5.24 Padre Dam Municipal Water District

Padre Dam Municipal Water District (Padre Dam) reviewed a set of jurisdictional-level hazard maps including detailed critical facility information and localized potential hazard exposure/loss estimates to help identify the top hazards threatening their jurisdiction. In addition, Local Planning Groups (LPG) were supplied with exposure/loss estimates for Padre Dam summarized in Table 5.24-1. See Section 4.0 for additional details.

Table 5.24.1
Summary of Potential Hazard-Related Exposure/Loss
in Padre Dam Municipal Water District

		Residential		Commercial		Critical Facilities	
Hazard Type	Exposed Population	Number of Residential Buildings	Potential Exposure/ Loss for Residential Buildings (x $1,000)	Number of Commercial Buildings	Potential Exposure/ Loss for Commercial Buildings (x $1,000)	Number of Critical Facilities	Potential Exposure for Critical Facilities (x $1,000)
Coastal Storm / Erosion	0	N/A	N/A	N/A	N/A	N/A	0
Dam Failure	20,815	N/A	N/A	N/A	N/A	11	26,551
Earthquake (Annualized Loss - Includes shaking, liquefaction and landslide components)	87,194	N/A	N/A	N/A	N/A	43	452,693
Floods (Loss)							
100 Year	1,873	N/A	N/A	N/A	N/A	0	0
500 Year	2,994	N/A	N/A	N/A	N/A	0	0
Rain-Induced Landslide							
High Risk	35	N/A	N/A	N/A	N/A	4	7,299
Moderate Risk	0	N/A	N/A	N/A	N/A	22	54,571
Drought	100,000						
Wildfire/ Structure Fire							
Regime II &IV	87,194	N/A	N/A	0 N/A	N/A	23	63,810

After reviewing the localized hazard maps and exposure/loss table above, the following hazards were identified by the LPG as their top five: Earthquake/Landslide, Wildfire, Flooding/Dam Failure, Drought and Man-Made Disasters related to Terrorism and Crime. A brief rational for including each of these is included.

- **Earthquake/Landslide**: Geographic extent of this hazard is District wide. A greater percentage of the District's critical infrastructure is potentially more exposed to earthquake hazard relative to other hazards below. The Rose Canyon Fault lies offshore (14 miles west of Padre Dam at its closest point) and is capable of generating an earthquake that could damage above ground and below ground water storage and infrastructure throughout the District. Since all water is imported from the Los Angeles area, earthquake activity along the San Andreas and Elsinore Faults would likely disrupt water delivery to the District.

  Four critical structures that supply water to the Western Service area of the District lie in areas where a landslide has either been confirmed or is possible. This area makes up the Friars Formation covering the clopping southern area from State Route 125 to Carlton Hills and northern slopes along Cuyamaca Street, Lake Canyon Rd. and Fanita Ranch. The District's main administration building and Field Operations Yard lie on alluvium soil near the San Diego River making it susceptible to landslide. In the Eastern Service area, 15 critical facilities including pump stations and reservoirs lie in areas of undocumented and documented placed fill making them susceptible to landslide.

- **Wildfire**: The seasonal climatic conditions during late summer and fall create numerous serious difficulties regarding the control and protection against fires in the district. The hot, dry weather typical of this area in summer and fall, coupled with Santa Ana winds and low humidity frequently results in wildfires that threaten Pump Stations, partially exposed roofs of underground water reservoirs and above ground water reservoirs. All are susceptible to wildfire because they are situated near open space and steep canyons containing highly flammable, native vegetation. The 2003 Cedar Fire resulted in District property losses of approximately $1 million and the temporary loss of water delivery to more than 800 homes.

- **Flooding/Dam Failure**: Flooding due to the rise of waterways from excessive rain threatens the District's Field Operations Yard and Influent Pump Station. This is where all raw, untreated wastewater from the City of Santee flows before either being diverted to San Diego or sent for treatment to the Ray Stoyer Water Recycling Facility to become recycled water. Rainstorms in 2010 created flooding in Sycamore Creek leading to the inundation of the Field Operations Yard and the Influent Pump Station. Losses from this event exceeded $1 million. Subsequently, a lengthy flood wall was installed along Sycamore Creek and surrounding the Influent Pump Station to prevent damage caused by future flooding. Additionally, drainage capabilities in the Field Operations Yard were expanded to capture higher flows and divert to Sycamore Creek. Recent historic rains in February 2017 proved that the improvements prevented catastrophe with no damage to the Influent Pump Station and minimal damage to Field Operations Yard structures.

