promote the safety of incident personnel and incident sites • Stops and/or prevents unsafe acts during the incident.

2.1.2 External Partner Roles

External partners consist of first responders, regulatory agencies, pertinent state and federal agencies. **Table 2-2** lists the first responder and partner roles.

Table 2-2: First Responders and Partner Roles

Organization	Role and Responsibilities
Local and State	
911	Contact for all emergencies requiring response including medical, fire.
POLICE	Provide law enforcement and criminal investigation. Assist with security in event of establishment of a multi-agency Incident Command Post.
FIRE	Provides fire-fighting and medical emergency response.
Cal OSHA	Regulates worker occupation health and safety regulations. *Report all reportable worker related injuries to this agency.*
HazMat CUPA	Provides hazardous material response for chemical spills. Conducts site inspections and participates in emergency response exercises. Report all reportable hazardous material spills to the CUPA agency.
CUPA	The Enforcement and Emergency Response Division (EERD) of the Department of Toxic Substance Control administers the technical implementation of the state's Unified Program – a consolidation of six environmental programs at the local level. Program areas include: Hazardous Materials Business Plants, California Accidental Release Prevention (CalARP), Hazardous Waste, Above Ground Storage Tanks (AST), Underground Storage Tanks (UST), and California Fire Code. Local agencies such county environmental and some fire departments are specified as local CUPA agencies.
CUPA Forum	The CUPA FORUM BOARD is the managing group for the CALIFORNIA CUPA FORUM, the statewide association of program agencies formed to effectively and efficiently implement the Unified Program by consolidating the administration, permits, inspections, and enforcement activities of local, state, and federal environmental and emergency management programs.
Cal OES	Coordinates emergency management at State level.
County Emergency Management/EOC	Coordinates emergency management at county level.
Primacy Agency (Drinking Water)	State Water Resources Control Board Division of Drinking Water is the primacy agency and regulates public drinking water systems.

Table 2-2: First Responders and Partner Roles

Organization	Role and Responsibilities
County Health Department	Protect the health of residents within each county. They help ensure safe drinking water, food, and housing. Investigate sources of disease and outbreaks.
Hazardous waste contractor	Vendors responsible for hazardous waste and hazardous spill cleanups.
Flood Control District	Agencies and districts that provide stormwater discharge management
Regional Water Quality Control Board	Regulator for permitted and stormwater discharges for the region. Some regions require spill reporting in addition to the CUPA agency.
Sanitation Districts	Conducts wastewater collection and treatment through the sanitary sewer systems. Report any hazardous spills or discharges above the sanitary sewer permit.
Department of Fish and Wildlife	Reporting agency for hazardous spills into waterways. Provides oversight on aquatic ecosystems.
Power utility provider	Provide system electrical power to facilities.
Gas utility provider	Provides natural gas to facilities
Elected officials	Provide public information communication to communities.
Mutual aid	
Local Emergency Planning Committee (LEPC)	LEPC's participate in the communities within the States by assisting in the preparation of emergency response plans to prepare for and respond to chemical emergencies.
CalWARN	California Water/Wastewater Agency Response Network (CalWARN) supports and promote statewide emergency preparedness, disaster response, and mutual assistance processes for public and private water and wastewater utilities.
CUEA	CUEA serves as a point-of-contact for critical infrastructure utilities and the California Office of Emergency Services (Cal OES) and other Governmental Agencies before, during and after an event to: Facilitate communications and cooperation between member utilities and public agencies; and with non-member utilities (where resources and priorities allow). Provide emergency response support wherever practical for electric, petroleum pipeline, telecommunications, gas, water and wastewater utilities. Support utility emergency planning, mitigation, training, exercises and education.
Federal	
EPA Region IX	Regulatory oversight for primacy agency on environmental and drinking water regulations.
FBI regional Office	Criminal investigation assistance.
National Response Center	Is an emergency call center for reporting all oil, chemical, radiological, biological and etiological discharges (above the federal reporting limits) into the environment.
Poison Control Center	The American Association of Poison Control Centers is a national non-profit organization representing each of the 55 poison control centers in the United States, the more than 1,700 professionals these centers employ, as well as other poison-related organizations. It operates the 24-hour National Poison Help number.
National Cybersecurity and Communications Integration Center (NCCIC)	The Department of Homeland Security established the NCCIC. The NCCIC serves as a central location where a diverse set of partners involved in cybersecurity and communications protection coordinate

Table 2-2: First Responders and Partner Roles

Organization	Role and Responsibilities
	and synchronize their efforts. Works closely with critical infrastructure to reduce cyber risk. Orchestrates national protection, prevention, mitigation, and recovery activities associated with significant cyber and communication incidents;
Water Information Sharing and Analysis Center (WaterISAC)	WaterISAC is the only all-threats security information source for the water and wastewater sector. WaterISAC is the most comprehensive and targeted single point source for data, facts, case studies, and analysis on water security and threats from intentional contamination, terrorism and cyber crime. WaterISAC also provides analysis and resources to support response, mitigation, and resilience initiatives. They deliver timely, actionable information you can put to use right away to supercharge your security.

2.2 Communication

Communication during an incident is critical to relay information to employees, response partners and critical customers about potential risks to health, infrastructure, and the environment.

In general, communications during an emergency response will proceed along the chain of command of the EOC. The number of people notified will increase as the incident expands and decrease as the incident contracts toward its conclusion.

The type and extent of the disaster will dictate the normal and/or alternative methods of communication that will be used. The possibility of a coordinated attack that targets the water, power, and communications systems must be considered. In this case, it would be reasonable to assume that some methods of communication will either be unavailable or limited to certain areas during an emergency. It is anticipated that employees will know upon arrival at their duty stations which communication systems are functional and which are not. This information should be relayed to the City's Public Information Officer.

Personnel will contacted through the contact phone numbers provided (**Table 2-3**). If power is out, mobile radios (**Table 2-7**) would be the principal means of communication once personnel are assembled. Cell phones may be used provided the cellular system is operational.

A robust and strategic public outreach and engagement plan is critical to the City's mission and long-term vision.

2.2.1 Internal Communication

During an emergency event, staff will be contacted by the numbers provided in **Table 2-3**. If it becomes necessary to contact the staff member's family or emergency contact, the PIO will have primary responsibility for making the notification.

NOTE: "Daytime Hours" are from 7 a.m. to 4:30 p.m. Monday through Thursday and 7 a.m. to 3:30 p.m. Fridays. The remainder of the time, including weekends and holidays, is referred to as "Off Hours." "Weekend Hours" are 5:00 p.m. Friday to 7 a.m. Monday.

Table 2-3: Contact List (internal)

Name and Title	Phone (office)	Phone (cell)	Phone (home)/ Fax(f) Pager (p)	Email
Nick Kimball – City Manager	(818) 898-1202	(310) 892-4177		NKimball@sfcity.org
Matthew Baumgardner - Director of Public Works	(818) 898-1237	(818) 282 8167		MBaumgardner@sfcity.org
Alex Mendez - Superintendent of Water System	(818) 898-1293	(818) 581-5649 (818) 966-6065		AMendez@sfcity.org
Danny Garcia - P.W. Field Supervisor II	(818) 898-1293	(818) 367-0951		dgarcia@sfcity.org
Ramiro Arias - - P.W. Field Supervisor I	(818) 898-1293	(818) 403 9257	(818) 331-4507	rarias@sfcity.org
Jesus Sahagun – Cross Connection Specialist	(818) 898-1293		(818) 554-4098	
Carlos Rivera – Senior Operator	(818) 898-1293		(818) 399-5587	
Roger Hernandez - Maintenance Worker	(818) 898-1293		(805) 298-6547	
Edward Ruiz- Senior Water Worker				
Gustavo Flores- Water Worker I				
Ruben Quintana – Water Worker II	(818) 898-1293		(818) 723-1687	

2.2.2 Metropolitan Water District Contact List

Table 2-4 provides contact information for MWD

Table 2-4 MWD Contact List

Agency/ Name	Job Title	Office Phone	Cell Phone	Home Phone/ Pager (p) Fax (f)	Email
MWD					
Eagle Rock Operations Center (24/7)		(626) 844-5610			

2.2.3 External Response Partner Communication

The external agencies that may be needed in an emergency are shown in **Table 2-5**. The IC will make the decision as to which of these agencies needs to be notified, and at what point in the threat evaluation those notifications should be made. The PIO or Liaison Officer will serve as the water utility point of contact for these agencies.

The initial notification response to any emergency should be to call 911 for the needed first responders and then to the SWRCB/DDW. The SWRCB/DDW is the Drinking Water Primacy Agency in California and has regulatory jurisdiction over all public water systems in the State. Contact to the DDW should be to the District Engineer and if not available the OES Warning Center Phone DDW Duty officer number listed in **Table 2-5**.

The IC will notify the City's EOC and the Police Department to warn nearby residents if imminent danger from flooding might occur from structural damage to reservoirs. The IC shall inform the Fire Department of the status of availability of water for firefighting and other purposes.

Emergency responders (i.e., Fire and Police Department) shall be provided access to the affected site, staff shall assist them in identifying the nature of the emergency and in understanding the necessary features of the site.

Table 2-5: First Responder and External Partner Contact List

Agency	Address	Office Phone Fax (f)	Cell Phone	Email
EMERGENCY	**CALL 911**			
Police				
San Fernando Police Department	910 1st St, San Fernando, CA 91340	(818) 898-1267		
California Highway Patrol	2130 Windsor Ave Altadena, CA	(626) 296-8100		
California Highway Patrol Los Angeles Main Dispatch		(323) 906-3434		
Fire				
Los Angeles County Fire Battalion 4				
Los Angeles Fire Department Station 98	13035 Van Nuys Blvd, Pacoima, CA 91331	(818) 756-8698		
Los Angeles Fire Dept. Station 75	15345 San Fernando Mission Blvd, Mission Hills, CA 91345	(818) 756-8675		
Los Angeles County Fire Dept. Station 74	12587 Dexter Park Rd, Sylmar, CA 91342	(818) 899-8017		
Occupational Safety				
Cal OSHA (injury reporting)	Los Angeles District Office 320 West 4th Street, Room 820 Los Angeles, CA 90013	(213) 576-7451		
Hazardous Materials (CUPA) Spill reporting				
Los Angeles County Fire Department Health Hazardous Materials Division (HHMD) Main Office	5825 Rickenbacker Road Commerce, CA	(323) 890-4045 (323) 890-4000		
Los Angeles County Fire Department, HHMD Satellite Office	5110 North Peck Road El Monte, CA	(626) 450-7450		

