

# Airway Heights PFOS/PFOA Water Supply Contamination

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# Presentation Outline

- PFOS/PFOA Chemicals
- Extent of contamination
- City response
  - Immediate
  - Medium term
  - Long term (ongoing)
- Ongoing health studies
- PFAS regulation for drinking water

PFOS/PFOA

# What is PFOS and PFOA?

- Part of family of PFAS, man-made per- and polyfluoroalkyl chemicals (there are several thousand different PFAS chemicals)
- PFOS/PFOA are the most studied but are being phased out by industry
- PFOS/PFOA used in the making of carpets and fabrics (stain resistant), clothing, food packaging, Teflon cookware and foam used in firefighting (AFFF)
- Most people (98% in developed world) have levels of PFOS/PFOA in their blood

# PFOS and PFOA (cont.)

- Studies show exposure over time may result in adverse health effects:
  - Fetal development problems and low birth weight
  - Cancer
  - Liver effects
  - Immune effects
- PFAS in drinking water are not a regulated contaminant
- In 2016, EPA lowered the Lifetime Health Advisory level for PFOS/PFOA from 600 to 70 parts per trillion

# PFAS Detection in Washington State

- PFAS have been detected in drinking water at four locations:
  - City of Issaquah
  - Joint Base Lewis-McChord
  - Whidbey Island Naval Air Station
  - Fairchild AFB/Airway Heights

# Contamination

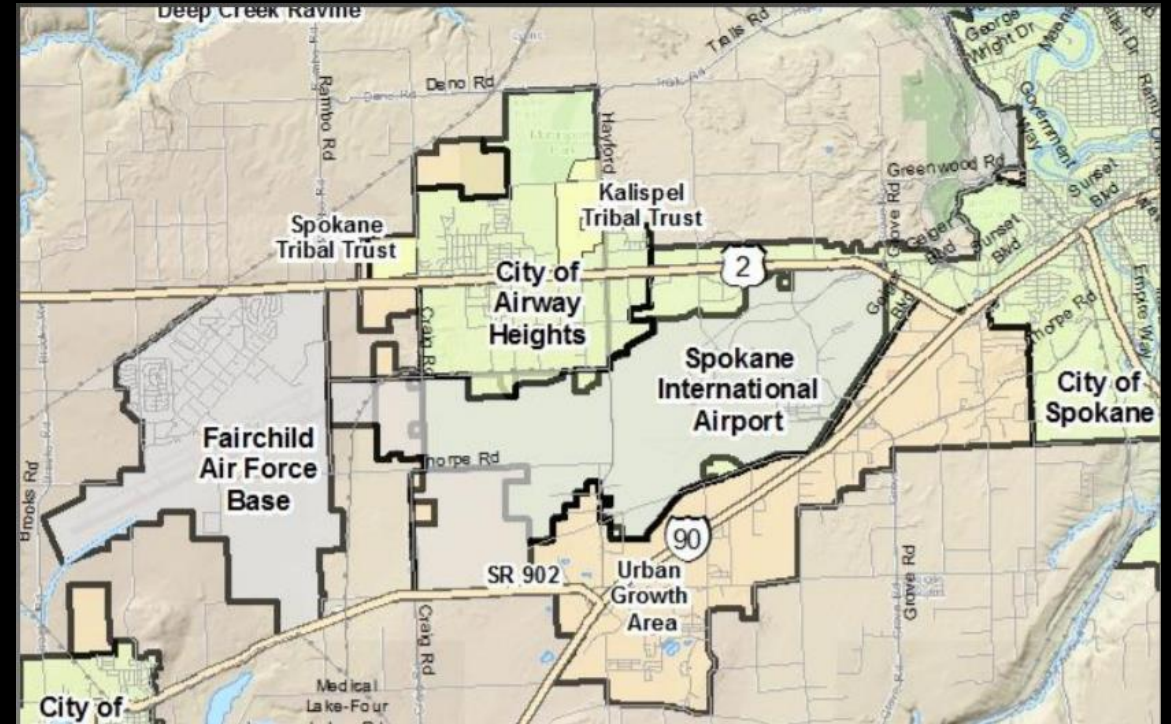
# Air Force testing of City wells - 2017

- Four City wells tested in May of 2017
- May 16 test results - 3 of 4 tested positive:
  - Wells 1 & 4: 1,400 ppt
  - Well 9: 1,520 ppt
  - Parkwest (backup well): ND