  The geographic extent of Dam Failure flooding hazard is limited to District properties within the inundation path of San Vicente Reservoir, El Capitan Reservoir, Lake Jennings and Blossom Valley Reservoir. Major road arterials and bridges within the inundation path include

Mission Gorge Rd., Mast Blvd. and parts of SR-52 through Santee. The most significant damage to property would occur from a failure of San Vicente Reservoir and El Capitan Reservoir.

In both cases, several turnouts that regulate the distribution of water throughout Santee lie in the flood inundation zone for natural and dam failure flooding.

- **Drought**: The District needs to maintain a reliable water supply. Since it is dependent on water delivery from outside sources, it is critical to develop a potable reuse program that would add to the region's water supply. Padre Dam also needs to expand its water recycling program to treat additional wastewater and provide greater access to recycled water.

- **Man-made**: Water contamination, spills, releases, accidents, criminal activity and terrorist activity can occur within the District. The District has conducted a vulnerability assessment.

5.24.1 Capabilities Assessment

The LPG identified current capabilities available for implementing hazard mitigation activities. The Capability Assessment (Assessment) portion of the jurisdictional mitigation plan identifies administrative, technical, legal and fiscal capabilities. This includes a summary of departments and their responsibilities associated to hazard mitigation planning as well as codes, ordinances, and plans already in place associated to hazard mitigation planning. The second part of the Assessment provides Padre Dam's fiscal capabilities that may be applicable to providing financial resources to implement identified mitigation action items.

5.24.2 Existing Institutions, Plans, Policies and Ordinances

The following is a summary of Padre Dam Municipal Water District departments and their responsibilities related to hazard mitigation planning and implementation, as well as existing planning documents and regulations related to mitigation efforts within the community. The administrative and technical capabilities, as shown in Table 5.24-2, provide an identification of the staff, personnel, and department resources available to implement the actions identified in the mitigation section of the Plan. Specific resources reviewed include those involving technical personnel such as planners/engineers with knowledge of land development and land management practices, engineers trained in construction practices related to building and infrastructure, planners and engineers with an understanding of natural or manmade hazards, floodplain managers, surveyors, personnel with GIS skills and scientists familiar with hazards in the community.

Table 5.24-2
Padre Dam Municipal Water District: Administrative and Technical Capacity

Staff/Personnel Resources	Y/N	Department/Agency and Position
A. Planner(s) or engineer(s) with knowledge of land development and land management practices	Y	Engineering Department
B. Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Engineering Department

C. Planners or Engineer(s) with an understanding of natural and/or manmade hazards	Y	Engineering Department
D. Floodplain manager	N	
E. Surveyors	Y	Engineering Department
F. Staff with education or expertise to assess the community's vulnerability to hazards	Y	Engineering Department
G. Personnel skilled in GIS	Y	Engineering Department
H. Scientists familiar with the hazards of the community	N	
I. Emergency manager	Y	Safety & Risk Manager
J. Grant writers	Y	Santee Lakes, Finance, Engineering, Operations

Padre Dam Municipal Water District Overview

Padre Dam Municipal Water District is a Special District incorporated under the State of California. It is governed by a 5-member Board of Directors elected by voters to a four year term. Padre Dam provides water, recycled water, park and recreation facilities and wastewater management services to its customers.

History

Formed in 1955 by resident request to the San Diego County Board of Supervisors to import water from the Colorado River, Padre Dam was originally named Rio San Diego Municipal Water District. In 1976, upon merger with the Santee County Water District, it was renamed to Padre Dam Municipal Water District. Later, in the 1980's, Alpine Highlands Water District and Crest Public Utility District merged with Padre Dam.

Infrastructure

Padre Dam's infrastructure is broken down as follows:

Water:
389 miles of mains
28 reservoirs (water tanks)
16 pumping stations

Wastewater:
165 miles of mains
4 lift stations
1 pumping station

Recycled Water:
30 miles of mains
1 water tank
2 MGD Recycling Plant

Santee Lakes:
190 acres
7 lakes
300 site campground
Day use recreation (fishing, boating, special events)

100% of Padre Dam's water is imported from Northern California and the Colorado River through the San Diego County Water Authority.