Table 2-5: First Responder and External Partner Contact List

Agency	Address	Office Phone Fax (f)	Cell Phone	Email
Office of Emergency Services				
California - Governor's Office of Emergency Services (Cal OES)	3650 Schriever Ave Mather, CA	800-852-7550 916-845-8911 Warning Center *For water quality emergency ask for SWRCB/DDW Duty Officer*		
Cal OES - Cybersecurity Integration Center (Cal-CSIC) which will report to Cal OES EOC (for cyber incidents)	https://www.caloes.ca.gov/cal-oes-divisions/law-enforcement/california-cybersecurity-integration-center	833-Report-1 833-737-6781		
Los Angeles County Office of Emergency Management	Los Angeles County Office of Emergency Management (OEM) OEM Duty Officer	(323) 459-3779		
Primacy Agency (Drinking Water)				
State Water Resources Control Board Division of Drinking Water				
Sutida Bergquist, P.E. – Dist. Eng.	500 N. Central Ave, Suite 500 Glendale, CA 91203	(818) 551-2048 (818) 551-2054 (f)	(213) 210-7100	Bergquist.sutida.@waterboards.ca.gov
Grazyna Newton - Assoc. San. Eng.		(818) 551-2029	(818) 970-1319	Newton.grazyna@waterboards.ca.gov
James Willis - Assoc. San. Eng.		(818) 551-2031	(707) 718-0800	Willis.jame@waterboards.ca.gov
Milagros Alora - San. Eng.		(818) 551-2026	(818) 993-9351	Milagros.alora@waterboards.ca.gov
Terry Kim - Assoc. San. Eng.		(818) 551-2044	(818) 209-0667	Kim.terry@waterboards.ca.gov
Yun Hui Park - Water. Resource Control Engineer.		(818) 551-2032	(661) 755-5379	park.yunhui@waterboards.ca.gov
Matthew Megil - Water. Resource Control Engineer		(818) 551-2022	(562) 881-8485	Megil.matthew@waterboards.com
Main Number Glendale	500 N. Central Ave, Suite 500 Glendale, CA 91203	(818) 551-2004 (818) 551-2054 (f)		

Table 2-5: First Responder and External Partner Contact List

Agency	Address	Office Phone Fax (f)	Cell Phone	Email
Office of Emergency Services Warning Center (24 hours) Ask for SWRCB DDW Duty Officer		(800) 852-7550 (916) 845-8911		
County Health Departments				
Los Angeles County Department of Public Health (DPH)	http://publichealth.lacounty.gov/ Contact the County EOC Duty Officer Environmental Protection Branch 5050 Commerce Drive Baldwin Park, CA 91706-1423	(626) 798-6761		
Maurice Pantoja - Branch Director		(626) 430-9438	(213) 270-5568	
Fahrudin Zulic - Service Manater		(626) 430-5595	(213) 270-5568	
Lusi Mkhitaryan - Chief Drinking Water Program		(626) 430-5420	(213) 270-5568	
Hazardous Waste contractor				
Hazardous Waste Transportation HTS	10600 South Painter Ave. Santa Fe Springs, 90670	562-906-2633		

Table 2-5: First Responder and External Partner Contact List

Agency	Address	Office Phone Fax (f)	Cell Phone	Email
Flood Control District	Located on Briggs LA County Public Works LA Flood Control District Public Works Dispatch Arcadia Field Office Alhambra Headquarters 24/7 - intended for after-hours and weekends	(818) 248-3842 (626) 574-0962 (626) 458-4357 (626) 458-3517 888-CLEAN-LA 888-253-2652 -		
Regional Water Quality Control Board	Los Angeles RWQCB 320 West Fourth Street, Suite 400 Los Angeles, CA 90013 To report discharges to storm drains:	(213) 576-6600 (213) 576-6640 fax (213) 620-2237		
Sanitation District				
LA Sanitation & Environment (LASAN)		(800) 773-2489.		https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-cw?_adf.ctrl-state=wukjojum4_5&_afrLoop=7491538771953602#!
California Dept. of Fish and Wildlife	(To report hazmat/oil spills or polluters) Region - For Los Angeles, Orange, San Diego, Santa Barbara and Ventura counties: South Coast	888) 334-2258 (CALTIP) (858) 467-4201 (858) 467-4201		https://wildlife.ca.gov/Regions
Power and Gas Provider				
City of Los Angeles				
Los Angeles Department of Water & Power		(800) 342-5397		

Table 2-5: First Responder and External Partner Contact List

Agency	Address	Office Phone Fax (f)	Cell Phone	Email
SCE				
24/7 Emergency		(800) 661-1911 (voltage issues) (800) 611-1911 (report outage)		
General Business Customer Service		(800) 990-7788		
Southern California Gas Company		(800) 427-2000		
Gas Emergencies/Safety		(800) 427-2200		
Utility Locators				
Underground Service Alert (U.S.A.) (7AM – 5PM, Monday – Friday only. Closed weekends and holidays)		(800) 227-2600 or 811		
UTI (Does locating in Los Angeles County only)		(805) 658-7801		
Leak Locators – Private Property		(818) 609-9098		
Traffic Control	Glendale Traffic Control	(818) 548-3960 Then press 3 (for No Parking Signs)		
Los Angeles County (various)				
Road Department	La Crescenta Emergency Operations Center	(818) 249-3094 (818) 458-4357		
Environmental Design		(888) 253-2652		
Parks & Recreation 8:00 a.m. to 5:00 pm		(661) 259-1750		
Signals & Street lights (After 5:00, call		(626) 458-1708 (800) 834-0064)		
Cal Trans		(626) 794-7166 (emergency 24 hr)		

Table 2-5: First Responder and External Partner Contact List

Agency	Address	Office Phone Fax (f)	Cell Phone	Email
Mutual Aid				
CalWARN	Region 1 – Southern Region Ken Bott – Co-Chair City of Long Beach Water Department Vicki Osborn – Co-Chair Municipal Water District of Orange County	(562) 570-2364 714.593.5010		kenneth.bott@lbwater.org vosborn@mwdoc.com
CUEA	Jenny Regino California Utilities Emergency Association 916.845.8518 Office jenny.regino@caloes.ca.gov www.cueainc.com			
LEPC	Duane Sweeton Torrance Fire Department 1701 Crenshaw Blvd. Torrance, CA 90501	(310) 781-7000		dsweeton@torranceca.gov
Elected Official/Local Government				
City of San Fernando City Council	Meets 1st and 3rd Mondays of each month			
City Manager	(818) 898-1202			
FEDERAL AGENCIES				
EPA Region IX	Region 9 Duty Officer (spills) 800-300-2193			
FBI regional Office	FBI Los Angeles Field Office 11000 Wilshire Blvd Ste 1700 Los Angeles, CA 90024	310-477-6565		

Table 2-5: First Responder and External Partner Contact List

Agency	Address	Office Phone Fax (f)	Cell Phone	Email
Alcohol, Tobacco, and Firearms (ATF)	Glendale	(818) 265-2510		
National Response Center		800-424-8802		
Poison Control Center		800-222-1222		
National Cybersecurity and Communications Integration Center (NCCIC)	https://us-cert.cisa.gov/nccic	888-282-0870		
Water ISAC	https://www.waterisac.org/	866-H2O-ISAC 866-426-4722		

2.2.4 Customer Complaints and Reports

If telephone service is not disrupted, the available office staff will log reports of system leaks and customer complaints.

2.2.5 Critical Customer Communication

Critical customers for the City are shown in **Table 2-6**. The IC will determine whether critical customers will be contacted. The PIO will then proceed with contacting the critical customers.

Table 2-6: Critical Customer Contact List

Organization or Department	Address	Phone	Email or Website
Senior living center	None		
Nursing home	None		
Hospital	None		
Dialysis clinic			
Fresenius Kidney Care	451 S. Brand Blvd. San Fernando CA 91340 Anthony Tamondong	(818) 373-9340	
Hotels	None		
Transportation center	None		
Schools			
Morningside Elementary School	576 N Maclay Ave, San Fernando, CA 91340	(818) 365-7181	http://morningsidees-lausd-ca.schoolloop.com/
O'Melveny Elementary School	728 Woodworth St, San Fernando, CA 91340	(818) 365-5621	https://www.omelvenyelementary.com/
PUC Community Charter Elementary School	14019 Sayre St, Sylmar, CA 91342	(818) 492-1890	https://www.pucschools.org/cces/
PUC Nueva Esperanza Charter Academy	1218 Fourth St, San Fernando, CA 91340	(818) 256-1951	https://www.pucschools.org/neca/
Gridley Street Elementary School Dual Language Academy	1907 8th St, San Fernando, CA 91340	(818) 361-1243	https://gridley-lausd-ca.schoolloop.com/

Table 2-6: Critical Customer Contact List

Organization or Department	Address	Phone	Email or Website
Cesar E. Chavez Learning Academies	1001 Arroyo Ave, San Fernando, CA 91340	(818) 837-6250	http://ccla-lausd-ca.schoolloop.com/
San Fernando Elementary School	1130 Mott St, San Fernando, CA 91340	(818) 365-3201	https://sanfernandoes-lausd-ca.schoolloop.com/
San Fernando Middle School	130 N Brand Blvd, San Fernando, CA 91340	(818) 837-5400	http://www.sanfernandoms.org/
Mission High School	11015 O'Melveny Ave, San Fernando, CA 91340	(818) 361-1777	https://missionhs-lausd-ca.schoolloop.com/
Schools - private			
Glenoaks Elementary & Wooden Shoe Preschool:	1525 Glenoaks Blvd, San Fernando, CA 91340	(818) 365-1513	http://www.glenoaksschools.com/
Santa Rosa de Lima Catholic School	1316 Griffith St, San Fernando, CA 91340	(818) 361-5096	http://www.srdlcs.com/
Daycare center			
Hernandez Family Child Care Wonderschool	426 Orange Grove Ave, San Fernando, CA 91340	(818) 332-0497	https://www.wonderschool.com/ca/san-fernando/hernandez-family-child-care-wonderschool-4016?utm_source=gmb
Belle's Daycare	1065 N Macneil St, San Fernando, CA 91340	(323) 839-0566	
Menjivar Family Day Care	12647 Bromont Ave, San Fernando, CA 91340	(818) 365-6247	
CeylonCare Family Child Care WeeCare	12834 W Hemingway Dr, San Fernando, CA 91340	(747) 529-7869	https://weecare.co/daycare/ceyloncare-family-child-care-weecare?utm_source=gmb&utm_medium=organic&utm_campaign=gmb-listing
Factory	None		

2.4.5 Communication Equipment

Tables 2-7 and **2-7a** shows the communication equipment for the City and other agencies , respectively. The landline telephones may be useful if operable. .

Table 2-7: Communication Equipment

Type	Location	Limitation	Number/Frequency/Channel
2-way radios	300 Third st. LA county court house	25 mile radius- with repeater	2 frequency 5 Channel
MWD Member Agency Response System (MARS)	120 Macneil St. San Fernando CA 91340	Transmissions are not secure.	WNK 605 49.380 8 channel

2.4 Media Outreach

Effective communication with the public is a key element of this ERP. City personnel have been instructed to direct all media questions or information requests related to an emergency situation to the City's Public Information Officer (PIO). The PIO is the official spokesperson for the City and is the only City employee who is authorized to speak directly to public media representatives.

It is anticipated that the time for notification to the television and radio audiences will be very short. For notification to be issued in other than normal hours the same media will be contacted and an announcement will be scheduled for as long as is necessary.

The PIO will convey the necessary information (e.g., boil water notice) to the media (local television, radio, and newspapers).

The PIO maintains a list of contacts for various media outlets (e.g., radio, television, newspapers). The PIO will contact the media to disseminate information to the public.

The City maintains information on the website which includes news and information, operations and maintenance and water quality. The City receives and delivers water from MWD. MWD has a comprehensive media and communications plan. MWD maintains a website (http://www.mwdh2o.com/) that maintains a vast amount of information on water supply, storage, delivery, treatment, water quality, planning, and capital project improvements. MWD also communicates to the public through social media (Facebook, Twitter) and maintains open communication with the local media (TV, radio, and newspapers).

Honest, clear, consistent, and concise communication is fundamental during an emergency event. The CAP rule focuses on three main elements*:

1. **C**aring Message – provide a message indicating concern, empathy, or compassion. Should communicate the seriousness of the situation.
2. **A**ction Message – State actions you have taken, are currently taking, and will take to address the issue.
3. **P**erspective Message – provide information that puts the issue in perspective or context.

Many if not all employees may have contact with customers, so it is important to share your messaging with employees. This will help ensure consistent messaging.

