

# **City of Alexandria**

## **Flood Response Plan**



**February 2020**

**The City of Alexandria**  
**Office of Emergency Management**  
**900 Second Street**  
**Alexandria, VA 22314**

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**Contents**

**Signature Page**.....4

Records of Change .....5

Primary Lead Agency.....6

Support Agencies .....6

Purpose.....6

Scope & Applicability.....6

Situation .....2

Assumptions.....2

Concepts of Operations .....2

Direction and Control.....4

Roles and Responsibilities .....4

Authorities and References .....10

Appendix A: T&ES Non-Emergency Coastal Flooding Operations & Response Matrix.....11

Appendix B: Flooding Evacuation Notice Message Templates.....12

Appendix C: Barcroft Dam Emergency Stages.....15


Appendix D: Lake Barcroft Dam Stage I & II Condition Notification Flow Chart.....17

Appendix E: Lake Barcroft Dam Stage III Condition Notification Flow Chart .....18

Appendix F: Sunny Day Lake Barcroft Inundation Map .....19

Appendix G: Lake Barcroft Dam Breach Inundation Map .....20

**Signature Page**



Transportation & Environmental Services



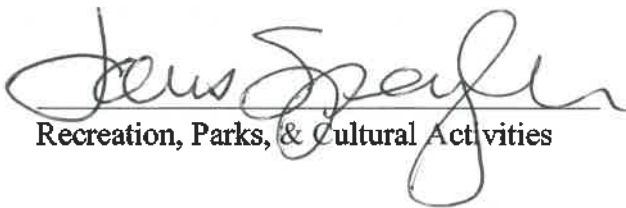
Fire Department



Office of Emergency Management



Police Department



Recreation, Parks, & Cultural Activities

**Records of Change**

<b>Change #</b>	<b>Date</b>	<b>Description of Change</b>	<b>Page #</b>	<b>Initials</b>
1	12/2016	Combined the Flash Flood Response Plan, Dam/Flood Plan, and Coastal Flood Operations Plan into one plan.  Updated T&ES Flood Response Matrix.	All	TH
2	8/2019	Modified the roles and responsibilities of DEC to reflect correct policies and procedures, and standardize the notification process when Lake Barcroft opens the bascule gates at 30%.	Page:10	TH
3	10/2019	Modified the roles and responsibilities of the Office of Emergency Management to reflect notifying agencies of all flood-related alerts.	Page: 11	TH
4	12/2019	Modified the plan based on comments provided by T&ES.	All	TH

**Primary Lead Agency**

- Transportation & Environmental Services (T&ES)

**Support Agencies**

- City Attorney
- City Manager
- Code Administration
- Communications & Public Information (OCPI)
- Community & Human Services (DCHS)
- Emergency Communications (DEC)
- Emergency Management (OEM)
- Finance
- Fire Department (AFD)
- General Services (DGS)
- Health Department (AHD)

- Housing
- Information Technology Services (ITS)
- Planning & Zoning
- Police Department (APD)
- Recreation, Parks & Cultural Activities (RPCA)
- Sheriff
- Volunteer Alexandria

**Outside Agencies**

- Lake Barcroft Watershed Improvement District

**Purpose**

The City of Alexandria Flood Response Plan is a hazard-specific component of the City of Alexandria Emergency Operations Plan. It has been developed to provide guidance in the event of a coastal, dam, flash, or river flooding incident within the City. It is the mission of the City government to develop and implement plans and procedures to minimize the adverse effects on life-safety, public and environmental health, property, and businesses in the event of flooding.

**Scope & Applicability**

This plan addresses responses to flooding. Flooding can occur in two forms: Coastal and inland/flash flooding.

**Coastal Flooding:** Flooding which occurs when water is driven onto land from an adjacent body of water, which occurs when there are significant storms, such as tropical and extratropical cyclones.

**Flash Flooding:** A rapid and extreme flow of high water into a normally dry area, or a rapid water level rise in a stream or creek above a predetermined flood level, beginning within six hours of the causative event (e.g., intense rainfall, dam failure, ice jam).

Coastal flooding (nuisance flooding) along the banks of the Potomac River is a predictable event based on tides, storm surge, and the wind. Coastal flooding of the riverfront area typically includes the unit block of King Street, the Strand and the unit block of Prince Street, but can be more severe.

Inland/flash flooding can occur in any waterway within the City due to heavy rain or riverine flow from upstream areas of the watershed. Inland /flash flooding may also occur due to a breach or failure of the Lake Barcroft Dam.

### **Situation**

In recent history, Alexandria has been impacted by both coastal and flash flooding. Notable weather events included Hurricane Isabelle in 2003, a severe rainstorm in June 2006 that caused major flash flooding within the City, and Tropical Storm Lee in 2011 that produced flash flooding.

To mitigate flooding within in the City, the Department of Transportation and Environmental Services (T&ES) does an annual review of all major streams within the City to identify areas where there is blockages or debris that should be removed.

Lake Barcroft Dam sits in close proximity to the City. The lake, formed by the impoundment of Holmes Run in the City of Falls Church, contains approximately 800 million gallons of water. Catastrophic failure of the dam would create a major flood event.

### **Assumptions**

There will be periods of heavy rain that will serve as advance warnings and will permit precautionary actions to be taken by City staff and citizens to mitigate flooding impacts.

The National Weather Service (NWS) will provide frequent weather forecasts and advance flood warnings notices. The WAWAS telephone network, commercial radio, television stations and the NOAA weather radio will also provide updated weather information.