Population and Demographics
The service area population is approximately 100,000. The median age of Padre Dam's population is 38 years. The majority of the population is white (79%). Hispanics make up 13%, Asians 3% and African Americans 2%. The remaining 3% of the population are American Indian, Pacific Islander and other races.

Geography & Climate
Geographically, Padre Dam covers 72 square miles including the City of Santee, parts of the City of El Cajon and Lakeside and the unincorporated communities of Blossom Valley, Crest, Dehesa, Flinn Springs, Harbison Canyon and Alpine.

The geography of Padre Dam's service area varies greatly from coastal plain to Peninsular Mountain Ranges of Southwestern California. The lowest elevation is approximately 320 feet above mean sea level along the San Diego River floodway in the center of the City of Santee. The highest elevation is 2,617 feet in the community of Alpine. Topography ranges from flat land to canyons, sloped and rolling terrain, hillsides and mountainous areas with steep slopes.

The climate in the Padre Dam service area is typical of eastern San Diego County – dry and mild. The average daily high is about 77 degrees and the average low is about 45 degrees.

Economic Activity
There are large vacant areas in the Padre Dam service area. Most development is in the flat land and consists of residential, light industrial, office and commercial enterprises. There are approximately 700 retail outlets in the service area.

Environmental Factors
Undeveloped areas contain natural vegetation consisting of Diegan coastal sage scrub, southern mixed chaparral. Other vegetation includes native grassland, non-native grassland, riparian woodland, oak woodland and coastal and valley freshwater marsh.

History and Impact and Natural and Man Made Disasters – Local Mitigation Activities
Historically, the Padre Dam service area has sustained damage from wildland fires and severe windstorms. There have been vandalism incidents at several remote sites. Padre Dam has taken the following steps to mitigate losses:

- Removed wooden water tank roofs and replaced with aluminum roofs.
- Installed emergency generators at non-redundant pump stations to ensure water supply in the mountainous areas.
- Installed security systems at vulnerable remote sites.
- Enlisted residents near water facilities to watch for suspicious activity.
- Improved communication with local law enforcement and fire suppression crews.
- Increased on-site observations of remote site facilities.
- Improved fencing around remote facilities to deter and delay adversaries.

The legal and regulatory capabilities of Padre Dam are shown in Table 5.24-3, which presents the existing ordinances and codes that affect the physical or built environment of the District. Examples of legal and/or regulatory capabilities can include: the County's building codes, State health and safety codes, zoning ordinances, subdivision ordnances, special purpose ordinances, growth management ordinances,

site plan review, general plans, capital improvement plans, economic development plans, emergency response plans, and real estate disclosure plans.

Table 5.24-3
Padre Dam Municipal Water District: Legal and Regulatory Capability

Regulatory Tools (ordinances, codes, plans)	Local Authority (Y/N)	Does State Prohibit? (Y/N)
A. Building code	N/A	N
B. Zoning ordinance	N/A	N
C. Subdivision ordinance or regulations	N/A	N
D. Special purpose ordinances (floodplain management, storm water management, hillside or steep slope ordinances, hazard setback requirements)	Y	N
E. Growth management ordinances (also called "smart growth" or anti-sprawl programs)	N/A	N
F. Site plan review requirements	Y	N
G. General or comprehensive plan	Y	N
H. A capital improvements plan	Y	N
I. An economic development plan	Y	N
J. An emergency response plan	Y	N
K. A post-disaster recovery plan	Y	N
L. A post-disaster recovery ordinance	Y	N
M. Real estate disclosure requirements	N/A	N

5.24.3 Fiscal Resources

Table 5.24-4 shows specific financial and budgetary tools available to the Padre Dam such as; capital improvements project funding; authority to levy taxes for specific purposes; fees for water, sewer, gas, or electric services; impact fees for homebuyers or developers for new development; ability to incur debt through general obligations bonds; and withholding spending in hazard-prone areas.