Once the messaging is developed it can be shared through multiple channels depending on preference (e.g., newspapers, local television, radio, social media, utility and partner websites, and direct mail and email).

It is important to have a specific spokesperson (i.e., PIO) assigned to communicate with the public.

Messages about water safety should be transparent, accurate, appropriate, and timely. They should be shared in simple language and easily understood. The water notification templates have been developed for specific advisories and notifications (Section 2.5).

It is important to utilize communication to build trust. Carefully craft messages (both internal and external audiences), convey empathy, and share facts.

Reference

* Water Utility Communications Can Build Trust During the Covid-19 Pandemic. K. J. Retzlaff. AWWA Journal August 2020.

2.5 Public Notification Templates

Public notifications may be necessary during an emergency event. The City will coordinate notifications with the DDW (**Table 2-5**). Other agencies (e.g., LACDPH) will also be contacted (**Table 2-5**). The notifications will be issued by City Water System staff to the customer. Notification templates have been prepared in order to advise residents on whether to boil water, do not use or do not drink. Notification will be issued in English and Spanish. The notifications are located in **Appendix B** and include:

- **Appendix B-1** Water Outage or Low Pressure Water Notice – English
- **Appendix B-2** Water Outage or Low Pressure Water Notice – Spanish
- **Appendix B-3** for Boil Water Notice – English
- **Appendix B-4** for Boil Water Notice – Spanish
- **Appendix B-5** for Cancellation of Boil Water Notice – English
- **Appendix B-6** for Cancellation of Boil Water Notice – Spanish
- **Appendix B-7** for Do Not Drink Water Notice – English
- **Appendix B-8** for Do Not Drink Water Notice – Spanish
- **Appendix B-9** for Cancellation of Do Not Drink Water Notice – English
- **Appendix B-10** for Cancellation of Do Not Drink Water Notice – Spanish
- **Appendix B-11** for Do Not Use Water Notice – English
- **Appendix B-12** for Do Not Use Water Notice – Spanish
- **Appendix B-13** for Cancellation of Do Not Use Water Notice – English
- **Appendix B-14** for Cancellation of Do Not Use Water Notice – Spanish

For complete service area issue, notifications will be made through media (Section 2.4). The City will contact the major television and radio stations serving the area, including Spanish speaking station, requesting that they broadcast an alert to the community every 15 minutes, as long as needed.

Staff can provide door to door notification for smaller zones with issues. Door hanger will be left for those not home. Critical customers will be contacted (**Table 2-6**). The City of San Fernando Police Department (**Table 2-5**) can provide sound trucks and personal to provide notifications. The estimated time for notifications to all customers is two to three hours.

A summary of each of the notices, including guidance on when to issue each of them, is provided below.

2.5.1 Consumer Alert During Water Outages or Periods of Low Pressure:

If the water system is experiencing power outages, water outages, or low pressure issues, a consumer alert may be issued to the public. The notice provides consumers information on conserving water and that subsequent water notices (e.g., boil water notice) may be issued.

2.5.2 Boil Water Notice:

Boil water notice will be given when the possibility of microbiological contamination exists and can be treated by boiling. A Boil Water Notice should be issued when minimum bacteriological water quality standards cannot be reasonably assured. To assure public health protection a Boil Water Notice should be issued as soon as it is concluded by the designated personnel that the water supply is or may be biologically unsafe. Examples of these situations include:

A boil water notice will remain in effect until a firm determination is made that the water is safe for consumption. Two rounds of coliform bacteria samples must be negative. Any decision to rescind a boil water notice would be coordinated with DDW and the IC. The City will work with the media to publicize the notifications.

- Biological contamination of water supply system, including but not limited to:
  - Positive total or fecal coliform bacteriological samples; or
  - Prolonged water outages in areas of ruptured sewer and/or water mains; or
  - Failed septic tank systems in close proximity to ruptured water mains; or
  - Ruptured water treatment, storage, and/or distribution facilities in areas of known sewage spills; or
  - Known biological contamination; or
  - Cross-connection contamination problems; or
  - Illness attributed to water supply.
- Unusual system characteristics, including but not limited to:
  - Prolonged loss of pressure; or
  - Sudden loss of chlorine residual; or
  - Severe discoloration and odor; or
  - Inability to implement emergency chlorination.
- Implemented due to treatment inadequacies.

A boil water notice will remain in effect until a firm determination is made that the water is safe for consumption. Two rounds of coliform bacteria samples must be negative. Any decision to rescind a boil water notice would be coordinated with DDW and the IC or Public Works Director. The City will work with the media to publicize the notifications.

2.5.3 Do Not Drink:

A Do Not Drink Notification may be necessary if there is a potential intentional contamination of the water. In this event boiling or chlorination is not advisable and recommendation to drink bottled water should be issued. Water should not be used for drinking and cooking, but may be used for sanitation purposes (e.g., toilet flushing, clothes washing, etc.). Examples of these situations include:

- Known or suspected widespread chemical or hazardous contamination in water supply distribution, including but not limited to:
  - Ruptured water distribution system (storage tanks, mains) in area of known chemical spill coupled with loss of pressure;
  - Severe odor and discoloration;
  - Loss of chlorine residual;

- Inability of existing water treatment process to neutralize chemical contaminants prior to entering the distribution system.
- Threatened or suspected acts of sabotage confirmed by analytical results, including but not limited to:
  - Suspected contamination triggered by acts of sabotage or vandalism.
- Emergency use of an unapproved source to provide a supplemental water supply.

A Do Not Drink notice will remain in effect until a firm determination is made that the water is safe for use (drink, cook, or wash). Any decision to rescind a Do Not Drink or Do Not Use water notice would be coordinated with DDW and the IC. The Do Not Drink notices will remain in effect until the City confirms that the water is safe to use. The City will work with the media to publicize the notifications.

2.5.4 Do Not Use:

A Do Not Use Advisory may be necessary when there is a credible intentional contamination and drinking, cooking, and washing may result in illness. The advisory recommends using bottled water for drinking, cooking and washing. Examples of these situations include:

- Known or suspected widespread chemical or hazardous contamination in water supply distribution, including but not limited to
  - Terrorist contamination event.

A Do Not Use notice will remain in effect until a firm determination is made that the water is safe for use (drink, cook, or wash). Any decision to rescind a Do Not Use water notice would be coordinated with DDW and the IC. The Do Not Use notices will remain in effect until the City confirms that the water is safe to use. The City will work with the media to publicize the notifications.

3 EMERGENCY PLANS AND PROCEDURES

This section contains plans and procedures that can be implemented in the event of a malevolent act or natural hazard that threatens the City and its ability to provide safe drinking water.

3.1 Core Response Procedures

The core procedure is a multi-hazard (e.g., earthquake, storm, pandemic) procedure that addresses actions needed to ensure the continued delivery of safe drinking water. The plan operates in accordance with the Standardized Emergency Management System (SEMS), the Incident Command System (ICS), and the National Incident Management System (NIMS). The plan is intended to provide guidance to address multiple hazards both natural and manmade. This Emergency Response Plan provides guidelines for evaluating an emergency situation, responding to an emergency, and activating the City's Emergency Operations Center (EOC).

The following describes the core actions, necessary during an event: activation, staffing and reporting, initial actions, action planning, priority access, surveillance and inspection, physical access and security, cyber security, power loss, member agency coordination, emergency chlorination plan, sampling and analysis, and family and personnel well-being.

3.1.1 EOC Description

The EOC is a pre-designated facility to coordinate the overall response and support to an emergency. In case of an event, natural or man-made, the Water System personnel will set up and implement its Incident Command System at its EOC. The EOC is located at the Main Office City Yard (**Table 1-4**). In the event that the Main Office is not accessible or unsafe to occupy, the alternative location will be Hubbard Pump Station.

During an emergency situation, the EOC will fulfill the responsibilities designated in **Table 3-1**.

3.1.2 Activation of the EOC

Automatic activation of the EOC is stipulated when an earthquake of 7.0 magnitude or greater occurs within the service area. The Director of Public Works or IC will determine the staff needed for the EOC. For a magnitude of 7.0 or greater all off duty employees shall report to the EOC as soon as possible. Staff should ensure their personal and family safety first and determine if they are available to report to the EOC (Section 3.1.16 and 3.1.17).

For a directed activation will be specified by the Director of Public Works or IC for earthquakes and other hazards depending on the severity of the emergency and potential damage to the City's facilities. Staff will be notified by cell phone.

Any member of Water Operations being made aware of an emergency situation will notify the IC. The City's EOC will be activated if potential or significant damage has occurred in the City of San Fernando and the situation cannot be handled by routine public safety response or immediate mutual aid assistance. The Water System personnel will be a part of the City of San Fernando Emergency Response Team in case of a citywide emergency.

The Supervisory Control and Data Acquisition (SCADA) system or City Dispatch will notify Water Operations of an emergency. Upon receiving notification of an alarm from the SCADA system, the Superintendent of the Water System shall take one or a combination of the following actions:

- Connect to the SCADA system remotely from home and make necessary changes to the water system to adjust to the situation, if it is possible.

- Notify the appropriate personnel to respond to the situation.
- Report to the Public Works Operation Center, log onto SCADA and make appropriate changes to the system to adjust to the situation.

In the event a credible or confirmed threat has been established, the staff will be notified by the Incident Commander.

3.1.3 EOC staffing, Reporting and Set-up

The EOC will be staffed as specified in **Table 2-1**. Those with primary assigned roles will report to the EOC. The Incident Commander (IC), and Operations Section Manager will report to the EOC and begin implementation of emergency procedures. Staff will ensure their safety and family safety first and determine if they are available to report to the EOC (see Sec. 3.1.17 Family and Personnel Well Being). The IC will notify alternates to report to the EOC, if needed. The first person to arrive will serve as the IC until the primary IC arrives or is available by cell phone.

The EOC is located in the Main Office at the Public Works Building (**Table 1-3**). Upon arrival the IC or designate must determine if the location is safe to occupy. In the event that the Main Office is unsafe, the alternate location for the EOC will be the Hubbard Pump Station. They will check for any injured personnel. They will check gas, water and electrical lines for damage. If the EOC is inaccessible the alternate location will be designated by the IC. The IC will notify those in the Emergency Response Organization (**Table 2-1** and **2-3**). If power is out at Main Office, the onsite portable emergency generator will be turned on to provide minimum power to operate lighting, telemetering, phone and radio communications. The IC will determine primary means of communication (e.g., radios) (see **Table 2-7**) to communicate between the Field Operations and others.

In the event of an earthquake, it may be necessary to move vehicles and equipment from under carports and garage at the main office, when safe to do so.

The EOC shall serve as the primary focal point to direct the response of the emergency situation. Supplies for the EOC are shown in **Table 3-1** and safety supplies are shown in **Table 1-12**.

Table 3-1: EOC Supplies

Type	Description	Location
Office supplies	pencils, pens, pens for grease boards and general office supplies	Public Works Operations Center (Table 1-3)
Office supplies Mobile Kit	Includes office supplies and copy of ERP	
Radios	As listed in **Table 2-7**	
Batteries		
ID Tags		
Flip Charts		
White Boards		

3.1.4 Incident command posts

A locational incident command post (ICP) may be established and located at a particular facility impacted. In addition, a multi-agency ICP may also be established in the vicinity.