When informed of aware of flash flooding conditions, staff from the Office of Emergency Management (OEM) will notify other City Departments including the Office of Communications and Public Information (OCPI), Department of Emergency Communications (DEC), Fire Department (AFD), Police Department (APD), and T&ES, who will maintain surveillance of the streams in the City.

Lake Barcroft Dam management will notify DEC, OEM, and T&ES when water release gates are opened at 20% or higher and will continually notify the City until it drops below 20%. This is done automatically via Everbridge notifications.

When there is a potential of flash flooding conditions, OCPI in coordination with OEM will notify potentially affected members of the community.

### **Concepts of Operations**

Flash flooding is a product of heavy rains over a period of time and is somewhat unpredictable. Past experiences with floods have provided information to guide the City's response to flooding events. With the historical data, the City has established thresholds for various responses indicated in the Roles and

Responsibilities assigned to each department. These thresholds have been established at levels that should allow enough time for evacuation to be accomplished before the area is flooded.

When the water at the USGS Cameron Street dock gauge is expected to rise above the 4 feet elevation, T&ES prepares sandbags for business owners and residents to pick up at pre-designated locations.

When the meteorological and hydrological experts at NWS Sterling Forecast Office predicts an imminent flash flooding event in Alexandria, they issue a flash flood warning for the City. This warning is received by personnel in the City's DEC, who quickly relay the warning to the Police Department and Fire Department, which is the responsible entity for initiating evacuations and other protective actions, as necessary. Upon notification of a flash flood warning (or other response triggers, as described in Roles and Responsibilities), APD personnel initiate field observations at pre-designated locations and implement appropriate protective actions as condition warrants. OCPI and OEM will support APD's protective actions by providing alerts and information to the affected public, as possible and appropriate.

The City has installed several gauges to monitor stream levels. Recently gauges have been installed that provide real-time data from streams located in the City. Additionally, the City has incorporated data from existing gauges also located in the City.

These gauges are located in the following areas:

- Backlick Run at the intersection of Van Dorn Street and South Picket Street
- Holmes Run in the 6200 block of Holmes Run Parkway
- Holmes Run at North Van Dorn and Holmes Run Parkway
- Cameron Run at Eisenhower Avenue

The United States Geological Survey (USGS) has four gauges within the City of Alexandria that T&ES can monitor during storm events.

- Cameron Run at Alexandria, VA – USGS Station No: 01653000
- Four Mile Run at Alexandria, VA – USGS Station No: 01652500
- Cameron Street Dock at Alexandria, VA – USGS Station No: 01652545
- Four Mile Run at Rt. 1 t Alexandria, Virginia – USGS Station No: 01652545

Typical flood response is a three-tiered approach:

#### 1. Monitoring & Warning

##### A. T&ES Responsibilities:

- Monitor existing and evolving conditions, via NWS advisories/warnings.
- Receive timely notifications from NWS, USGS, Lake Barcroft Watershed Improvement District (LBWIP), APD, etc. as to flood potential.
- Use the above notifications and City monitoring data to deploy flood response resources when flooding is imminent.
- T&ES/OEM will ensure that the flood warning lights are operational. The system automatically activates the warning lights. T&ES may manually activate the warning lights as needed.



- B. Police Responsibilities:
    - Position barricades at King Street, Cameron Street, and Union Street. When the flooding incident is over, remove and store the barricades.
    - Monitor specific locations for potential or imminent flooding conditions, when directed.
  - C. OEM Responsibilities:
    - In conjunction with OCPI, inform the public of warnings and watches issued by NWS and other federal entities predicting future events.
    - OEM may remotely activate the warning lights.
2. Flood Response
- A. T&ES Responsibilities:
    - Make sandbags available to the public at selected locations per the Non-Emergency Coastal Flooding Operations & Response Matrix.
3. Post Flood Response
- A. T&ES Responsibilities:
    - Cleanup & Recovery
      - Deploy resources to clear City streets and other City properties of debris left by a flooding event.
      - Assist Code Administration in assessing damage to buildings in Special Flood Hazards Area (SFHA).
      - Act as a community liaison to VADCR/ FEMA in cases of declared disasters.
  - B. Code Administration Responsibilities:
    - Assess damage to buildings in SFHA.

For nuisance flooding, debris cleanup is done twice a day after a storm event is over. T&ES deploys sweepers to clean up debris when the tide is out.

### **Direction and Control**

The Director of Emergency Management (City Manager), or authorized designee, exercises overall direction and control of operations and resources in the event of a flooding event, through the Director of T&ES, Police Chief, Fire Chief, other department or agency personnel, and outside agencies as desired.

### **Roles and Responsibilities**

#### ***City Attorney***

Assign a representative to the Emergency Operations Center if open.

Prepare emergency legislation and proclamations.

Provide emergency legal counsel to City officials.

#### ***City Manager Office***

Assign a representative to the Emergency Operations Center if open.

The City Manager or designee assumes overall responsibility for flood preparedness, response, and recovery through the appropriate City department directors.

Declares an emergency if needed (with confirmation by City Council within 14 days) or recommend that City Council declares an emergency.

Provides policy decision and exercise emergency powers as required.

Discuss emergency measures when flash flood warnings are issued, or flooding occurs with T&ES and OEM.

Activate the Emergency Operations Center through the Emergency Management Coordinator and with input from T&ES.

Requests additional resources through the state.

Keep the City Council and the general public informed of additional weather developments.

After consultation with the Emergency Management Coordinator and T&ES terminates the emergency.