Table 5.24-4
Padre Dam Municipal Water District: Fiscal Capability

Financial Resources	Accessible or Eligible to Use (Yes/No)
A. Community Development Block Grants (CDBG)	N/A
B. Capital improvements project funding	Yes

C. Authority to levy taxes for specific purposes	Yes
D. Fees for water, sewer, gas, or electric service	Yes
E. Impact fees for homebuyers or developers for new developments/homes	Yes
F. Incur debt through general obligation bonds	Yes
G. Incur debt through special tax and revenue bonds	Yes
H. Incur debt through private activity bonds	No
I. Withhold spending in hazard-prone areas	No
J. Other – SANDAG or other Grants	Yes

5.24.4 Goals, Objectives and Actions

Listed below are Padre Dam's specific hazard mitigation goals, objectives and related potential actions. For each goal, one or more objectives have been identified that provide strategies to attain the goal. Where appropriate, the District has identified a range of specific actions to achieve the objective and goal.

The goals and objectives were developed by considering the risk assessment findings, the prior Local Hazard Mitigation Plan developed in 2010, other localized hazard identification and loss/exposure estimates, and an analysis of the jurisdiction's current capabilities assessment. These preliminary goals, objectives and actions were developed to represent a vision of long-term hazard reduction or enhancement of capabilities. Padre Dam's LPG members were:

- Mark Niemiec, Engineering Manager CIP
- Melissa McChesney, Communications Officer
- Kyle Swanson, Operations Manager
- Lisa Sorce, Director of Human Resources
- John DeDonato, Wastewater Collection Supervisor
- Colleen Larsen, GIS Specialist
- Rob Northcote, Ray Stoyer Water Recycling Plant Manager
- Bryan Hague, Park Operations Manager
- Larry Costello, Safety & Risk Manager

Once developed, the LPG staff submitted the plan to the State of California and to FEMA for approval. Once the plan is approved by FEMA it will be taken to the Padre Dam Municipal Water District Board of Directors for adoption.

Public meetings were held throughout the County to present these preliminary goals, objectives and actions to citizens and to receive public input. At these meetings, specific consideration was given to hazard identification/profiles and the vulnerability assessment results. The following sections present the hazard-related goals, objectives and actions as prepared by the District's LPG in conjunction with the Hazard Mitigation Working Group, locally elected officials, and local citizens.

5.24.4.1 Goals

Padre Dam has developed the following seven Goals for their Hazard Mitigation Plan:

Goal 1. Reduce the possibility of damage and losses due to flooding and/or dam failure.

Goal 2. Reduce the possibility of damage and losses due to earthquake, landslide, liquefaction.

Goal 3. Reduce the possibility of damage and losses due to structure/wild fire.

Goal 4. Improve hazard mitigation coordination and communication with federal, state, local and tribal governments.

Goal 5. Diversify the District's water supply portfolio to be more drought resistant.

Goal 6. Reduce the possibility of damage and losses due to hazardous chemicals.

Goal 7. Reduce the possibility of damage and losses due to terrorism and crime.

5.24.4.2 Objectives and Actions

Goal 1: Reduce the possibility of damage and losses to existing assets, including people, critical facilities/infrastructure, and public facilities due to flooding and/or dam failure.		**Applies to New, Existing or Both**
Objective 1.A: Protect existing assets with the highest relative vulnerability to the effects of dam failure within the Dam Inundation Zone.		
Action 1.A.1	Relocate the El Capitan Pump and Booster Stations outside of the Dam Inundation Zone.	Existing
Action 1.A.2	Relocate the Simeon Chlorination Station outside of the Dam Inundation Zone.	Existing
Action 1.A.3	Relocate the Administration Building outside of the Dam Inundation Zone.	Existing
Objective 1.B: Protect existing assets with the highest relative vulnerability to the effects of dam failure within the Dam Inundation Zone.		
Action 1.B.1	Install sirens at the dams to forewarn any employees working in the Dam Inundation Zone.	Existing
Objective 1.C: Minimize losses caused by flooding.		
Action 1.C.1	Relocate existing operations yard, shops and building outside flood zone.	Existing
Action 1.C.2	Waterproof the Santee #1-5 Turnouts.	Existing

Goal 1: Reduce the possibility of damage and losses to existing assets, including people, critical facilities/infrastructure, and public facilities due to flooding and/or dam failure.		Applies to New, Existing or Both
Action 1.C.3	Reinforce the Mission Creek Sewage Lift Station against flood failure.	Existing
Action 1.C.4	Install a control system at the Influent Pump Station which will shut down pumps in the event of a dam failure.	Existing
Action 1.C.5	Waterproof the Riverview #1&2 Turnouts.	Existing
Action 1.C.6	Waterproof the Lakeside #1&3 Turnouts.	Existing