3.1.5 Action Planning

Action planning is a critical function of the EOC and ICPs. Components of an Incident Action Plan (IAP) include:

- A well-defined description of the goals to be achieved
- Tasks/steps that need to be carried out to reach the goal
- People who will be in charge of carrying out each task
- When will these tasks be completed (deadlines and milestones)
- Resources needed to complete the tasks
- Measures to evaluate progress

The goals should include:

- Maintain and restore water service to the community (including water for fire-fighting)
- Emergency shutdowns where mains are ruptured
- Isolation of sections to continue supply of water
- Activate emergency interconnections and alternate water supplies (**Table 4-1** and **Table 4-2**)
- Repairs to the system
- Protect public health but ensuring the delivery of safe drinking water

Priority1 Employee Safety and Restore Water Service

The highest priority goal is to maintain and restore water service to the community. In addition, the safety of personnel is also a primary goal. The IAP shall include a priority response based on the type and impact of the occurrence. Immediate repairs to keep the system operational will be part of the IAP. However, repair of water lines, depending upon the extent of damage may be part of the recovery process rather than the emergency response.

Priority 2 Shutdown Ruptured Mains and Reservoirs

The next priority would be to shutdown mains that have ruptured and isolate these sections to permit the continued service of water flow to unaffected areas. Reservoir storage may need to be preserved by shutting off inlet valves. This will provide an emergency supply source to meet the demands over a longer period of time.

The ruptured reservoir procedures is as follows and **Appendix C-3**:

- Turn off booster pumps that pumps water into ruptured reservoir
- Close necessary main line gate valves to restrict water flowing to ruptured reservoir
- Grab sample from the reservoir for a chlorine residual.
- Visually inspect the water in the reservoir for any movement from large cracks, cloudiness, etc.
- If possible, pump water from ruptured reservoir to another reservoir. Use portable generator, if power is not available. (Make sure that the reservoir receiving the pumped water is not ruptured.)
- If you cannot pump to another reservoir and the rupture is causing damage to private property, open the reservoir drain valve and drain the water to the street, after closing the main inlet-outlet valve. Be sure to dechlorinate before discharge

The ruptured main procedure is as follows:

- Determine the location of the major main line break and try to isolate the specific section of main by closing down the main gate valves within the given area.
- Breaks in main pump lines should be isolated, if possible, by closing down the gate valves and attempting to reroute water flows around the rupture. Avoid shutting down any main lines that are providing fire suppression.
- Major main line breaks that could drain a District reservoir in a short period of time will require that the reservoir be isolated from the system by closing the main reservoir inlet/outlet valves. Note: Certain conditions must be quickly and accurately analyzed, such as fire suppression and public safety, before a reservoir can be isolated.

Priority 3 Emergency Repairs

Repairs will be based on:

1. Safety and public health consideration
2. Impact on the system's operations
3. Impact on customers

Priority for repairs would be:

1. Repair of mains
2. Repair of mains that provide flow for fire fighting
3. Repairs to pipelines providing service to hospitals and critical care facilities (**Table 2-6**)
4. Repairs to mains serving large numbers of customers
5. Repairs to mains serving businesses

Procedure for repairs

1. Emergency repairs shall be made in accordance with the City's water works practice and specifications. Temporary repairs using clamps and other pipe repair devices may used while the system pressure is maintained.
2. The Operations Section Manager shall be in charge of each task. Personnel, materials and equipment shall not be employed without the immediate or remote direction of the Superintendent or the Foremen.

3. The Operations Section Manager shall first be consulted when emergency response conditions subject employees to serious personal risk.
4. Chlorination of pipelines and mains may be necessary to decontaminate pipelines that have been exposed and compromised (per AWWA C651-14 Disinfecting Water Mains). Water quality monitoring should be conducted to ensure pipelines are properly decontaminated.

Recovery and return to service

1. Localize affected area
2. Start flushing
3. Flushing should be done based on hydraulic specifics of the distribution system in the affected area. Attention should be paid to the lowest point of the flushing area.
4. Bacti should be taken after flushing. Include HPC and speciation.
5. Restore water production and distribution system to their original condition
6. Prepare an After-Action Report (**Appendix G**).

Public health will be protected through the use of notifications (Section 2.5). Chlorination of pipelines and mains may be necessary to decontaminate pipelines that have been exposed and compromised. Water quality monitoring should be conducted to ensure pipelines and properly decontaminated.

3.1.6 Priority Access for Water Utility Response

The U.S. Department of Homeland Security's (DHS) Office of Infrastructure Protection has developed, through a collaborative public private initiative the Crisis Event Response and Recovery Access (CERRA) Framework which outlines recommended protocols for first responder access and specifically emphasizes the water sector's need for immediate access during emergencies. The CERRA Framework assists with the management of access and re-entry issues and facilitates greater cross jurisdictional interoperability nationwide. The CERRA Framework focuses on supporting state, local, and regional efforts to enable the successful transit and access of critical response and recovery resources before, during, and after emergencies, regardless of incident size.

Use of a common approach for managing access and phased re-entry is particularly important during incidents that require significant population evacuations to ensure the flow of essential commodities, coordination of public or private sector response and recovery assets, and restoration of critical infrastructure and essential public services, as well as a safe and orderly return of community members to an affected area.

Critical infrastructure and public facility stakeholders (i.e., water utilities) require access and entry to enable response and recovery activities, and to expedite recovery and return to normalcy. A phased approach for entry may be utilized. Utilities should be allowed entry at the highest level along with emergency responders (i.e., law enforcement, fire, medical) to address immediate utility needs (e.g., shutting off broken water mains). During emergencies, water and wastewater utility personnel may need the same degree of access as other first responders to enable emergency response operations; or to maintain municipal and community lifelines. Water utility personnel often require prompt access to damaged assets both at the treatment facility and within the distribution or collection systems (e.g., pump stations, damaged water lines, reservoirs), even though they may not be directly involved in the lifesaving portion of the incident.

A jurisdiction may utilize paper or electronic-based access tokens as part of its access authorization process or leverage existing secure identity verification or credentialing methods to enable access. These secure forms of identification, along with a valid need to enter, may provide a high level of assurance in making the access decision.

Access tokens are paper-based, identification-card based, or electronic-based elements (e.g., vehicle placards and letter of access; recognized credentials and access cards; mobile tokens) used at access checkpoints to enable law enforcement or other checkpoint personnel (e.g., National Guard, or private security) to validate approval for access. Appendix C of the CERRA Framework provides examples for access card, placards, and letters of access. The following are recommendations:

- Inquire with law enforcement and fire department to see if they utilize access tokens
- Use vehicle placards
- Ensure identification badges express information needed by law enforcement to verify and approve access
- Consider preparing and having approved through the county or state EOC, letters of access (LOA). Keep them available (e.g., in vehicles)
- Ensure the ability to identify and support access of water utility chemical suppliers, fuel delivery, and mutual assistance assets

https://www.cisa.gov/publication/crisis-event-response-and-recovery-access

3.1.7 Surveillance and Inspection

Patrol routes should be conducted to provide a preliminary damage evaluation of the distribution system and facilities. Operators shall review SCADA alarms routinely. Operators shall report information to the Operations Manager in the EOC. Staff shall be directed to conduct patrols when it is safe to do so. Staff will be assigned to the inspection routes as shown in **Table 3-2**.

Patrol routes should be conducted to evaluate the distribution system and facilities for any damage (e.g., leaks). Staff shall be directed to conduct patrols when it is safe to do so. Each operator should review SCADA alarms routinely.

Inspections will be conducted for earthquakes and other hazards, as necessary. When the inspection has been completed, operators will contact the Operations Manager and report on damage to the system. The Operations Manager will inform the IC on the Status of the System. The Operations Manager will be responsible for keeping the IC informed on status of the system.

Inspection forms and procedures are in **Appendix C**.

- **Appendix C-1** Reservoir Inspection Form
- **Appendix C-2** Ruptured Reservoir Procedure
- **Appendix C-3** Pump Station Inspection Form
- **Appendix C-4** Chlorinator Inspection Form
- **Appendix C-5** Street Inspection Form
- **Appendix C-6** Source Water and Connections Inspection Form
- **Appendix C-7** Water main or service leak repair
- **Appendix C-8** Fire hydrant emergency repair

The pumps will remain off until the reservoirs and pipelines have been determined to be safe, operable, and without any water quality problems. The EOC will determine when pumps will be resumed. IC or Operations Manager will notify operators when to turn on the pumps.

Table 3-2 Inspection Routes

Route	Areas to Inspect	Inspection Route Forms
A	• Wells 2A • Wells 4A • Wells 7A and treatment • MWD connection • MWD Pump Station	• **Appendix C-1** Reservoir Inspection Form • **Appendix C-2** Ruptured Reservoir Procedure • **Appendix C-3** Pump Station Inspection Form • **Appendix C-4** Chlorinator Inspection Form • **Appendix C-6** Source Water and Connections Inspection Form
B	• Hubbard Pump Station • Arroyo Pump Station	
C	• Lower Reservoirs • Upper Reservoirs	
D	• Distribution system • Emergency connection LADWP	• **Appendix C-5** Street Inspection Form • **Appendix C-6** Source Water and Connections Inspection Form • **Appendix C-7** Main or Service Leak Repair • **Appendix C-8** Fire Hydrant Repair

3.1.8 Physical Access

Physical access to facilities must be maintained and accessible. **Table 3-3** describes actions available to maintain accessibility.

Table 3-3: Access to Facilities

Item	Description
Debris clearing	Contractors will be used to clear debris from roadways and rights of way.
Alternate routes	Staff will maintain contact with county, state, and local officials to receive status updates/alerts on road conditions. Staff will search for alternate routes to facilities and structures utilizing various mapping applications (e.g., Google Maps).
Identification badges	Critical staff (management, water system operators) have access identification cards with the back side indicating access permission as emergency responders.

3.1.9 Physical Security

San Fernando maintains a basic physical security system to deter, detect, delay and defend the critical assets. There are fencing and security locks at all the facilities. Intrusion alarms are only located at reservoirs and pump stations. There is no video surveillance at any of the water facilities. San Fernando has experienced a very low incidence of crime (e.g., theft, vandalism, graffiti). However, the Upper Reservoirs have nearby homeless

encampments and criminal activity has occurred. The area is a low level risk for criminal or terrorist activity. **Table 3-4** shows the elements of the physical security program.

The Water Department conducts routine safety meetings. Staff will utilize the AWWA Let's Talk Safety: 52 talks on Common Utility Safety and cover emergency response and security topics. Executive management and City Council will receive threat level updates from the Police Department and adjust their procedures accordingly. The City Disaster Council, comprised of executive staff, Red Cross, and others will discuss any risk or threats. The Water Department follows the unwritten policy "See Something, Say Something" encourages all employees to report suspicious activities.

