SANTA CLARA COUNTY
LOCAL FIRE SERVICE AND RESCUE MUTUAL AID PLAN

APPENDIX 14G – WATER RESCUE
Revised Date: July 2017
Next Revision Date: July 2019

A. Purpose

Provide standard operating procedures for performing technical rescue in swiftwater, the bay, lakes, and flood stage water environments.

To maximize efficiency and effectiveness of water rescue operations and to provide for the safety of emergency responders, the Water Rescue Policy establishes minimum training and equipment levels for mutual aid and auto-aid resources operating in a water rescue environment. Additionally, this policy includes guidelines for commanding and resourcing water rescue events.

B. Policy

Water rescue operations present high risk for first responders. First responders confronted with a victim in peril in a body of water may feel compelled to act immediately, however industry history has shown that untrained and ill-equipped responders can quickly become part of the problem rather than the solution. Rescue operations in the water environment require technical level qualifications and specialized equipment. Systemized countywide coordination is critical to rapidly resourcing technical water rescues.

C. Requirements for the Agency Having Jurisdiction (AHJ)

1. The AHJ shall evaluate the effects of severe weather, extreme water conditions, and other difficult conditions to determine whether the present training program has prepared the organization to operate safely.
2. As required by NFPA 1670, each agency must select the appropriate level(s) of capability for all its personnel. In addition to determining those levels, the AHJ must also satisfy a number of general requirements in order to be fully NFPA compliant. Examples of those requirements are:
   i. Provide for a minimum of basic life support care.
   ii. Establish procedures consistent with their chosen level of operational capability.
   iii. Provide training commensurate with individual operational levels (The minimum is *Awareness level*.)
   iv. Provide for continuing education, to include annual performance evaluations.
   v. Maintain training documentation, including signature of trainers, dates, an outline of the training conducted, and the resource materials used to develop the training.
   vi. Have incident personnel accountability and evacuation procedures.

D. Procedure

Santa Clara County Agencies shall not assign mutual aid or auto-aid resources to a water-rescue incident beyond their capability and equipment levels. County water rescue resources available for mutual aid will be identified per Firescope's Swiftwater / Flood Search and Rescue ICS USAR 120-1 documentation.

E. Resource Typing and Capabilities

APPENDIX A. Swiftwater / Flood Search and Rescue Resource Typing

	Type 1	Type 2	Type 3	Type 4
Type (Capabilities)	Manage search ops Power vessel ops In-water contact rescues Helicopter operational Technical rope systems HazMat Animal rescue EMS-ALS Communications Logistics Capable of 24hr operations	Manage search ops Power vessel ops In-water contact rescues Helicopter operational Technical rope systems HazMat Animal rescue EMS-BLS Capable of 24hr operations	In-water contact rescues Assist in search ops Non-power water craft HazMat Animal rescue EMS-BLS Capable of 24hr operations	Low Risk Land Based HazMat EMS-BLS Capable of 24hr operations

Resource	Component	Type 1	Type 2	Type 3	Type 4
Swiftwater / Flood Search and rescue Team	Equipment	Type 1 Inventory	Type 2 Inventory	Type 3 Inventory	Type 4 Inventory
	Personnel	14 - Member Team 2 - Managers 2 - Squad Officers 10 - Personnel	6 - Member Team 1 - Squad Officer 5 - Personnel	4 - Member Team 1 - Squad Officer 3 - Personnel	3 - Member Team 1 - Squad Officer 3 - Personnel
	Transportation	Equipment trailer Personnel Transport vehicles	*	*	*
*Request should include vehicle capabilities when necessary (i.e. four-wheel drive).					

APPENDIX B. Flood Evacuation Boat Typing (FEB)

Type	Type 1	Type 2	Type 3	Type 4	Type 5
Minimum Victim Transport per Trip Special Needs and Notes	5+ May need launch ramp Power Boat	3 -5 May need launch ramp Power Boat	3 Hand Launch Power Boat	2 Hand Launch 2 Personal Water Craft (PWC)	2 Hand Launch No Motor Rafts, Skiffs, Jon Boats

Resource	Component	Type 1	Type 2	Type 3	Type 3	Type 4
Flood Evacuation Boat (FEB)	Equipment	FEB inventory	FEB inventory	FEB inventory	FEB inventory	FEB inventory
	Personnel	2	2	2	2	2
	Transportation	*	*	*	*	*
*Request should include vehicle capabilities when necessary (i.e. four-wheel drive).						