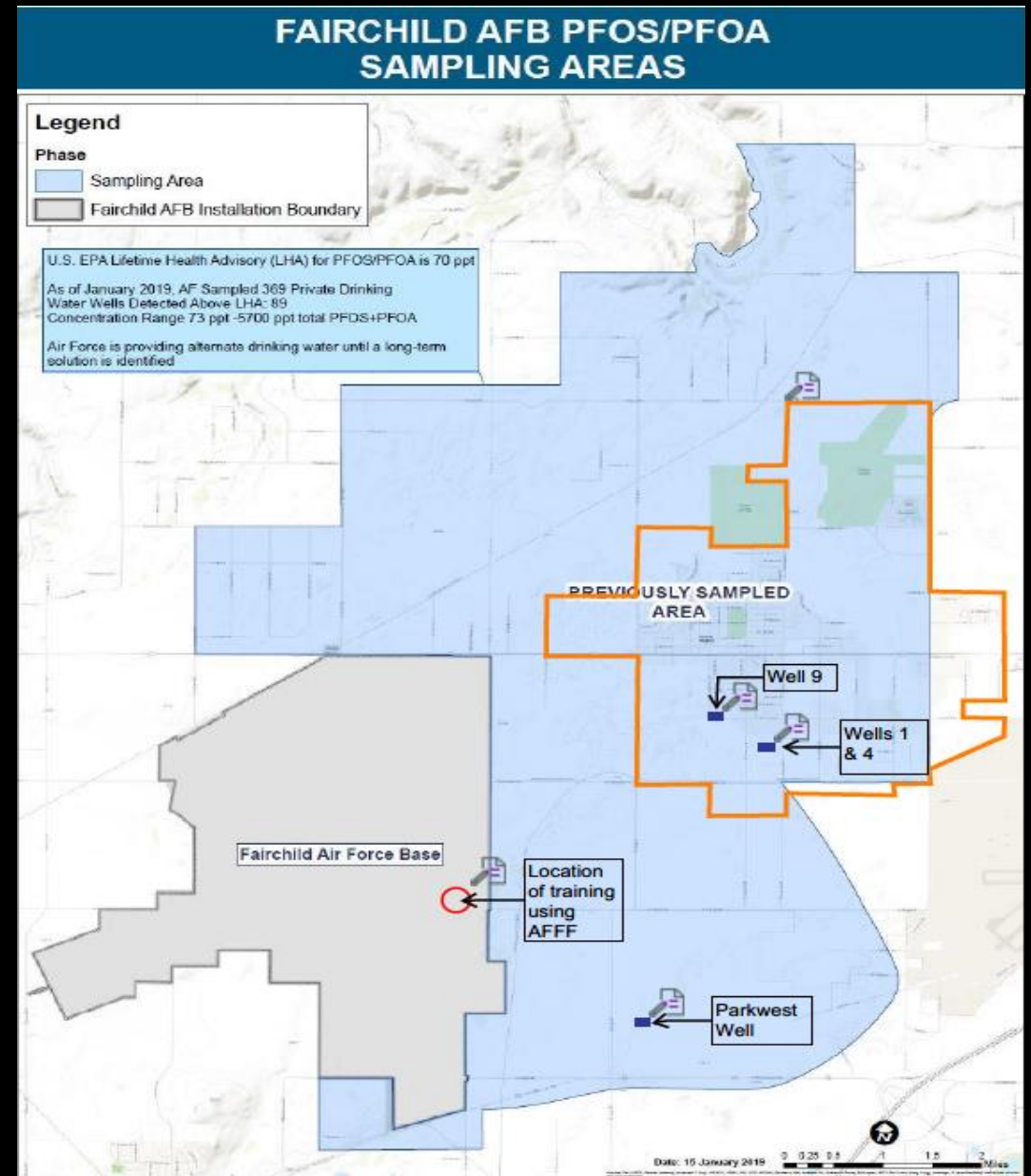
# City of Airway Heights

- One of the fastest growing cities in region
  - FAFB adding personnel
  - Industrial growth on West Plains
- Service population approx. 9,500
- Approx. 1,300 customers
  - Two growing Tribal casino developments
  - Department of Corrections facility
- Water Supply
  - Three primary wells – 1,400 gpm total
  - City of Spokane intertie – 1,500 gpm



# Extent of Contamination

- Blue area is extent of area sampled by Air Force
- As of January, 2019, 369 total wells tested
- 89 wells above LHA
- Concentrations as high as 5,700 ppt