***Code Administration***

Assign a representative to the Emergency Operations Center if open.

Conduct building inspections post-flooding event.

***Communications and Public Information***

Assign a representative to the Emergency Operations Center if open.

Serve as the City Public Information Officer and coordinate the information from all departments involved.

Keep the news media up-to-date on current developments through various mediums.

Keep the public informed via the City's website, E-News subscribers, social media, etc.

Keep the City Manager and City Council informed.

Coordinate information with all City Departments.

Become the primary spokesperson for the City.

***Community and Human Services***

Assign a representative to the Emergency Operations Center if open.

In coordination with non-government organizations, determine social/welfare needs of evacuees.

Provide translation services for non-English speaking persons or find appropriate resources.

Perform follow-up assistance during the recovery stage.

### ***Emergency Communications***

Monitor the Washington Area Segment of the National Warning System (WAWAS) phone during inclement weather.

Monitor Contrail/OneRain <https://streammonitor.alexandriava.gov> for water levels.

When notified by Lake Barcroft staff, DEC will notify by phone T&ES Director, the duty emergency manager, on-duty battalion chiefs, and police watch commander when Lake Barcroft opens the bascule gate at 30% or higher. DEC will also send out a page to the Lake Barcroft Emergency Group in Everbridge. The Lake Barcroft Emergency Group consists of representatives from T&ES, OEM, Fire, and Police.

Dispatch and notify the appropriate department if calls are received that indicate there is flooding occurring.

### ***Emergency Management***

Assign a representative to the Emergency Operations Center if open.

Manage the Emergency Operations Center once activated.

Keep the Virginia Department of Emergency Management informed with situation reports and damage assessment reports.

Serve as liaison with state and federal agencies and the American Red Cross.

Coordinate weather information including the dissemination to City Staff of flash flood watches and warnings issued for Alexandria.

Monitors storm gauges and provide the City Manager with water levels.

OEM will be responsible with ensuring agencies get all flood watch, advisory, and warning alerts. Agencies will be required to notify OEM who should be included in the alert notification.

### ***Fire***

Assign a representative to the Emergency Operations Center if open.

Respond in a supportive role and assist.

Assist Police with alerts, warnings, and evacuations if necessary.

Continue fire suppression and emergency medical services.

Provide for swift water rescue teams if needed.

Assist in initial damage assessment reports.

***Finance***

Assign a representative to the Emergency Operations Center if open.

Provide financial information as may be required.

Expedite emergency purchases as required.

Delegate authority to department/activity directors to make emergency requisitions/purchases as required for the safety and comfort of evacuees and other residents and the protection of property.

Provide departments/activities with account numbers to which to charge flood emergency expenditures.

Maintain accurate and complete documentation and accounting of flood emergency expenditures as a basis for subsequent claims for state/federal financial assistance, should it become available.

***General Services***

Assign a representative to the Emergency Operations Center if open.

Provide for vehicle and equipment repair as required.

Conduct damage assessment of City property.

***Health***

Assign a representative to the Emergency Operations Center if open.

Coordinate and supervise public health response.

Coordinate preparedness activities and facilitate information exchange with local health care facilities prior to an incident. During an incident, public health emergency management staff will:

- Monitor needs of healthcare facilities which include skilled nursing facilities, dialysis centers, and hospitals;
- Coordinate City of Alexandria support to affected healthcare facilities;
- Communicate with local and state partners, including the RHCC.

Alexandria Health Department's Public Information Officer will develop communication materials for public health warning and adverse public health effects related to flooding. AHD's PIO may be assigned a role in the EOC or Joint Information Center.

The Epidemiology staff may search for food and/or water-borne illnesses, any increase in flood-related illness or injury and provide technical advice on vector control measures.

The Environmental Health staff will provide technical advice and consultation to local restaurants, healthcare facilities, and other regulated entities; will recommend working protection measures; staff food/water safety hotline if established by the City.

Assist in initial damage assessment and revisions to it in regards to healthcare facilities and food handling establishments. Ensure safe food practices hygiene for workers and attendees at shelters and/or mass feeding sites. Implement disease containment measures if required. In coordination with the ESF 3 advise on the potability of water sources.

### ***Housing***

Assign a representative to the Emergency Operations Center if open.

Help flood victims obtain temporary emergency housing.

Arbitrate emergency-related differences between landlords and tenants.

### ***Information Technology Services***

Assign a representative to the Emergency Operations Center if open,

Provide geographical information system (GIS) support and maps.

### ***Planning and Zoning***

Assign a representative to the Emergency Operations Center if open.

Provide population data, charts, and development plans as needed.

### ***Police***

Assign a representative to the Emergency Operations Center if open.

Monitor flood monitoring points at designated times. Be prepared to restrict vehicle access in the event a flooding situation occurs.

When indicated by a weather prediction or actual report of potential flooding responds to the rear of the following locations to monitor the streams:

- 2950 Eisenhower Avenue
- 6200 Block of Holmes Run Parkway

Deploy barricades at the foot of King Street, Cameron Street, and Union Street in response to minor nuisance flooding.

Fortify the barricades after the flooding recedes.

Consider evacuating areas subject to flooding.

- Limits access to the flooded area.