F. Definitions

1. *Water Rescue* – Is defined as any incident that involves the removal of victim(s) from any body of water other than swimming pools.

2. *Flooding incidents* – When water level overtops the banks in any part of a stream, river, canal, creek, lake or dam, overland associated with drainage before entering a watercourse, or coastal inundation resulting from elevated sea levels.

3. *Swift water incident* - The removal of person(s) from threat or harm from water that is moving faster than walking pace.

4. *Bay or lake water incidents* – Include responses to bay or lake waters for the rescue of persons in the water; vessel taking on water, medical calls for assistance while on a vessel underway and miscellaneous distress calls from a vessel.

5. *Water Rescue Awareness* – Minimum capabilities of any responder who, in the course of their regular job duties, could be called to respond, or could be the first on scene of a water rescue incident. At this level, the responder is not considered a "rescuer".
    i. Competencies within this area include:
        a. Scene assessment and incident size-up
        b. Resource ordering
        c. Site control and scene management
        d. Hazard recognition and mitigation
        e. Talk victim to shore
        f. Reach out with a device to pull the victim to shore without entering the water.
        g. Throw a rope or flotation device to victim to pull them a shore.

6. *Water Rescue Operational* – The responder at this level should be capable of hazard recognition, equipment use, techniques necessary to perform shore and boat based rescues, and participates in technical rescue under the supervision of technician level personnel.
    i. Competencies within this area include:
        a. Perform in-water rescues
        b. Management of thermal related stress
        c. Technical rigging
        d. Victim packaging and transfer of information
        e. Planning a response within the capabilities of available resources.
        f. Implement a planned response consistent with the organizations capabilities.
        g. Conduct In-water rescues.

7. *Water Rescue Technician* – A rescuer capable of hazard recognition, equipment use, and techniques to coordinate, perform, and supervise a technical rescue. This may involve search, rescue, and / or recovery operations.

G. Incident Commander Checklist

1. Provide an initial report on conditions; Identify as a "Water Rescue Incident"
2. Establish Incident Command (IC), Name the IC, and provide location of Command Post
3. Maintain sight/location of victim
4. Provide information to downstream agencies as appropriate for dynamic or potentially dynamic conditions
5. Request additional resources from home agency per standard operating procedures (e.g. lighting, specialized resources, etc.)
6. Request Mutual Aid resources as necessary based upon incident conditions.
    i. Specify Resource Type
    ii. Specify Number of Resources
7. Provide specific conditions for mutual aid resources (e.g. "vehicle into reservoir with victims trapped") and provide direction and needs.
8. Report Last known location of victim
9. Provide Direction of travel of the victim

H. Water Rescue Priorities

1. Strategic priorities for victims in the water or vessels in distress
    i. Protection of rescuer
    ii. Protection of teammates
    iii. Protection of victim life
2. Water rescue risk assessment for rescuing victims, low to high.
    i. **REACH** – Reach out with hand or other object (stick, pike pole etc.) to pull the victim out.
    ii. **THROW** – If the victim is too far out in the water to reach, rescuer(s) should attempt to throw the victim a throw bag or some piece of positive flotation (i.e., PFD, rescue ring). Downstream personnel should be in position during the actual rescue operation. If the victim is able to grab the throw bag, the rescuer can pendulum belay or haul the victim to the nearest bank. Care should be taken to assure the victim will be belayed to a safe downstream position.
    iii. **ROW** – Refers to boats…any kind of boat that might be appropriate to affecting a water rescue.
    iv. **GO / TOW** – If it is not possible to ROW (boat base operation) to the victim, consider putting a rescuer in the water to reach the victim. This is a very high-risk operation. Only rescuers with the proper training and equipment shall be allowed to enter the water. Prior to the rescuer actually proceeding into the water, he/she shall discuss the action plan, including specific tasks, objectives, hazards and alternate plans. The rescuer shall never be attached to a lifeline without the benefit of a quick release mechanism.
    v. **HELO** – At times the use of a helicopter is the most reasonable method of reaching the victim. Helicopter operations over water are considered high-risk operations. IC should consult with the Rescue Group Supervisor and the pilot to determine the risk/benefit of the use of a helicopter. If the pilot says he/she can do the operation, Incident Command should consider it. Rescue Group Supervisor should assign rescuers to the helicopter and discuss with the pilot and the rescuers the specific action plan. Incident Command will have the final say on the use of a helicopter for water rescue operations. The pilot will have the final say on how the helicopter will be used.