Goal 2: Reduce the possibility of damage and losses to existing assets, including people, critical facilities/infrastructure, and public facilities due to geologic hazards (includes Earthquakes, landslides, liquefaction, etc.).		Applies to New, Existing or Both
Objective 2.A: Protect existing assets with the highest relative vulnerability to the effects of landslides.		
Action 2.A.1	Strengthen slopes surrounding reservoirs and pump stations to protect against failure due to landslides.	Existing
Action 2.A.2	Erect barriers around reservoirs and pump stations to divert possible landslides.	Existing
Objective 2.B	*Protect existing assets with the highest relative vulnerability to the effects of earthquakes.*	
Action 2.B.1	Retrofit and strengthen reservoirs and pump stations that do not meet current building seismic codes.	Existing

Goal 3: Reduce the possibility of damage and losses to existing assets, including people, critical facilities/infrastructure, and public facilities due to structure fire/wildfire.		Applies to New, Existing or Both
Objective 3.A: Protect existing assets with the highest relative vulnerability to the effects of wildfires.		
Action 3.A.1	Replace/retrofit the roofs of reservoirs located in the Eastern Service Area with flame retardant material.	Existing
Action 3.A.2	Create and maintain firebreaks surrounding pump stations located in the Eastern Service Area that are located in areas susceptible to wildfires.	Existing

Action 3.A.3	Install backup generators at key District facilities.	Existing
Objective 3.B: Develop a comprehensive approach to reducing the possibility of damage and losses due to wildfires.		
Action 3.B.1	Require the application of the California Fire Code pertaining to Fire Protection Plans and/or equivalent construction methods as determined by a technical fire analysis on all new District facilities.	N/A
Action 3.B.2	Continue to ensure that all District facilities can accommodate emergency vehicles.	Existing
Action 3.B.3	Improve existing pipeline network to increase fire flow capacity and enhance fire protection.	Existing
Objective 3.C: Coordinate with local fire agencies within the District boundary and support efforts to mitigate wildfire hazards.		
Action 3.C.1	Develop risk assessment and mutual aid plan in the event of a wildfire in the local area.	N/A

Goal 4: Improve hazard mitigation coordination and communication with federal, State, local and tribal governments.		**Applies to New, Existing or Both**
Objective 4.A: Establish and maintain closer working relationships with state agencies, local, and tribal governments.		
Action 4.A.1	Plan, practice, exercise, and operate the District's Emergency Operations Center (EOC) following the National Incident Management System (NIMS), the Standardized Emergency Management System (SEMS), and Incident Command System (ICS).	N/A
Action 4.A.2	Encourage further refinement and updating of the District's Emergency Operations Plan to coordinate with local agencies and the County-wide Emergency Operations Plan.	N/A
Objective 4.B: Improve the District's capability and efficiency at administering pre- and post-disaster mitigation.		
Action 4.B.1	Participate in the development and execution of annual Emergency Operations Center (EOC) table top discussions and functional disaster exercises.	N/A
Action 4.B.2	Ensure there is always adequate staffing in the EOC and EOC personnel are trained in multiple positions.	N/A

Goal 5: Diversify the District's water supply portfolio to be more drought resistant.		Applies to New, Existing or Both
Objective 5.A: Protect local economy and public health against a lack of reliable water supply.		
Action 5.A.1	Develop a regional potable reuse program that provides up to 15% of the region's water supply.	New
Action 5.A.2	Expand the District's existing water recycling facilities to treat additional wastewater.	Existing
Action 5.A.3	Identify suitable storage locations for advanced treated water.	New
Action 5.A.4	Partner with regional and local stakeholders to conduct a comprehensive regional water reuse study.	N/A

Goal 6: Reduce the possibility of damage and losses to existing assets, particularly people, critical facilities/infrastructure, and District-owned facilities, due to Hazardous Materials		Applies to New, Existing or Both
Objective 6.A: Develop a comprehensive approach to reducing the possibility of damage and losses due to the release of hazardous materials.		
Action 6.A.1	Replace aging facilities with hazardous chemicals to suppress and prevent the release of extremely hazardous substances – Chlorine and Sulfur Dioxide.	Existing
Action 6.A.2	Continue to ensure that all OSHA-require material safety data sheets (MSDS) and required protective gear is on hand at each facility where hazardous materials are stored.	N/A