- When the gauge at Cameron Run and Eisenhower reaches, 10 feet consider the evacuation of the Alexandria Tech Center and nearby buildings and the closing of Eisenhower Avenue from Mill Road to Bluestone Road. Also, consider closing Telegraph Road under the Beltway.
  - Warning flashers automatically on at 17 feet depth.
  - Warning flashers automatically off when depth falls below 16 feet depth.
- When the gauge reaches 5 feet at Backlick Run at Van Dorn and Pickett Street consider the evacuation of the businesses along Pickett Street from Van Dorn to Edsall Road also consider the closing of Pickett Street in the same location.
  - Warning flashers turn on at 6 feet depth.
  - Warning flashers automatically off when depth falls below 5.4 feet depth.
- When the gauge reaches 5 feet at Holmes Run in the 6200 Block of Holmes Run Parkway consider the evacuation of the residents along Holmes Run in that block as well as the 1900 block of Hawthorne Avenue.
- When the gauge on Four Mile Run Road (in Shirlington) reaches, 10 feet consider the evacuation of the low-lying areas within Arlandria and Hume Springs.
- When it appears the water is rising rapidly and may flood, consider alerting and warning the nearby community members of the possible threat.

### ***Recreation, Parks, and Cultural Activities***

Assign a representative to the Emergency Operations Center if open.

Open and maintain shelters if needed.

Clears debris along the waterfront parks.

Coordinate with OEM to provide emergency shelters in recreation facilities when needed.

### ***Sheriff***

Assign a representative to the Emergency Operations Center if open.

Respond in a supportive role and assist the police as requested.

### ***Transportation and Environmental Services***

Assign a representative to the Emergency Operations Center if open.

Respond to the Emergency Operations Center if opened,

Respond to the on-scene command post if one has been established.

Coordinate the turning off and restoration of services with the utility companies gas, water, electric, telephone, and cable TV.

Accomplish clean-up, which should include sweeping, flushing, pumping, refuse collection, and debris removal on public streets and sidewalks.

Perform damage assessment of City streets, roadways, waterways, and bridges.

Assist the police in monitoring the streams and creeks.

Coordinate with OEM, APD, and Dash to provide transportation for evacuees when needed.

***Volunteer Alexandria***

Provide volunteers to assist as needed or when requested.

When activated, have volunteers respond to the Volunteer Reception Center.

**Authorities and References**

The Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-388, as amended.

The Commonwealth of Virginia Emergency Services and Disaster Law, as amended. §44-146.13 to 44-146.28:1 Code of Virginia

2016 City of Alexandria Emergency Operations Plan

City of Alexandria Department's Plans and Standing Operating Procedures.

Appendix A: T&ES Non-Emergency Coastal Flooding Operations & Response Matrix

USGS Cameron Street Deck Gauge Height Feet	National Weather Service Flood Categories	Observation	RPCA	T&ES	Police	Sheriff	DEM	OGPI	General Services
Normal Ops	<2.7	Water behind Mei Thai (6 King Street)	Clean up Debris on shore line/trails	None	None	None	None	None	None
Level 1	2.7 to 3.99	3.00 water to curb at Mei Thai (6 King Street). 3.11 water to curb of Union Street. 3.23 Unit block wet but not over curb. 3.47 not yet over Union Street. 3.73 pushing over Union Street.	Waterfront Staff clears/remove flood debris (if needed) along soft trails. RPCA will call T&ES for debris pick-up (either boom truck or roll off container).	Boom truck on call to harvest collected debris. Supply roll off container if volume is too great for boom truck. (T&ES places container on Madison Street for RPCA to fill). Street sweeping activity on call.	None	None	None	None	None
Level 2	4.0 to 5.4	4.1 Rivergate Park begins to flood. 4.17 over Union Street. Starbucks (100 Union Street) starting to take in water. 4.77 Mei Thai (6 King Street) water inside. Starbucks (100 Union Street) taking water. 5.19 into 100 block of King Street.	Requests for supplemental contract services and the boom truck with a roll off container delivery prior to the flood event with a follow up to the level one operations with repeat <sup>ed</sup> dump cycles.  Marina may be closed. Staff coordinate removal of debris with Park Operations/Waterfront staff when flooding has subsided.	Level 1 actions plus: Sandbags available at 133 South Quaker or delivered to King/Lee Street if conditions warrant.	Barricades vehicle relocation (if needed) using towing services.	Support sandbag trailer if located at King/Lee Street.	None	Website Alert, eNews, Social Media will only be used when recommended by SMEs.	None
Level 3	>5.5	5.51 water up to 111 King Street.	Coordinates with PO for a ALL HANDS ON DECK clean up with contracted services. Schedule two roll off containers deliveries prior to the flood event with assistance from T&ES for removal options.	Level 1 & 2 actions plus: Sand bags available at King/Lee Street.	Barricades vehicle relocation (if needed) using tow service.	Support at sandbag trailer (limit # of sandbags provided, check ID, manage crowds).	Convene the Emergency Management Team to discuss expected impacts on the City and necessary actions in addition to those outlined in this matrix, including (but not limited to public notification).	Level 2 activity plus: Press Release, Sandbag messages, Website management	Close Torpedo Factory gates, if conditions warrant.

Updated NWS Flood Stage 2015



## Appendix B: Flooding Evacuation Notice Message Templates

### MANDATORY EVACUATION NOTICE

#### WEA Text Message

The City of Alexandria has declared an EMERGENCY FLOOD EVACUATION. MOVE NOW TO HIGHER GROUND.

#### eNews Text Message

The City of Alexandria has declared an EMERGENCY EVACUATION for [XXXX]. Move now to higher ground. Follow directions of public safety officials; monitor local media and [www.alexandriava.gov](http://www.alexandriava.gov) for more information. If you need transportation to evacuate, notify officials evacuating your neighborhood or call 703.746.XXXX.