I. **Water Rescue Action Steps**

1. Firefighter Safety Considerations
   i. Do not be within 15 feet of water's edge without a lifejacket and water rescue helmet properly donned.
   ii. Do not don turnout gear if operating within 15 feet of water's edge.
   iii. Do not enter water unless appropriately trained.
   iv. Do not enter water unless the appropriate water rescue equipment is on scene.
   v. Do not enter water unless the appropriate safety systems are in place including upstream spotters and downstream safeties.

2. Isolate And Deny Entry
   i. Stop any civilians or untrained would-be rescuers from entering the water; establish control zones.
   ii. Request law enforcement for crowd control.

3. Gather Situational Information Without Entering The Water
   i. Interview the reporting party and reliable witness (es).
   ii. Determine nature of emergency (person stranded, drowning, medical emergency, trauma)
   iii. Establish number of victims, location, or last seen location and condition.
   iv. If victim(s) is moving downstream, determine best access location(s).

4. Determine Victim Survivability Profile Based Upon Situation
   i. Establish if the incident is a rescue or body recovery.
   ii. Determine if victim(s) can be rescued by TALK, REACH, THROW techniques.
   iii. Notify law enforcement if body recovery is determined.

5. Identify Hazards Without Entering The Water
   i. Flood Stage: Be prepared for sudden changes in water level/depth and speed.
   ii. Assign upstream spotters to provide warning of objects flowing downstream.

6. Report Findings To Incoming Water Rescue Team
   i. Advise IC and/or rescue team of all relevant changes (water level, debris flow, etc.).

7. Prepare For Patient Treatment A Safe Distance From The Water
   i. Consider hypothermia treatment.
   ii. Consider decontamination needs for patient(s) and rescuer(s).

J. 15 Absolute Rules of Flood and Swiftwater Rescues

1. Always wear a personal flotation device (PFD)
2. Always deploy upstream spotters above the location of rescue operations – ideally on both sides of the river.
3. The priorities at the scene are always self-rescue first, the rescue and security of fellow teammates second, and the victims last.
4. Never put all your eggs in one basket; always have a backup.
5. Always have multiple downstream backups (Safety's)
6. Always keep it simple.
7. Always use the right equipment.

8. Never put your feet down if swept away and swimming.
9. Never count on the victim to help in his own rescue.
10. Never tie a rope around a rescuer.
11. When tensioning a line across the river to be used for water safety or walking stream crossing, never tension the line at a right angle to current.
12. While tensioning a line across the river, never stand inside the bight, and always stand on the upstream side of the rope.
13. Once the victim is contacted, never lose contact.
14. Given the choice between a fire helmet and no helmet, always go with no helmet.
15. Finally, always be proactive.

K. **Personal Protective Equipment (PPE)**

1. The list of (PPE) for water rescue is based on resource typing and capabilities. This list can be found in the Firescope ICS-SF-SAR 020-1 document.
    i. The recommended PPE to participate in a shore based rescue shall be:
        a. Water Rescue Helmet
        b. PFD with attached:
            i Water rescue whistle
            ii Knife (optional)
        c. Water rescue throw bag

L. **Reference**

1. NFPA 1006 - Standard for Technical Rescue Personnel Professional Qualifications
2. NFPA 1670 - Standard on Operations and Training for Technical Search and Rescue Incidents
3. Firescope ICS USAR 120-1 Operational System Description and Law Enforcement Mutual Aid Plan
4. Firescope ICS-SF-SAR-020-1 Recommended Training, Skills and Equipment List
5. Rescue 3 International *Water Rescue Awareness*