Table 3-4: Physical Security

Item	Description
Fences, gates, and locks	All facilities have perimeter control (e.g., fencing) and locked entrance gates. 12-foot wrought iron and six-foot chain link fencing are used at various locations to ensure perimeter control.
Access control procedures	Entry to the Water Operations offices in the Public Works Building requires access code entry. The Lower Reservoirs (2A and 5) are surrounded by fencing with an automatic gate secured by an access code keypad. The Upper Reservoirs (3A and 4) are secured by locked gate but are scheduled to have electronic access control installed in Fall of 2022. Access codes are unique to each individual and deactivated upon termination or retirement. All contractors and vendors are assigned the same access code, and upon termination of contract or service, the code is changed.
24/7 monitoring	Intrusion alarms are in place at reservoirs, wells, and pump stations. If alarms are triggered, operators are notified through SCADA. If needed, operators will contact the San Fernando Police.
Lighting	All entrance doors have security lighting throughout the night. Well sites have LED security lighting and the Upper and Lower Reservoirs have security lighting provided by LADWP.
Restricted areas	All facilities have restricted access to only staff. Operators and supervisors have keys and access codes to all water system facilities.
Intrusion alarms	Intrusion alarms are in place at reservoirs (except Upper Reservoirs), wells, and pump stations. The Arroyo Pump Station is open to the atmosphere and only the SCADA cabinet is alarmed. All reservoirs have intrusion alarms located on their hatches.
Door alarms	Door alarms are at all facilities.
Patrols	All facilities have routine daily patrols.
Deliveries	Sodium hypochlorite deliveries are scheduled when needed. Visual inspection and specific gravity testing is done on a monthly basis.
Visitors	Visitors are required to be escorted by City staff.
Contractors and consultants	Contractors are bonded and held by conditions of the contract to ensure security. Contractors are also vetted through history of performance. Contractors are monitored and allowed limited access. All contractors are assigned the same access code and it is changed upon termination of services.
Materials and supplies	Materials are stored in containers and monitored daily.
Vehicles	Vehicles are kept locked.
Evidence protection measures	Follow law enforcement procedures to protect evidence in for any criminal investigation.

Item	Description
Vandalism	Vandalism, graffiti and any perimeter or facility damage is addressed immediately. Graffiti is handled by a City of Los Angeles contractor and security breaches are handled by Public Works staff. Patrols include observations for vandalism, graffiti or any perimeter (e.g., fence) damage.
Security culture	The Water Department promotes a culture whereby every person understands, appreciates, and contributes to enhanced security. New employees are given handbooks which cover all policies and procedures. All employees may file incident reports which go to the Public Works Director or fill out police reports. Supervisors and managers may fill out internal investigation reports.
Alerts and warning	Management is kept informed of any security issue and may receive alerts from San Fernando Police and Fire Department, Los Angeles County Sheriff, CalWARN, AWWA, and EPA.

3.1.10 Cyber Security

City IT staff provide technical cybersecurity support for the business enterprise system (BES) and SCADA system. **Table 3-5** lists actions necessary during a cyber incident. Section 3.2.8 (**Appendix F-6**) describes and includes the cyber security incident specific procedure. Section 4.8 describes the City's mitigation actions that reduce the risk to cyber security.

Table 3-5: Cybersecurity

Item	Description
Disconnect procedure	If possible, disconnect compromised computers from the network to isolate breached components and prevent further damage, such as the spreading of malware.
Notification	Monitoring systems will notify IT staff of any network intrusions. Firewalls provide real time notification of intrusion. If a potential cyber security issue is encountered, City IT staff will readily investigate. Staff will notify their manager, who will then make external communications as needed. External notifications may Include any state resources that may be available such as Police, FBI, National Guard Cyber Division or mutual aid programs, as well as the Department of Homeland Security National Cybersecurity and Communications Integration Center (NCCIC) (888-282-0870 or NCCIC@hq.dhs.gov).
Assess procedure	Staff will assess any damage to utility systems and equipment, along with disruptions to utility operations.
Implementation processes	If the SCADA system is compromised, IT staff can disconnect/disengage and implement actions to restore operations of mission critical processes (i.e., switch to manual operation if necessary or possible).
Documentation	Include forms to document key information on the incident, including any suspicious calls, emails, or messages before or during the incident, damage to utility systems, and steps taken in response to the incident (including dates and times).
Other	IT staff provide security training on an as needed basis and will notify staff not to open suspicious emails. Staff login passwords are changed every 90 days and passwords cannot be reused for 10 password changes.

3.1.11 Power Loss

The loss of electric power can have profound impacts on drinking water and wastewater utilities. Sometimes the loss of power can be caused by events that can be predicted in advance such as hurricanes or wind storms.

Other power outages, such as those caused by earthquakes or cyber incidents may occur with little or no notice. In California, the Public Safety Power Shutoff program allows electric companies to proactively shut off grid power to customers, including water utilities, to reduce fire ignition potential in high risk areas when extreme conditions present a clear and imminent danger to public safety.

The impacts of losing grid power at drinking water utilities may include pressure losses and boil water advisories, a reduction or cessation of water treatment and loss of pump stations. The consequences of these impacts on the community could be devastating:

- Firefighters would not be able to access water from hydrants.
- Local healthcare facilities and hospitals may have to evacuate patients or close.
- Restaurants and businesses may have to close, resulting in economic losses. Homes, businesses and healthcare facilities may become unsanitary and uninhabitable.
- Environmental damage could occur.

Main Office

The on site generator (**Table 1-12**) will be put into operation to provide power to operate lighting, telemetering, phone and radio communications.

Pump Stations and Wells

May need to adjust system flow using imported water connections to make up for lost well water production from facilities that have lost power.

Table 3-6 lists some actions to address power outage.

Table 3-6: Power Loss

Item	Description
Backup power systems	The City maintains stationary generators for the pump stations (**Table 1-12**) to ensure continued delivery of water through the system. All the generators have an automatic transfer switch to provide uninterrupted power. Outages and run time is to be logged.
Power utility	Notify SCE and LADWP of power outage and affected circuit. Contact information for SCE and LADWP are listed in **Table 2-5**.
Fuel plan	Operating hours for the stationary emergency generators based on full tanks size and are listed in **Table 1-12**. Fuel is available at the City Yard and local service stations (**Table 1-13**).
Maintenance plan	The City maintains a contractor (**Table 1-16**) to conduct routine maintenance on the emergency generators.
Power Outage Incident Response Procedure	Section 3.2.3 and **Appendix F-3**.
System power re-established	Field staff will check all sites to determine if normal operations has taken place and generators are returned to standby mode.

3.1.12 SCADA Failure

In the event of SCADA failure operators should conduct the following:

1. Initial check of office SCADA System equipment to determine if system needs to be rebooted. Check to be sure that electrical power is available.
2. If electricity is on, proceed with rebooting the SCADA computer terminal.
3. If the SCADA system cannot be made operational, then immediately call SCADA contractor (**Table 1-14**).
4. Begin checking the individual pump stations and reservoir sites to determine if the pumps are operating and if reservoir levels are correct. Write down the status at each site and the time when each site was checked.
5. Return to office with system information and attach it to the Daily Operations Report
6. Notify the IC or Operations Section Manager of the system status.
7. Conduct regular facility checks, as described in item (4) above will be necessary at a minimum of every four hours, until the SCADA System has returned to normal operation.

3.1.13 Water Agency Coordination

The City will maintain communication with MWD. Contact information is located in **Table 2-4**. Situation status reporting to and from the agencies will be conducted during each operational shift during an event.

3.1.14 Sampling and Analysis

Sample collection kits should generally contain all sample containers, materials, supplies, and forms necessary to perform sample collection activities. Sample collection kits can be standardized throughout an area to facilitate sharing of kits in the event of an emergency that requires extensive sampling. Collection of a complete sample set is more likely to be achieved through the use of predesigned kits. Sample collection kits can be pre-positioned at key locations to expedite the sampling process. Determine sample collectors and alternates.

Standard collections sites should include:

- Reservoirs
- Source water intakes
- Production wells
- Pump stations
- Representative points in the distribution (e.g., selected sites from bacteriological or disinfection by-product monitoring programs)

The sample collection kits should include:

- Large plastic container or ice chest for holding sample kit supplies
- Field resources and documentation
- General sampling supplies, including sample containers
- Pathogen sampling supplies
- Reagents
- Safety supplies

Sampling containers* depend on the constituent analyses. Analyses may include:

- Volatile organics
- Semi-volatile organics (including pesticides)
- Metals
- Cyanide
- Radiologicals
- Pathogens
- Water Quality Bacteria (e.g., fecal coliforms, E. coli)
- Water Quality chemistry (e.g., alkalinity, hardness, turbidity)

- Surrogates (e.g., total organic carbon)

* *Sample container suggestions are discussed in Table 3-1 of the EPA Module 3 Response Toolbox. It is important to contact the contract laboratories (**Table 3-6**) to get specific instructions, bottles, preservatives and supplies for sampling kits.*

Work with the contract laboratory and DDW to evaluate and interpret results.

Emergency water sampling kits are likely to receive little actual use and may remain in storage at predetermined locations for extended periods, during which time reagents may expire. To ensure that sample collection kits are properly maintained, it is recommended that they be dated and periodically refurbished on at least an annual basis. At a minimum, sample containers with preservatives should be replaced with fresh containers, and the contents of the kit should be inspected to ensure that it is complete and all items are still functional. Expired kits can be used in field drills, which provides an opportunity to train staff and verify that the equipment is functional.

The City will conduct sampling and transport samples to the contract laboratories.

Reference
EPA Response Toolbox
https://www.epa.gov/sites/production/files/2015-06/documents/module_3.pdf

3.1.15 Contract Laboratories

Table 3-7 shows the contract laboratories for water quality testing.

Table 3-7: Contract Laboratory Contact List

Laboratory	Address	Phone	Email or Website
Eurofins Laboratory	750 Royal Oaks Dr. Suite 100 Monrovia, CA 91016	(626)-386-1100 main (626)-386-1104	https://www.eurofins.com/ Lab Manager: Alejandra Gomez

The City's laboratory capabilities are chlorine residual, pH, temperature, and nitrate.

3.1.16 Personnel Safety

The safety of City staff, emergency responders, and the public is paramount during any emergency. **Appendix D** provides basic safety information and procedures to be followed in an emergency. Injuries shall be reported to the EOC. If injuries are beyond first aid and require emergency medical contact 911. If emergency medical is not needed then transport the person to the nearest hospital emergency room (**Table 1-13**). OSHA reportable injuries shall be called into CalOSHA (**Table 2-5**).

- **Appendix D-1** Personal Safety Procedure
- **Appendix D-2** Facility Fire Safety Procedure
- **Appendix D-3** Approaching an Unoccupied Site
- **Appendix D-4** Discovery of a Crime Scene

3.1.17 Family and Utility Personnel Well Being

Family emergency plans are needed for staff that may be on duty for extended periods of time. Family plans are also needed for all staff to ensure the safety of the family (see **Appendix E** for FEMA Family Plan template).

Staff required to report for critical duties and response must first ensure the safety of their respective families. Alternate staff must be available.

Table 3-8 lists safety personnel and family safety information.

Table 3-8 Family and Utility Personnel Well Being

Item	Description
Family disaster plan	Implement your family plan to ensure their well-being during an incident. See **Appendix E** for easy to use FEMA template.
Evacuation Assembly area	• Main Office - Parking lot of Main Office during work hours (**Figure 3-1**).
Supplies	• Tarps/tape/rope • Cots/blankets • First aid and bleeding control kits (are available at staffed facilities) • Flashlights and flares • Bottled water for emergency crews • Non-perishable food • Toilet paper • Paper towels • Soap and hand sanitizer
Alternate work and shelter locations	Personnel may need to work from home. Or, they may need to shelter at a hotel or at the Main Office if conditions do not permit travel home. Tele work instructions will be provided if needed.
Extreme temperatures	Staff will follow high heat procedures.

3.1.18 Training

All field personnel are cross-trained to perform all field operational and maintenance functions. This is to ensure there are adequate staff to operate the system.

All City personnel involved in emergency response will receive initial and refresher instructional training on emergency response specific to the City role in a disaster. Incident specific exercise drills (e.g., tabletops, functional exercise) will be conducted annually. The training will be conducted annually or when any of the following occurs:

- New employees are hired.
- Special emergency assignments are designated to operations staff.
- New equipment or materials are introduced.
- Procedures are updated or revised.

The training sessions will consist of one of the following programs:

Initial and Refresher Sessions: These sessions will provide an orientation and explanation of the ERP procedures. Written tests may be used to ensure some level of comprehension by the attendees.