#### eNews Email Message

#### The CITY OF ALEXANDRIA DECLARES EMERGENCY EVACUATION

The City of Alexandria has declared an EMERGENCY EVACUATION for your area due to dangerous flooding. Move now to higher ground. Follow directions of public safety officials and monitor local media and [alexandriava.gov](http://alexandriava.gov) for more information.

If you need transportation to evacuate the area, notify officials evacuating your neighborhood or call 703.746.XXXX.

Public Shelter Location: \_\_\_\_\_ (optional)

#### EVACUATION INSTRUCTIONS:

When directed to evacuate, take the following steps:

- Listen to local media, weather radio, and visit [alexandriava.gov](http://alexandriava.gov) for more information.
- Stay calm. Gather your family and pets, and evacuate immediately if ordered.
- If time permits, gather only those essential items you need.
- Your children in school will be taken to the evacuation center/shelter for their school area if it is necessary to move them from school.
- Lock your house, turn off lights and household appliances. Turn off gas at the source if possible. Your neighborhood will be patrolled while you are gone.
- Do not use more than one car for your family. Take neighbors who need a ride. Keep windows and vents closed.
- **Do not travel through areas of standing water. Turn around, don't drown!**
- Be alert! Do not approach or touch any downed power lines.
- Public safety officials will announce where Public Shelters can be found, if necessary.

Items you may need to take with you:

- Checkbook, credit cards, cash, home insurance policy
- Driver's license, other identification
- Important papers
- Extra clothing, blankets
- Eyeglasses, dentures, prescriptions, other medicines and first aid kit
- Baby supplies, including diapers and formula
- Portable radio, flashlight, fresh batteries
- Pets, pet food, leashes, cages. NOTE: Pets are generally not allowed in public shelters.

## VOLUNTARY EVACUATION NOTICE

### WEA Message (82 char)

The City of Alexandria has declared a VOLUNTARY EVACUATION. Move to higher ground.

### eNews Text Message

The City of Alexandria has declared a VOLUNTARY EVACUATION for [XXXX]. Move to higher ground. Follow directions of public safety officials; monitor local media & [www.alexandriava.gov](http://www.alexandriava.gov) for more information.

### eNews Email Message

#### City of Alexandria Declares Voluntary Evacuation

The City of Alexandria has declared a VOLUNTARY EVACUATION due to dangerous flooding in the following area(s): [XXXX]

**You are not required to evacuate at this time; however, persons issued this warning are encouraged to evacuate and relocate persons who are medically fragile and pets. If you choose not to evacuate at this time, it is strongly recommended that you PREPARE TO EVACUATE. Conditions can change rapidly, creating a threatening situation to occur and this may be your only notice.**

**Follow directions of public safety officials, and monitor local media and [alexandriava.gov](http://alexandriava.gov) for more information.**

*If you need transportation to evacuate the area, notify officials evacuating your neighborhood or call 703.746.XXXX.*

*Public Shelter Location: \_\_\_\_\_ (optional)*

If the need arises to evacuate, follow the evacuation instructions below.

**Evacuation Instructions**

When directed to evacuate, take the following steps:

- Listen to local media, weather radio, and visit [alexandriava.gov](http://alexandriava.gov) for more information
- Stay calm. Gather your family and pets, and evacuate immediately if ordered.
- If time permits, gather only those essential items you need.
- Your children in school will be taken to the evacuation center/shelter for their school area if it is necessary to move them from school.
- Lock your house, turn off lights and household appliances. Turn off gas at the source if possible. Your neighborhood will be patrolled while you are gone.
- Do not use more than one car for your family. Take neighbors who need a ride. Keep windows and vents closed.
- **Do not travel through areas of standing water. Turn around, don't drown!**
- Be alert! Do not approach or touch any downed power lines.
- Public safety officials will announce where public shelters can be found, if necessary.

Items you may need to take with you:

- Checkbook, credit cards, cash, home insurance policy
- Driver's license, other identification
- Important papers
- Extra clothing, blankets
- Eyeglasses, dentures, prescriptions, other medicines and first aid kit
- Baby supplies, including diapers and formula
- Portable radio, flashlight, fresh batteries
- Pets, pet food, leashes, cages. NOTE: Pets are generally not allowed in public shelters.

**Appendix C: Barcroft Dam Emergency Stages**

The Barcroft Dam is a private dam North West of the City of Alexandria. The dam holds approximately 800 million gallons of water. The following identifies action points for the dam.