Goal 7: Reduce the possibility of damage and losses to existing assets, particularly people, critical facilities/infrastructure, and District-owned facilities, due to Human Caused Events (includes Terrorism and Crime)		Applies to New, Existing or Both
Objective 7.A: Develop a comprehensive approach to reducing the possibility of damage and losses due to Human Caused Events, such as terrorism and crime.		
Action 7.A.1	Upgrade security fencing, video surveillance, working locks, and alarms to prevent unauthorized access and potential water contamination.	Existing
Objective 7.B: Protect public health against contamination of drinking water by cross-connections.		
Action 7.B.1	Continue to be vigilant to control cross-connections through educating water supply personnel of the dangers associated with cross-connections.	N/A
Action 7.B.2	Continue to maintain the District's cross-connection control program and perform routine water system inspections.	N/A

5.24.5 Prioritization and Implementation of Action Items

Once the comprehensive list of jurisdictional goals, objectives, and action items listed above was developed, the proposed mitigation actions were prioritized. This step resulted in a list of acceptable and realistic actions that address the hazards identified in each jurisdiction. This prioritized list of action items was formed by the LPG weighing STAPLEE criteria.

Once adopted, this plan will be incorporated into the District's next 10-year Strategic Plan. The previous 2010 Multi-Jurisdictional Plan was not incorporated into the District's current Strategic Plan because the Padre Dam Municipal Water District was not a member of this plan group until 2014.

The Disaster Mitigation Action of 2000 (at 44 CFR Parts 201 and 206) requires the development of an action plan that not only includes prioritized actions but one that includes information on how the prioritized actions will be implemented. Implementation consists of identifying who is responsible for which action, what kind of funding mechanisms and other resources are available or will be pursued, and when the action will be completed.

The top nine prioritized mitigation actions as well as an implementation strategy for each are:

Action Item #1: Develop a regional potable reuse program that provides up to 15% of the region's water supply.

Coordinating Individual/Organization: Padre Dam Municipal Water District

Potential Funding Source: Federal and/or State Grant Funds.

Implementation Timeline: 3 Years

Action Item #2: Strengthen slopes surrounding reservoirs and pump stations to protect against failure due to landslides

Coordinating Individual/Organization: Padre Dam Municipal Water District

Potential Funding Source: Federal and/or State Grant Funds

Implementation Timeline: 3 years

Action Item #3: Replace/retrofit the roofs of reservoirs located in the Eastern Service Area with flame retardant material.

Coordinating Individual/Organization: Padre Dam Municipal Water District

Potential Funding Source: General Fund, Federal and/or State Grant Funds

Implementation Timeline: 1 - 3 years

Action Item #4: **Upgrade security fencing, video surveillance, working locks and alarms to prevent unauthorized access and potential water contamination.**

Coordinating Individual/Organization: Padre Dam Municipal Water District

Potential Funding Source: General Fund, Federal and/or State grants

Implementation Timeline: 1 - 3 years

Action Item #5: **Expand the District's existing water recycling facilities to treat additional wastewater.**

Coordinating Individual/Organization: Padre Dam Municipal Water District

Potential Funding Source: General Fund, Federal and/or State grants

Implementation Timeline: 3 - 5 years

Action Item #6: **Retrofit and strengthen reservoirs and pump stations that do not meet current building seismic codes.**

Coordinating Individual/Organization: Padre Dam Municipal Water District

Potential Funding Source: General Fund, Federal and/or State grants.

Implementation Timeline: 5 years

Action Item #7: **Create and maintain firebreaks surrounding pump stations located in the Eastern Service Area that are located in areas susceptible to wild fires.**

Coordinating Individual/Organization: Padre Dam Municipal Water District

Potential Funding Source: General Fund, Federal and/or State Grants.

Implementation Timeline: 3 years

Action Item #8: **Replace aging facilities to suppress and prevent the release of extremely hazardous chemicals – Chlorine and Sulfur Dioxide**

Coordinating Individual/Organization: Padre Dam Municipal Water District

Potential Funding Source: General Fund, Federal and/or State grants

Implementation Timeline: 1 - 3 years

Action Item #9: Improve existing pipeline network to increase fire flow capacity and enhance fire protection.

Coordinating Individual/Organization: Padre Dam Municipal Water District

Potential Funding Source: General Fund, Federal and/or State grants

Implementation Timeline: 3 years