Table Top Workshop: Table top workshops involve developing scenarios that describe potential problems and providing certain information necessary to address the problems. The idea is to present staff and emergency

response officials with a fabricated event, have them verbally respond to a series of questions, and then evaluate whether the responses match what is written in the ERP.

Functional Exercises: The functional exercise is designed to simulate a real major event. The functional exercise is considered the most effective training tool, next to a real emergency, because a team of simulators is trained to develop a realistic major event. By using a series of pre- scripted messages, the simulation team sends information in to personnel assigned to carry out the ERP procedures. Both the simulators and personnel responding to the simulation are focused on carrying out the procedures to test the validity of the ERP.

Full-scale Drills: These are the most costly and time- consuming training programs, but can be extremely effective. In a full-scale drill, emergency response personnel and equipment are mobilized to a scene, an emergency scenario is presented, and they respond as directed by the ERP.

NIMS Training

The designated Incident Commander and Operations Section Manager, as assigned in the Emergency Response Plan, must take (one-time) the National Incident Management System (NIMS) Incident Command System Training online courses:

- IS-100.C: Introduction to the Incident Command System, ICS 100
  https://training.fema.gov/is/courseoverview.aspx?code=IS-100.c
- IS-700.B: An Introduction to the National Incident Management System
  https://training.fema.gov/is/courseoverview.aspx?code=IS-700.b

The City will provide new employees with a copy of the ERP during the initial meeting for study. A second meeting will be scheduled and questions will be asked regarding the ERP to determine whether or not the new employee understands the ERP and how it will be utilized in an emergency, if necessary. Changes or updates to the ERP will be distributed to each employee for review and will be presented and reviewed with the entire staff at a special meeting.

3.2 Incident-Specific Response Procedures

The City's ERP serves as multi-hazard response plan. It is applicable to a variety of hazards (e.g., earthquakes, floods, wildfires, storms). Specific incident specific plans have been developed to address high risk hazards.

3.2.1 Earthquake Procedure

Procedure/checklist

Appendix F-1 is an earthquake incident specific procedure to prepare for, respond to, and recover from an earthquake incident. The procedure addresses: initial response, operational response, documentation, demobilization and after actions, and preparation prior to an event

Vulnerability

An earthquake is caused by the shifting of tectonic plates beneath the Earth's surface. Ground shaking from moving geologic plates collapses buildings and bridges, and sometimes triggers landslides, avalanches, flash floods, fires and tsunamis. The strong ground motion of earthquakes has the potential to cause a great deal of damage to drinking water and wastewater utilities, particularly since most utility components are constructed from inflexible materials (e.g., concrete, metal pipes). Earthquakes create many cascading and secondary impacts that may include, but are not limited to:

- Structural damage to facility infrastructure and equipment
- Water tank damage or collapse

- Water source transmission line realignment or damage
- Damage to distribution lines due to shifting ground and soil liquefaction, resulting in potential water loss, water service interruptions, low pressure, contamination and sinkholes and/or large pools of water throughout the service area
- Loss of power and communication infrastructure and SCADA
- Restricted access to facilities due to debris and damage to roadways

3.2.2 Wildfire Procedure

Procedure/checklist

Appendix F-2 is a wildfire incident specific procedure to prepare for, respond to, and recover from a wildfire incident. The procedure addresses: initial response, operational response, documentation, demobilization and after actions, and preparation prior to an event

Vulnerability

A wildfire is any instance of uncontrolled burning in grasslands, brush or woodlands. Wildfires can be caused by lightning, human carelessness or arson. Wildfires often begin unnoticed spread quickly and present a direct risk to property and infrastructure, in addition to potential degradation of the water supply. In some cases, source water quality issues can persist for 5-10 years following a wildfire. Areas that have experienced a wildfire are also at an increased risk of flash flooding and mudslides because the ground where vegetation has burned away cannot effectively absorb rainwater. Often, post-fire impacts (including those impacts resulting from flash floods) are more detrimental to drinking water and wastewater systems than the fire itself. Specific impacts to drinking water utilities may include, but are not limited to:

- Infrastructure damage to the facility or distribution system due to proximity to the fire or firefighting activities
- Loss of water quantity due to increased withdrawals for firefighting activities
- Source water quality changes due to increased nutrients and other pollutants, which can result in higher turbidity, algal blooms, potential odor and taste issues, and subsequent higher treatment costs
- Increased sediment in reservoirs as a result of runoff and flash floods from burned areas, which can affect water quality, and reduced reservoir capacity and effective service lifespan

3.2.3 Power Outage Procedure

Section 3.11 discusses the impacts that power loss can have on a water utility.

Appendix F-3 is a power outage incident specific procedure to prepare for, respond to, and recovery from a power outage that may occur from system provider failure, Public Safety Power Shutoff (PSPS), earthquake, or other hazards. The procedure addresses: initial response, operational response, documentation, demobilization and after actions, and preparation prior to an event.

3.2.4 Storm Procedure

Procedure/checklist

Appendix F-4 is a storm incident specific procedure to prepare for, respond to, and recover from a storm incident. The procedure addresses: initial response, operational response, documentation, demobilization and after actions, and preparation prior to an event

Vulnerability

Storms can lead to flooding and damaging winds. Flooding is common throughout much of the United States and can be caused by heavy precipitation events, storm surge, levee or dam failures or inadequate drainage. Heavy winds (e.g., Santa Ana winds) are common seasonally in Southern California. These events often occur with little or no notice, and can cause extensive damage to drinking water infrastructure. Flooding and wind impacts to utilities often include, but are not limited to:

- Infrastructure damage, possibly resulting in service interruptions
- Pipe breaks due to washouts, up-rooted trees, etc., which could result in cross contamination or low water pressure throughout the service area
- Debris blockage at an intake or unearthed water lines due to falling trees
- Loss of power and communication lines
- Water quality changes to source waters and treated effluents, including increased turbidity, increased nutrients and other potential contaminants
- Restricted access to the facility due to debris, flood waters and damage to roadways from washouts and sinkholes
- Loss of water quality testing capability due to restricted facility and laboratory access and damage to utility equipment

3.2.5 Water Contamination Procedure

Human-caused events

Human-caused events that can result in a water system emergency include chemical spills, vandalism, intentional contamination, cyber-attack, fires, construction accidents, and basic neglect of water system infrastructure and maintenance.

- Vandalism: Can lead to accidental contamination.
- Intentional contamination: The use of chemical, biological or radiological materials to contaminant the water supply.
- Aging infrastructure: Can contribute to unintentional contamination (e.g., lead or other corrosion by-products.
- Cross Connections: Contamination can occur when another source (e.g., recycled water) backflows through the system.
- Backflow: Unprotected cross-connections can provide a path for biological, chemical, or physical contaminants.
- Construction accidents: System may lose pressure and allow for backflow contamination.
- Chemical spills: Chemical used at the City's facilities or in proximity to City's facilities may cause contamination of the water supply.
- Sewage spills: Accidental discharges can impact source waters.

The EPA Drinking Water Utility Response Protocol Toolbox provides guidance on how to plan for, manage, and respond to contamination threats.

https://www.epa.gov/waterutilityresponse/drinking-water-and-wastewater-utility-response-protocol-toolbox#DWRPTB

3.2.6 Pandemic Procedure

A pandemic is a disease outbreak that spans several countries and affects a large number of people. Pandemics are most often caused by viruses, like Coronavirus Disease 2019 (COVID-19), which can easily spread from person to person.

Procedure/checklist

Appendix F-5 is a pandemic incident specific procedure to prepare for, respond to, and recovery from a pandemic incident. The procedure addresses: initial response, operational response, documentation, demobilization and after actions, and preparation prior to an event

Vulnerability

When a pandemic strikes the impacts to water utilities include:

- Staff shortages due to absenteeism
- Supply chain disruptions (chemicals, materials, personal protective equipment, fuel)
- Field operations interruptions (repairs, meter reading, sampling)
- Inability to maintain operations

3.2.7 Drought Procedure

Droughts are an issue in California and can have devastating effects on water supplies. During normal years, peak summer demands can double and even triple water use. These same demands during low water years can lead to water shortages which can cause low pressure problems, boil-water advisories, and possible need for hauled water.

The Urban Water Management Plan (2020) discusses the reliability planning for droughts. MWD strives to meet the water needs of Southern California by developing new projects to increase the capacity of its supplies while encouraging its member agencies to develop local supply projects to meet the needs of its customers. Also, MWD is committed to developing and maintaining high-capacity storage reservoirs, such as Diamond Valley Lake, to meet the needs of the region during times of drought and emergency. The City works in conjunction with MWD to implement conservation measures within the framework of MWD's Water Shortage and Drought Management (WSDM) Plan. The WSDM Plan was developed in 1999 by MWD with assistance and input from its member agencies. The plan addresses both surplus and shortage contingencies. MWD's WSDM Plan documents the stages of action that it would undertake in response to a water supply shortage.

3.2.8 Cyber Procedure

Procedure/checklist

Appendix F-6 is a cyber security incident specific procedure to prepare for, respond to, and recover from a cyber security incident. The procedure addresses: initial response, operational response, documentation, demobilization and after actions, and preparation prior to an event.

Vulnerability

Cyberspace and its underlying infrastructure are vulnerable to a wide range of hazards from both physical attacks as well as cyberthreats. Sophisticated cyber actors and nation-states exploit vulnerabilities to steal information and money and are developing capabilities to disrupt, destroy or threaten the delivery of essential services such as drinking water and wastewater.

As with any critical enterprise or corporation, drinking water utilities must evaluate and mitigate their vulnerability to a cyber incident and minimize impacts in the event of a successful attack. Impacts to a utility may include, but are not limited to:

- Interruption of treatment, distribution or conveyance processes from opening and closing valves, overriding alarms or disabling pumps or other equipment

- Theft of customers' personal data such as credit card information and social security numbers stored in on-line billing systems
- Defacement of the utility's website or compromise of the email system
- Damage to system components
- Loss of use of industrial control systems (e.g., SCADA system) for remote monitoring of automated treatment and distribution processes

Cyber incidents can compromise the ability of water and wastewater utilities to provide clean and safe water to customers, erode customer confidence and result in financial and legal liabilities.

3.2.9 Civil Unrest

Procedure/checklist

Appendix F-7 is a civil unrest incident specific procedure to prepare for, respond to, and recover from a civil unrest incident. The procedure addresses: initial response, operational response, documentation, demobilization and after actions, and preparation prior to an event.

Vulnerability

Civil unrest may occur as a period of social upheaval during heightened community tension or at mass gatherings such as sporting events, concerts and political conventions. The safety risk for fire and emergency medical services (EMS) personnel responding to these fluid incidents may be elevated.

3.2.10 Sabotage, Arson

Procedure/checklist

Appendix F-8 is an arson and sabotage incident specific procedure to prepare for, respond to, and recover from a civil unrest incident. The procedure addresses: initial response, operational response, documentation, demobilization and after actions, and preparation prior to an event.

Vulnerability

Arson is the willful, malicious, intentional and/or reckless burning of your property or someone else's. Wildfire arson takes place on underdeveloped wildland or uncultivated land comprised of forest, brush or grassland. Sabotage is the deliberate action to destroy, damage, or obstruct something, especially for political or military purposes.

Sabotage includes intentional destruction of infrastructure (e.g., power plants, water treatment, distribution, and conveyance system. This is in addition to intentional contamination acts (Section 3.2.5).