**Dam Emergency Stages**

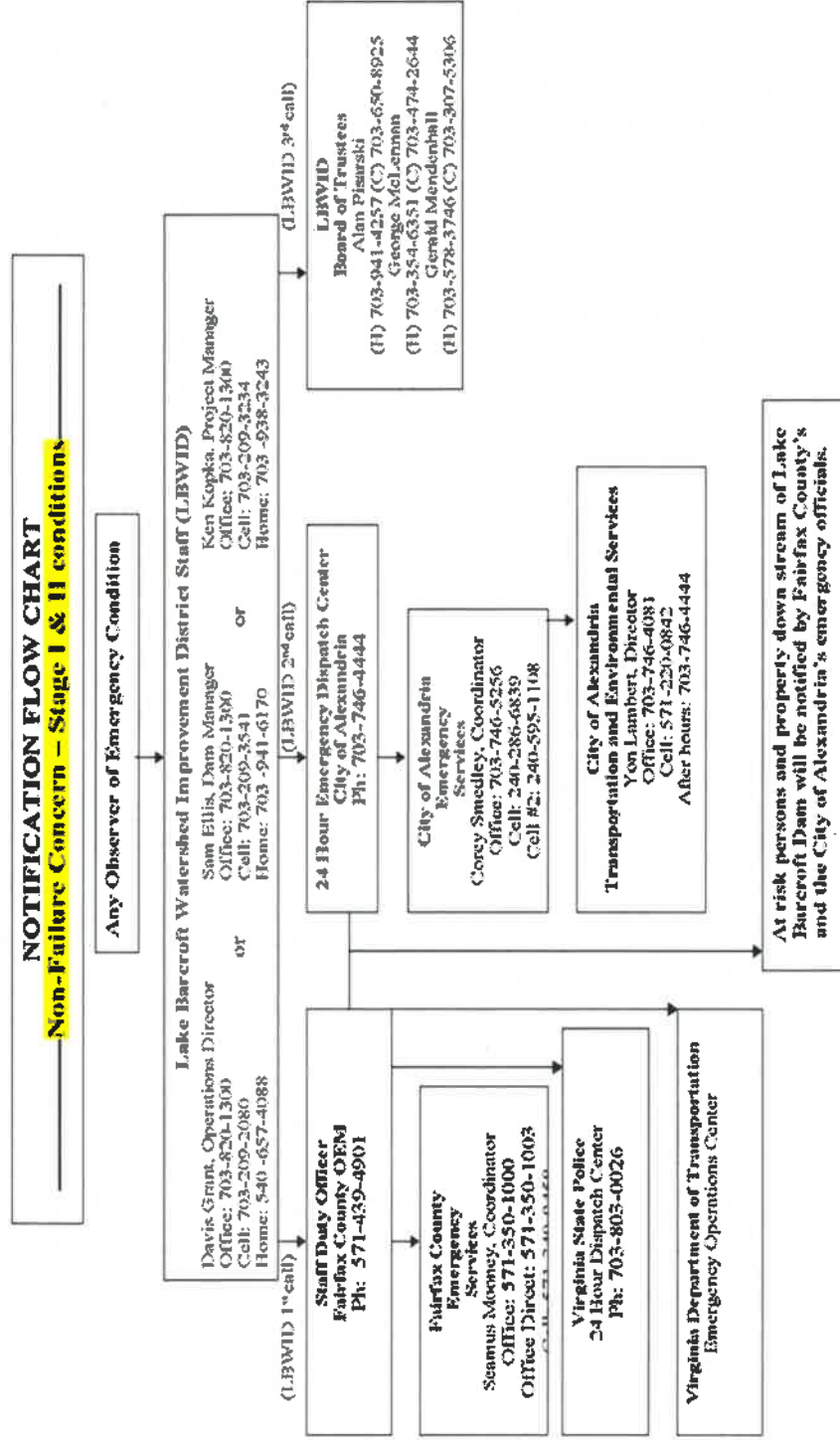
Stage 1	Slowly developing conditions; five or more days to take remedial action.
Stage 2	Rapidly developing conditions; overtopping is possible. Less than five days to take action.
Stage 3	Failure has occurred, is imminent or already in flood condition; evacuation recommended.

Event Status	Weather Conditions	Dam Conditions	Actions Required
Flood Advisory	Periods of Rain currently exits	Normal Operations	Police or T&ES will be sent to flood monitoring points.  OEM will monitor storm gauges.
Flood Watch	Significant rainfall with storm intensifying	Dam gates open to 20%	OEM will monitor the weather forecast, storm gauges, and provide City Officials with updates. OEM will also provide Police and T&ES with information on evacuation and shelter location. Police or T&ES at flood monitoring points will notify and assist affected citizens and businesses to evacuate the area.
Flood Warning	Threat is increasing significantly	Dam gates open to 30% with a discharge of 1,988 cubic feet per second.  Stage 1	OEM will monitor the water level. OEM will consider voluntary evacuation. OCPI will notify the public of the recommended voluntary evacuation. Police and T&ES will assist evacuating affected area.
Flood	Flooding is possible	Dam gates open to 100% with a discharge of 23,000 cubic feet per second.	OEM will monitor the water level. OEM will consider evacuation. OCPI will notify the public of the recommended voluntary evacuation. Police and

		Stage 2	T&ES will assist evacuating affected area.
Flood	Flooding is currently active	Dam Failure Stage 3	OEM and T&ES will monitor the area for recovery actions.