Response

# City Response First Day – May 16

- Turn off all affected wells immediately
- Press Release
- Press Conference
- Door Hanger Notice
- 2-1-1 & Reverse 9-1-1 systems established
- Social Media outreach and website updated

## City Flushing Day 2

- Coordination with Ecology & DOH
- Flush only in areas where City water had been flushed previously
- Dead End lines flushed into water tank then taken away
- Original thinking was continuous flushing & consumption would rid system of chemicals within a week

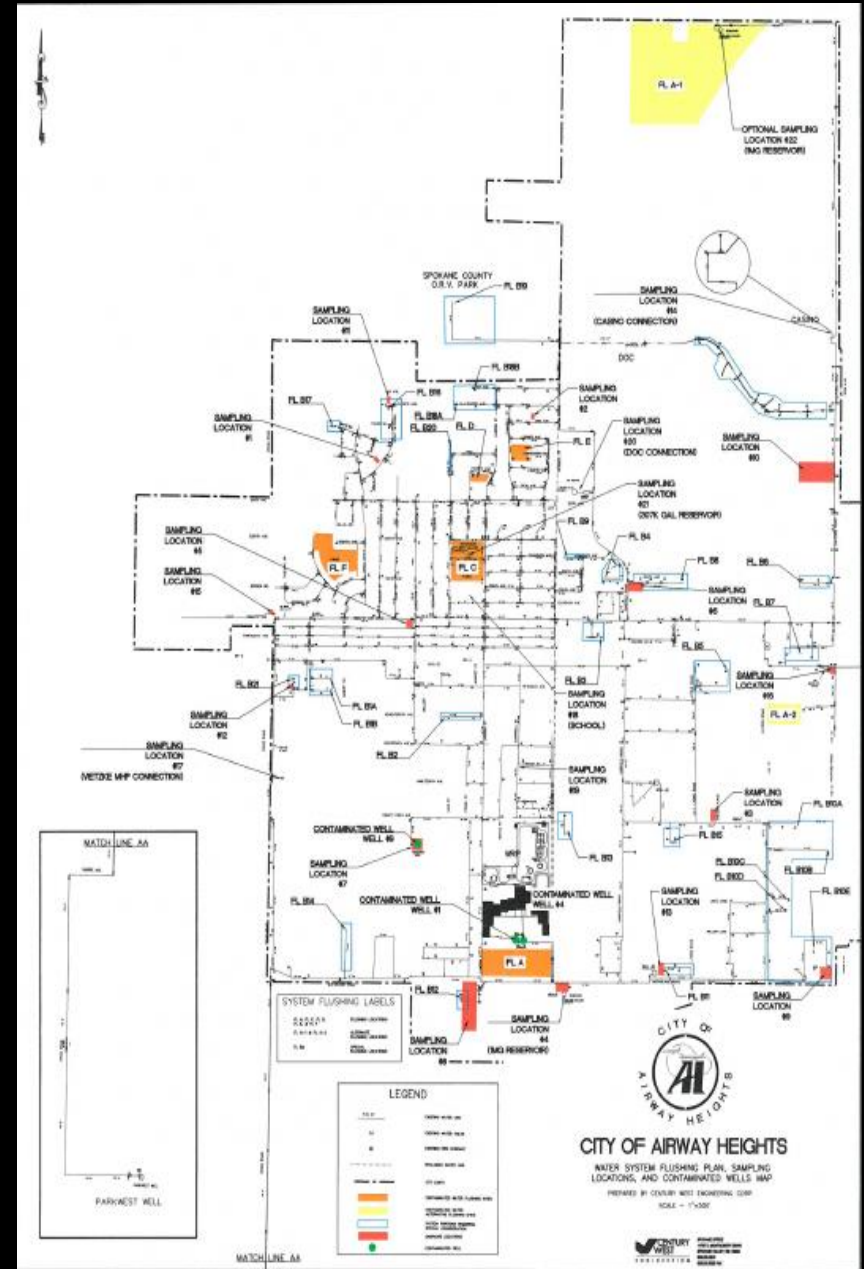
# City Flushing Plan

## Sen. Cantwell secures additional funds for Fairchild cleanup

UPDATED: Sun., Sept. 17, 2017, 9:04 p.m.