Vandalism is generally a spur-of-the-moment act using materials at hand rather than pre-planned or pre-meditated activities. Vandals often break into systems, damage facilities, and paint graffiti. Vandalism is typically a nuisance and not serious. These acts are relatively easy to prevent by enhancing security, increasing lighting, installing locks on doors and hatches, and putting up security fencing. Vandalism also involves actions involving deliberate destruction of or damage to public or private property. The City addresses vandalism expeditiously (**Table 4-3**).

3.2.11 Aging Infrastructure

System neglect, often referred to as deferred maintenance, is a major cause of emergencies. System components that are aging and need replacement go without attention causing an emergency situation. Drinking water systems need to continuously evaluate infrastructure and replace them before a failure occurs.

The City has a proactive O&M and Capital program to address infrastructure (Sections 4.6 and 4.7).

4 MITIGATION ACTIONS

This section contains actions, procedures, and equipment which can obviate or significantly lessen the impact of a malevolent act or natural hazard on the public health and the safety and supply of drinking water provided to the community and individuals, including the development of alternative source water options, system reliability, mutual aid, physical and cyber security, operations and maintenance programs, and capital programs.

4.1 Interconnected Utilities

4.1.1 Interconnected Utilities and Emergency Interconnections

The City's water supply system also includes an emergency connection with the City of Los Angeles Department of Water and Power's (LADWP) distribution system. During emergencies, this connection enables the City to provide a minimum amount of water to its citizens (**Table 4-1**).

Table 4-1: Alternate Water Options – Interconnected Utilities

Site Name	Location	Size (in.)	Connection From	Connection To	Maximum Capacity (gpm)
LADWP	12900 Dronfield Ave (adjacent to Reservoirs 2A and 5)	6	LADWP distribution system	Reservoirs 2A and 5	1,515 at 90 psi

4.1.3 Amount of water needed for Various Durations

Typical residential water usage in the United States is on the order of 300 to 500 gallons per residence per day, or 100 to 150 gallons per capita per day. Although these amounts can typically be significantly reduced during crisis situations,

4.1.3 Emergency Drinking Water Supply

The City will work with CalWARN and the State and County OES to procure bulk water supplies if needed. Staff will purchase bottled water from grocery stores (**Table 1-13**) for main breaks that affect small portions of the system.

Table 4-2: Emergency Alternate Drinking Water Supplies

Vendor	Notes	Vendor
Blue Can Water* 8309 Laurel Canyon Blvd Suite #219 Sun Valley, CA 91352 818-450-3290 http://www.bluecanwater.com/	Available by case: Distribution point (notify public of location):- to be determined per event. Available by case and pallet – 12 oz cans 50 year shelf life Also available at independent dealers	Blue Can Water* 8309 Laurel Canyon Blvd Suite #219 Sun Valley, CA 91352 818-450-3290 http://www.bluecanwater.com/
Bulk water	Will work with CalWARN, state and county OES. Distribution point (notify public of location): to be determined per event.	

* Interconnections are listed and described in Section 4.1

4.1.4 Alternate Fire-fighting Water Sources

If the water becomes contaminated with substances which render it unsafe to be used for fire fighting, then an order will be issued to discontinue use of the affected fire hydrants. Alternate sources for fire fighting water should be communicated to the fire department.

4.2 Emergency Chlorination Plan

The emergency chlorination plan is designed to address situations where the bacteriological quality of the water may have been compromised. The Emergency Chlorination Procedure provides steps to evaluate disinfectant levels and add chlorine to increase the chlorine residual in the system (**Appendix H**). If the loss of chlorine is from the reservoirs, the reservoirs can be isolated to address the problem.

4.3 Mutual Aid/Assistance

The City will request assistance from MWD and the other agencies as needed. The City will assist other utility companies and agencies within the area, if feasible.

4.3.1 CalWARN and Raymond Basin Emergency Response Program

California Water/Wastewater Agency Response Network (CalWARN) is a mutual aid organization whose mission is to support and promote statewide emergency preparedness, disaster response, and mutual assistance processes for public and private water and wastewater utilities.

The CalWARN Program provides its member utilities with:

- A standard omnibus mutual assistance agreement and process for sharing emergency resources among Signatories statewide.
- The resources to respond and recover more quickly from a disaster.
- A mutual assistance program consistent with other statewide mutual aid programs and the Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS).
- A forum for developing and maintaining emergency contacts and relationships.

- New ideas from lessons learned in disasters.

4.4 Physical Security and Access Control

Physical security and access control are discussed in Section 3.1.9 (**Table 3-4**). Minor thefts and minor break-ins have occurred. There have been thefts of metals at the facilities, and Reservoir 4 had the hatch opened. When the hatch was opened the Water Department immediately isolated and tested the reservoir. No other physical security incidents (e.g., sabotage, intentional contamination) have occurred in the past five (5) years.

4.5 Emergency Response Planning

Emergency Response Planning provides the ability to respond to unplanned events and restore operations as quickly as possible. This is addressed through Emergency Response Plan, Business Continuity Planning, Information Technology Security, Mutual aid, and Inter Agency connections. Operators will follow the Incident Action Plan (IAP) to continue to provide water service (Section 3.1.5).

Emergency call-out procedure is included in the ERP (Section 3.1.2) to ensure staff assigned to the Emergency Response Organization are activated and given directions to report. SIMS/NIMS training (Section 3.1.18) is a one-time requirement for the individuals serving as IC and Operations Section Manager (i.e., Director of Public Works, Superintendent of Water System, any designated operator) for the City's emergency response organization (**Table 2-1**).

4.6 O&M Programs

The City maintains a time and condition-based maintenance management program. The program routinely inspects, evaluates performance, conducts maintenance repairs and replaces critical equipment. The following programs help strengthen the resiliency of the system.

4.6.1 Valve Maintenance and Exercise Program

Operational main line valves in the distribution system are physically exercised, "turned down and up", annually. There are approximately 1,500 valves and the goal is to exercise about 750 per year. Work is conducted on a monthly basis and staff utilizes a grid system to select which valves will be serviced. During valve inspection, the slip can is inspected for any damage, the riser itself is freed of any debris, valve caps are re-painted, and leaking valves are replaced. See Operations Manual 1997 for more detail.

4.6.2 Air/Vac maintenance program

There are a total of six (6) air/vac valves in the distribution system and they are replaced every 10 years. Four (4) valves were replaced in 2014 and two (2) valves are planned to be replaced in 2021.

4.6.3 Blow-off and flushing maintenance program

This program includes all blow-offs, dead ends, low flow areas, and fire hydrants. Maintenance and inspection are conducted alongside the valve program. On a monthly basis, operators will visit designated sites and flush them. During this process, the effluent "flushing" water is dechlorinated and introduced into the sewer system or and storm drains. The flushing locations are listed in the Operations Manual 1997.

4.6.4 Pump and motor maintenance and inspection program

Pumps and motors are inspected daily and have annual oil changes. If rehabilitation is needed, it is handled by a contractor (**Table 1-14**). The City's goal is to replace the pumps and motors every 10 years.

4.6.5 Reservoir maintenance and inspection program

On a daily basis, operators visit each site to inspect the landscaping and perimeter control. Every 10 years, reservoirs are internally inspected by a contracted diver (**Table 1-14**), and repairs are made with epoxy coating if needed.

4.6.6 Chlorinator and Sodium Hypochlorite Production program

On a daily basis, operators inspect the facilities and conduct chlorine residual checks. On a monthly basis, a system log review is conducted. Facility repairs are made on an as needed basis.

4.6.7 Fire hydrant program

Repaired or replaced as needed by operators.

4.6.8 Distribution mains (leaks)

City staff will make main repairs on an as needed basis, but if the breaks are too large, they are handled by a contractor or the Capital Program. The City does not have a leak detection program, but makes roughly 50 repairs annually.

4.6.9 Meter testing and replacement program

No testing is conducted and meters are replaced if they are 15 years or older.

4.6.10 Emergency generator maintenance program

On a quarterly basis, generators receive maintenance and are run, but not under load. Quarterly maintenance involves checking oil, batteries, hydraulics, fluids, and fuel. Maintenance is done by City staff and contractors (**Table 1-14**). Annually, the generators are run under load.

4.6.11 Backflow prevention and cross connection programs

On an annual basis, City staff (certified testers) will test all City devices. Devices that fail will be repaired or replaced. City staff will notify business and/or property owners to conduct testing and repairs to ensure the program is followed on an annual basis.

4.6.12 Main disinfection program

Mains are disinfected when dewatering or during replacement or maintenance that causes an exposure. Follow AWWA/ANSI ANSI/AWWA C651-14 Disinfecting Water Mains.

4.6.13 Brush control

Brush control is handled by a contractor and is done on a monthly or as needed basis. The Upper Reservoirs are on a CalTrans embankment and CalTrans is responsible for brush control around the area.

4.6.14 Spare Parts

The City keeps spare parts for chlorine production, pumps, motors, valves and other critical components of the system.

4.7 Capital Programs

The Capital program is funded to address aging infrastructure, reliability, earthquakes, storms, and security. The City has allocated $250K for water main replacement per year. Main replacement is based on age and material.

The highest priority replacements are mains consisting of cast iron, steel, and/or asbestos cement. The goal is to replace all water mains with ductile iron. The City typically replaces about 4,000 linear feet per year.

Future Capital projects:

- Address perimeter security, wind resilience, and wildfire protections at Arroyo Pump Station.
- $270K is allocated for additional wrought iron fencing at Reservoirs 2A, and 5.
- Update GIS to provide better control, flexibility, and reliability.
- Update SCADA to improve operations control and security.
- Implement video surveillance at critical facilities.
- Assess and improve online monitoring at facilities and distribution system.
- Full replacement of Reservoir 4 to provide more capacity. The replacement will double its current capacity of 0.5 M gal to 1.1 M gal. This increase will also apply to Reservoir 3 which is kept three (3) feet lower than Reservoir 4 at all times.

Recent Capital projects:

- Reservoir 2A has had the liner replaced and other minor repairs.

4.8 Cyber

The City maintains a Business Enterprise System (BES) for administrative functions and a SCADA system to operate and monitor the water system. Security of both systems is critical to the operation of the water system. Procedures and practices are in place to ensure security of both systems. There have not been any cyber security threats in the past 5 years

A cyber security incident specific procedure is available in **Appendix F-7**. The procedure addresses: initial response, operational response, documentation, demobilization and after actions, and preparation prior to an event.

4.8.1 BES

The BES is administered by the IT Department. The security and operation of the BES is very well organized and comprehensive. Servers are stored in designated locked rooms at City Hall and only designated staff have keys and access to the server room. In addition, access cards are required to get near the servers. Server rooms are protected by fire suppression system and have an Uninterrupted Power System (UPS). The UPS will transition to the City Hall's emergency power generator (**Table 1-12**) and continue to power operations of the servers and data center.

Cloud backups are conducted daily and IT tests quarterly to ensure their ability to recover data from a backup. If a backup fails, the system will send alarms and notifications to designated staff to reschedule the backup.

Staff maintains an inventory of equipment. Staff stays aware of vulnerabilities and implements patches and updates to software (e.g., Microsoft) as needed. The network is protected by a firewall and virus protection software is deployed throughout the network (i.e., every City device is monitored and has virus protection). Monitoring systems will notify IT staff of any network intrusions and firewall provides real time notifications of intrusion (e.g., malware, ransomware, malicious code). If an intrusion occurs, IT staff will follow intrusion procedure and investigate the intrusion and secure the system.

Laptops and mobile devices must be pre-approved before they are used on the network. The only mobile devices authorized are those for San Fernando Police Department patrol units. The City utilizes secure remote access methods for laptops and mobile devices. VPN is utilized for mobile devices connected to the network.