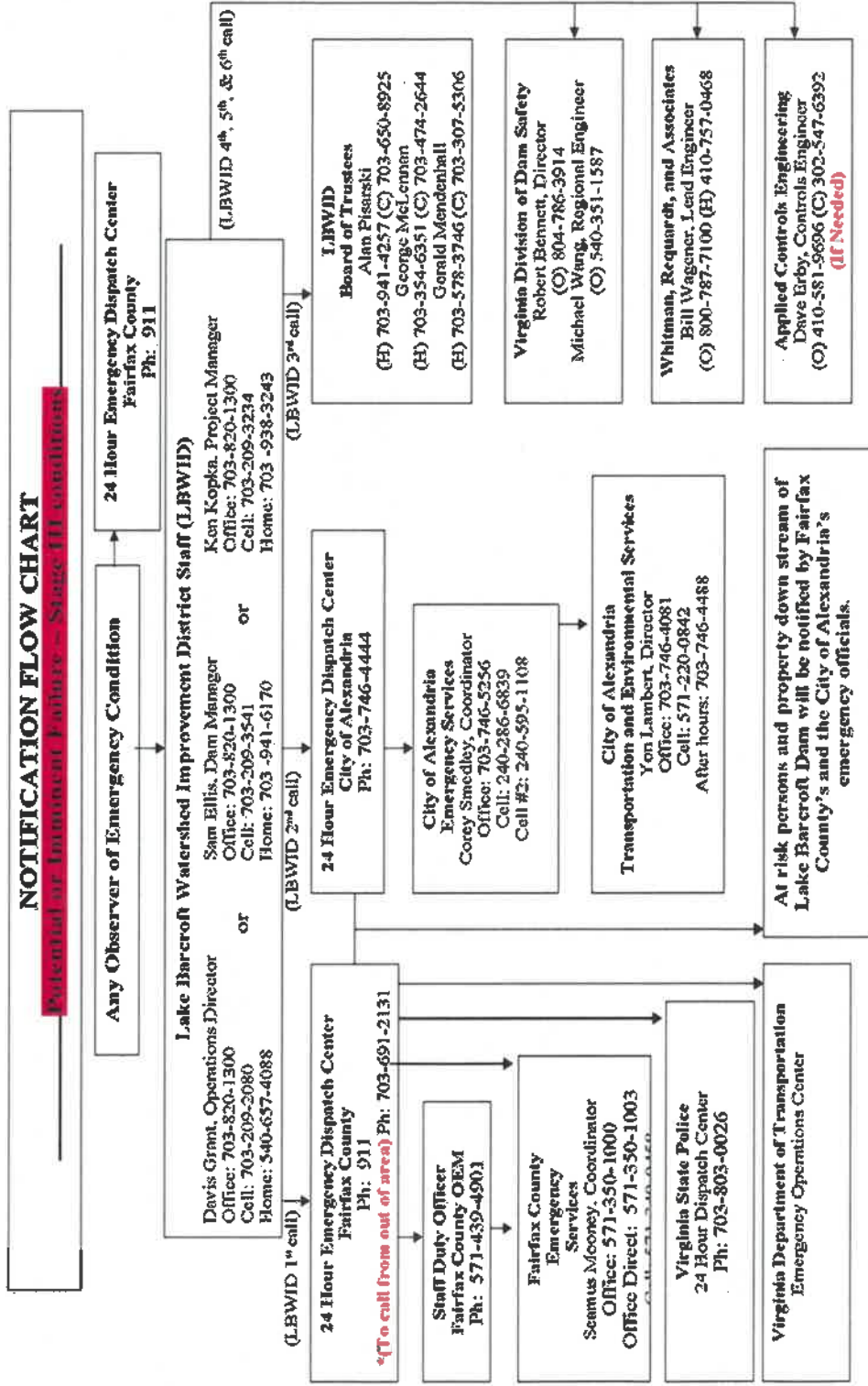
\*Taken from Lake Barcroft October 2016 Emergency Action Plan

**Appendix D: Lake Barcroft Dam Stage I & II Condition Notification Flow Chart**



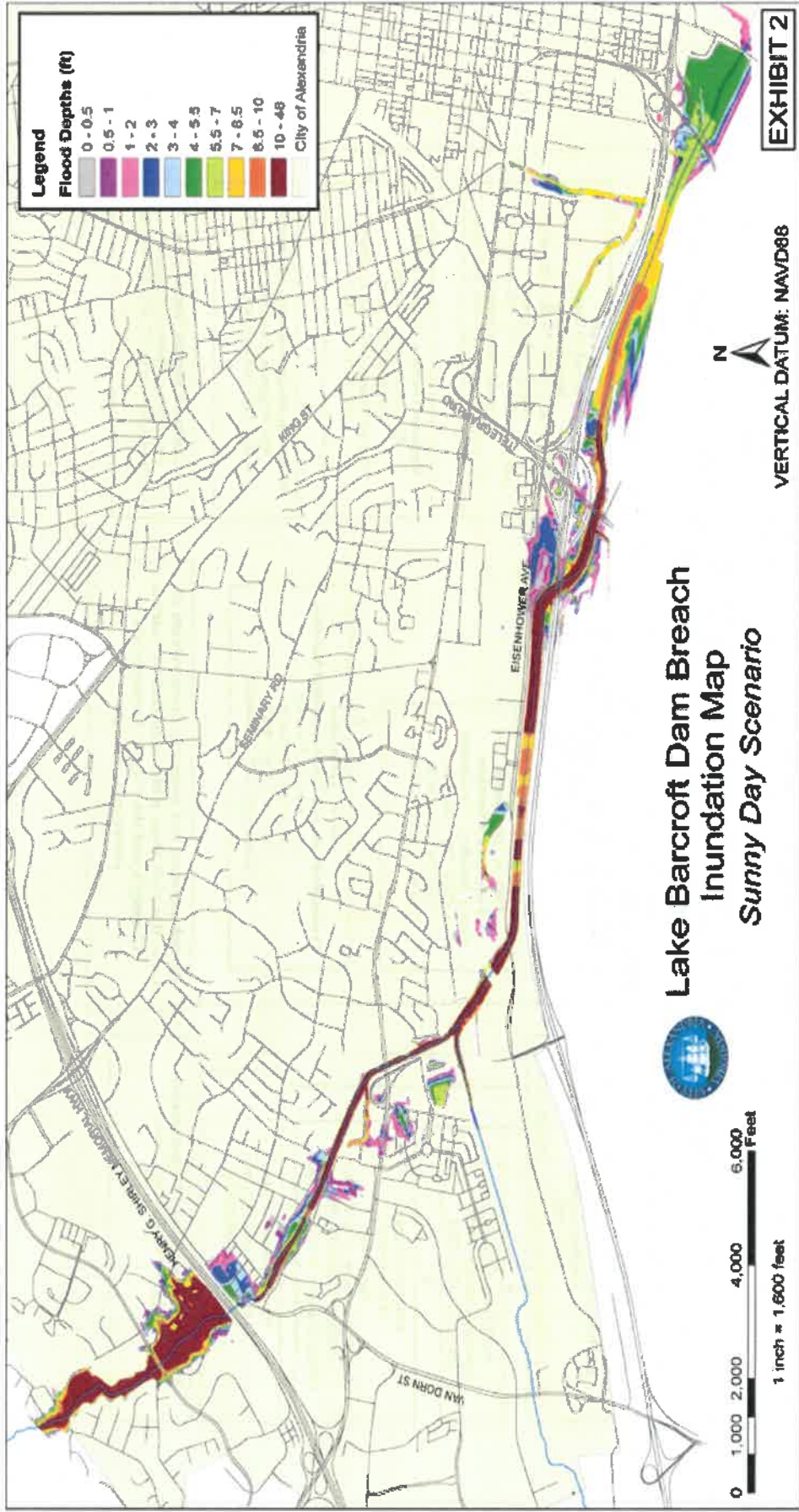
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Appendix E: Lake Barcroft Dam Stage III Condition Notification Flow Chart