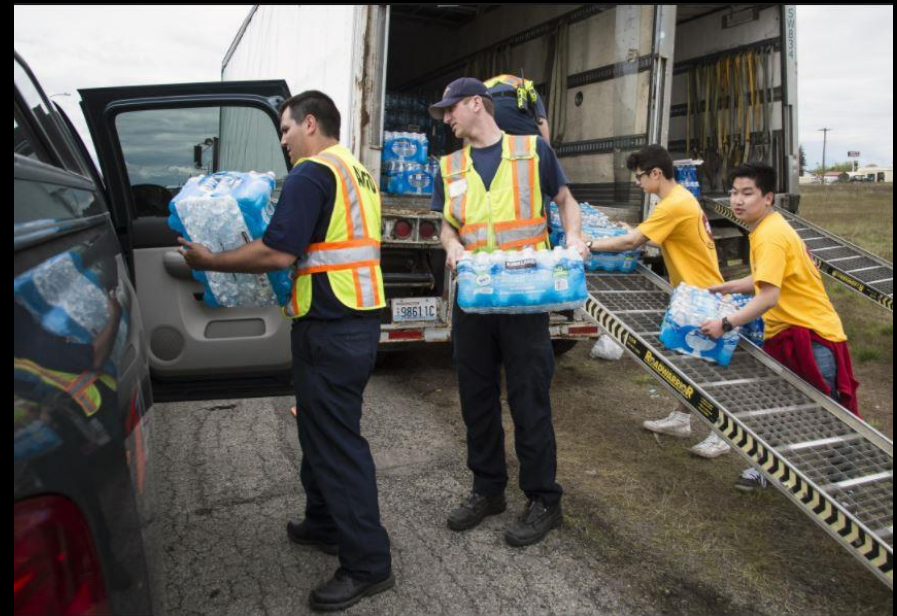


Airway Heights Public Work Department flushes potentially contaminated water from a fire hydrant into Aspen Grove Park in Airway Heights, Friday May 19, 2017. The city is working to remove contaminants from the water pipes caused when chemicals used for fire suppression at Fairchild Air Force Base entered the water supply. (Colin Mulvany / The Spokesman-Review)



# Bottled Water to Citizens beginning Day 2

City began purchasing bottled water and set up a distribution site to all customers



# Supplemental Emergency Intertie with Spokane

- Completed by Day 4
- DOH expedited review of concept
- 500 gpm capacity, increased supply 1/3rd
- From idea to operational – 3 days





# Bulk Water Delivery to Businesses – Day 5

- Reached out to businesses affected
- Two immediately requested help:
  - Cyrus O’Leary’s Pie Production Facility
  - Northern Quest Casino – Restaurant operations
- Fill Station – Hydrant from Spokane
- Food grade milk trucks were rented



# Timeline – Testing and Lifting Health Advisory

- May 26 – 17 samples, 6 were above HA
- June 1 – 20 samples, 6 were above
- June 7 – One location was above HA, valved from system
- June 8 – Health Advisory lifted
- Total duration = 3 ½ weeks

# Water Supply Restoration

# 2018 Improvement: Seasonal Temporary Granular Activated Carbon Filters – Well 9

- Air Force project to restore capacity of largest well
- Summer-time seasonal use
- Carbon-based products and ion-exchange systems evaluated
- Virgin bituminous GAC system selected
- Constructed plant = four duplex GAC systems in parallel
- 300 gpm capacity per system = 1,200 gpm well capacity
- No detectable PFAS in treated samples



# 2018 Improvement: Intertie No. 2 with City of Spokane

- Negotiated a temporary (5 yr) increase in supply w/ City
- Consisted of a flow control valve, meter and PRV
- 1,400 gpm capacity
- Additional capacity is temporary until long term supply restored



# Long Term Water Supply Restoration

- Working with Air Force and their consultants on an Engineering Evaluation/Cost Analysis of available options
- EE/CA still ongoing, preliminary evaluations expected later this summer
- Available options include:
  - New wells outside contaminated area
  - Treatment of existing and future wells
  - Some combination

# Health Testing and Regulations

# Airway Heights PFAS Health Testing

- CDC will be conducting an exposure assessment health study at eight communities later this year (including AWH)
  - Measure PFAS levels in blood and urine
  - Compare results to general population
  - Identify and assess environmental factors affecting exposure
- Airway Heights one of six communities being considered for a separate study to identify health effects



# PFAS Regulations

- In 2018, Washington State passed law:
  - Restricting PFAS in food wrappers where safer alternatives are available
  - Prohibiting use of PFAS in firefighting foams
- Washington State DOH is planning to recommend state “action levels” for up to 4-5 PFAS which would have some monitoring and notification requirements.
- EPA is evaluating whether to impose a lower lifetime health advisory or MCL for drinking water

Questions?