Servers are alarmed, and if disconnected from the system (i.e., goes offline), it will alarm and notify IT staff. If a server is lost, the system can continue to operate with a virtual server. IT staff can remotely wipe the server when it re-appears on the network to protect against any intrusions (i.e., viruses, sabotage, or ransomware). If theft occurs the City will work with the San Fernando Police Department to investigate.

Staff login access codes and passwords are changed every 90 days. Passwords cannot be reused over the past 10 password changes.

IT staff will provide security training to staff on as needed basis. This includes notifying staff not to open suspicious emails from unknown sources.

IT staff are cross trained to conduct critical tasks and provide adequate coverage to operate the system in an emergency. IT staff maintains critical documentation that provides a resource for system operations.

4.8.2 SCADA

The City uses a custom built SCADA system to operate the water system. The servers are housed with the BES servers at City Hall. Only designated staff have keys and access to the server room. In addition, access cards are required to get near the servers. Server rooms are protected by fire suppression system and have an Uninterrupted Power System (UPS). The UPS will transition to the City Hall's emergency power generator (**Table 1-12**) and continue to power operations of the servers and data center.

Cloud backups are conducted daily and IT tests quarterly to ensure their ability to recover data from a backup. If a backup fails, the system will send alarms and notifications to designated staff to reschedule the backup.

Staff maintains an inventory of equipment. The inventory includes remote terminal units (RTU), and programmable logic controllers (PLC). The SCADA contractor, water supervisor, and IT staff will conduct updates and patches for the SCADA software.

IT staff cover the security of the SCADA system. The network is protected by a firewall and virus protection software is deployed throughout the network (i.e., every City device is monitored and has virus protection). Monitoring systems will notify IT staff of any network intrusions and firewall provides real time notifications of intrusion (e.g., malware, ransomware, malicious code). If an intrusion occurs, IT staff will follow intrusion procedure and investigate the intrusion and secure the system.

SCADA has the ability to contact all operators, 24 hours a day, 7 days a week, in the event of any problem or emergency. Laptops and mobile devices are used to access SCADA. Approved devices utilize mulit- factor authentication (MFA) for access and VPN. All operators and supervisors have login access to SCADA, but access levels are given based on need and position. Passwords for SCADA are not currently changed on a routine basis.

Servers are alarmed, and if disconnected from the system (i.e., goes offline), it will alarm and notify IT staff. If a server is lost, the system can continue to operate with a virtual server. IT staff can remotely wipe the server when it re-appears on the network to protect against any intrusions (i.e., viruses, sabotage, or ransomware). If theft occurs the City will work with the San Fernando Police Department to investigate.

IT staff will provide security training to staff on as needed basis. This includes notifying staff not to open suspicious emails from unknown sources.

Operators are cross trained to operate the SCADA system and the Superintendent of the Water System is able to cover for the operators. SCADA manual is available in the Water Operations Office in the Public Works Building (**Table 1-9**). Operators can access the system remotely. However, operators will still be required to be physically present to fully operate the system. Remote access is typically used only for monitoring of the system.

4.9 Finance

The City's procedures, controls, and policies ensure the integrity and security of their financial system. During an emergency, the City will follow their Business Continuity Plan to transition to normal operations. There are procedures and tracking systems in place to keep accounting of expenditures such as labor and/or directs costs for potential FEMA reimbursements.

The City has access to funds for repairs and keeps 20 percent of reserves available for emergencies. The City will continue to provide O&M, Capital funding, payroll (electronically), and expenditure payments at times of emergency. The City Manager has authority to approve a purchase of $25,000, but City Council can increase this during emergency situations.

The City does not have an automatic meter reading (AMR) system and staff must record meter readings manually. If an emergency occurred, staff would continue to read meters manually.

The Finance Department has designated procedures and staff in order to operate during any emergency. Since the BES servers are supported by a UPS and emergency generator, the Finance Department will have access to their software during a power outage. Sabotage and assault to the financial system are very unlikely. The Finance Department is located in City Hall which is adjacent to the Police Station. At multiple locations, the Finance Department has panic buttons which silently notify the San Fernando Police Department. Police can respond within minutes.

The Finance Department maintains different levels of authority and access to the financial system based on position and need. Employee background checks are conducted at time of hire, and there are strong internal controls to prevent theft. Ordering and payments require multiple levels of approval and all payments to vendors, contractors, and others are made by check. Vendors and contractors are paid by check. There is only one printer used for check printing. If it becomes unavailable or inaccessible, handwritten checks would be used. All checks are numbered sequentially and must be approved by the Director of Finance. If a check is noticed to be out of order an investigation is initiated. If needed, the San Fernando Police Department can assist or lead the investigation.

The Finance Department conducts reviews and controls to ensure integrity and security to the finance system. There are daily reviews of the cashier's deposits and the general ledger. There is also a monthly reconciliation. The banks will alert the City of any suspicious checks.

The Finance Department cross trains staff to conduct routine processes (e.g., payroll, accounts receivable, and accounts payable). Multiple staff members are trained to initiate purchase orders and payments. The Finance Department successfully transitioned to remote work (i.e., work from home) during the recent Covid-19 pandemic. Most functions can be performed remotely, but document and check printing must be conducted at the office location.

4.12 Other Mitigation Actions

Table 4-3 lists other mitigation actions that help strengthen the system and mitigate impacts of an emergency event.

Table 4-3: Other Mitigation Actions

Type	Location	Comments
Booster pump redundancy	• Pump Station	• Have multiple booster pumps that can continue pumping capability.
Emergency Generators	• City Yard • Wells • Pump Stations	• Stationary generators at wells and pump stations. • See **Table 1-12**
Disinfection	• Chlorination Stations	• Store 1,500 gal of sodium hypochlorite at each well head and 100 gal of 12.5% sodium hypochlorite at ion exchange treatment plant disinfection. Serves as emergency supply for 7 days when unable to produce chlorine on site. • If runout will switch to LADWP emergency connection (**Table 4-1**).
Source, reservoir, and Distribution system contamination		• Able to isolate reservoirs, if needed. • See water contamination incident specific procedure 3.2.8 and EPA Drinking Water Utility Response Protocol Toolbox. https://www.epa.gov/waterutilityresponse/drinking-water-and-wastewater-utility-response-protocol-toolbox#DWRPTB • No incidents within past 5 years
Earthquake and power outage	• Reservoir 2A, 3A, 4, & 5	• Reservoir system is designed for gravity flow • System can be pressurized and pump from bottom up
Hazardous chemical release	• Chlorine storage locations at well heads and pump stations	• SOPs are in place for the safe chemical handling for chlorine. Operators are trained about safety and select operators are trained to handle and use chlorine for water disinfection.
Severe Storm weather	• Weather Service alerts	• Storm Incident Specific procedure (sec. 3.2.4 and **Appendix F-4**)
Repair supplies	• City Yard	• Maintain inventory of repair supplies at City Yard.
Training (ERP)		• Exercises in emergency response are conducted annually.
Training		• Operators receive rigorous training to ensure capabilities to operate the system. • Administrative staff are also cross trained on essential administrative functions (e.g., purchasing, accounts payable).
Certification		• Operators are classified Treatment and Distribution Operator's and are certified in accordance with the regulations relating to Certification of Water Treatment and Distribution Facility Operation (California Code of Regulations,

Table 4-3: Other Mitigation Actions

Type	Location	Comments
		Title 17). All operators must be certified at the required levels to maintain the treatment and distribution system.
Business Continuity Plan		• Business continuity planning tools are available in FEMA's Business Continuity Planning Suite for a Business Continuity Plan. https://www.ready.gov/business-continuity-planning-suite

5 DETECTION STRATEGIES

This section contains strategies that can be used to aid in the detection of malevolent acts or natural hazards that threaten the security or resilience of the system. **Table 5-1** lists detection strategies that can aid in the detection of malevolent acts or natural hazards.

Table 5.1: Detection Strategies

Location/Hazard	Detection Method	Procedure
All facilities	• Intrusion alarms • Patrols	• Intrusion alarms will notify operators • Monitor - grounds of the facility daily for any needed maintenance and repairs. Includes: building structure itself, receiving reservoirs, fencing, and surrounding areas • Investigate • Call 911 If needed
Source water	• Patrols	• Daily patrols of the MWD connection and wells.
Source water contamination	• Notice from MWD • National Response Center notifications • Notification from 911, CalOES, County for releases resulting from transportation accidents • Daily, weekly, monthly, and quarterly water quality sampling • Onlne chlorine analyzers for wells	• Section 3.2.5 and EPA Drinking Water Utility Response Protocol Toolbox. https://www.epa.gov/waterutilityresponse/drinking-water-and-wastewater-utility-response-protocol-toolbox#DWRPTB
Wells	• Patrols • Intrusion alarms • Daily, weekly, monthly, and quarterly water quality sampling	• Visually inspected daily to ensure proper operation. Chlorine feed system is visually inspected twice daily. • System Alarm monitor for a loss of feed, overfeed, power failure 24 hours a day, 7 days a week • SCADA alarms monitors for any equipment failure on the pumps and boosters • Chlorine residual daily
Reservoirs and pump stations monitoring	• Monitoring • Alarms • Patrols • Daily, weekly, monthly water quality sampling	• Chlorine residual, pH, temperature are taken daily (including weekends), • Record reservoir levels. • Record chlorine usage • SCADA alarms monitors for any equipment failure on the pumps and boosters and flow into reservoirs.
Treatment plant (located at Lower Reservoir)	• Monitoring • Patrols	• Monitored 24 hours/7 days per week when online by operators. • Process alarms: on all functions of the plant from raw water to finished effluent • Chlorine residual, pH, temperature are taken daily (including weekends), • Record chlorine usage

Table 5.1: Detection Strategies		
Location/Hazard	**Detection Method**	**Procedure**
		• Visual inspections daily, chemical feed systems, alarm system, automatic control valves, electrical control units, water quality test equipment, and the facilities security system.
Distribution system contamination	• Customer complaint surveillance • Public health surveillance • Daily, weekly, monthly water quality sampling	• Section 3.2.5 and EPA Drinking Water Utility Response Protocol Toolbox. https://www.epa.gov/waterutilityresponse/drinking-water-and-wastewater-utility-response-protocol-toolbox#DWRPTB
SCADA alarms	• Alarms	• Monitors equipment failure for chlorine feed systems, pumps and boosters • Alarms for overfeed, power failure
Hazardous chemical release	• Patrols	• Chlorine storage and chlorinators are inspected daily
Wildfires	• Fire Department notification	• Follow Fire Department evacuation procedures
Severe storm weather	• Weather Service alerts • Wind socks	• Storm Response procedure (sec. 3.2.4 and **Appendix F-4**)
Power outage	• Notification from SCE • Alarm from SCADA	• SCADA alarms for each site • Power Outage Procedure (sec. 3.2.3 and **Appendix F-3**)
Earthquake	• Notification from United State Geological Survey (USGS) • MyShake App • Notification from state and county EOCs	• Earthquake procedure (sec. 3.2.1 and **Appendix F-1**) • MyShake app https://myshake.berkeley.edu/
Sabotage, vandalism, damage	• Patrols	• Operators conduct routine patrols and are trained to observe for unusual conditions or activity. • See Something Say Something policy
Pandemic	• Notification by LACDPH. • Increase sick leave from Human Resources	• Pandemic Plan (sec. 3.2.6) and **Appendix F-6**.

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APPENDIX

The Appendix resides in a separate document (Appendices for City of San Fernando Emergency Response Plan).