Taken from Lake Barcroft October 2016 Emergency Action Plan

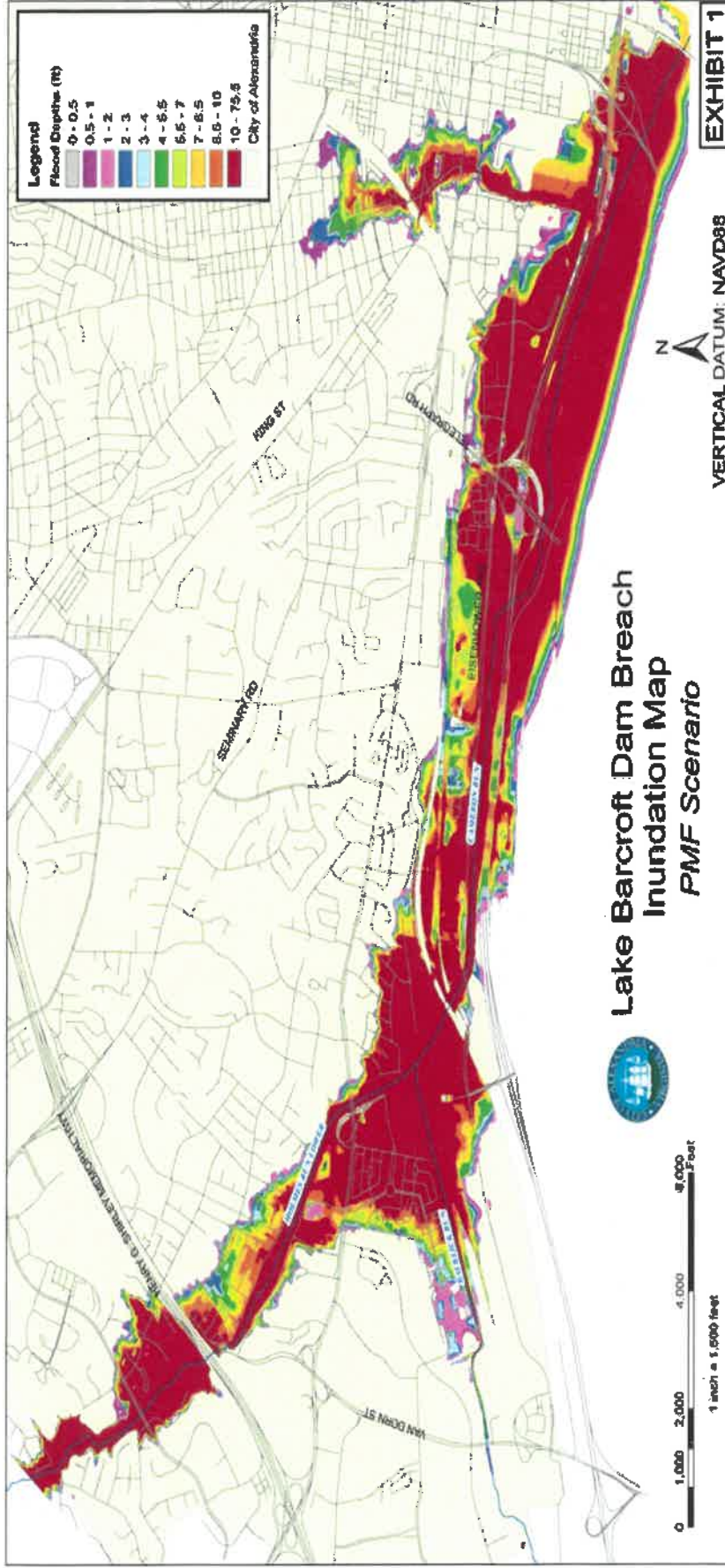
Appendix F: Sunny Day Lake Barcroft Inundation Map



Taken from Lake Barcroft October 2016 Emergency Action Plan



Appendix G: Lake Barcroft Dam Breach Inundation Map



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