

SOUTH WEBER CITY CITY COUNCIL MEETING

DATE OF MEETING: 8 May 2018

TIME COMMENCED: 6:01 p.m.

LOCATION: South Weber City Office at 1600 East South Weber Drive, South Weber, UT

PRESENT: MAYOR: Jo Sjoblom

COUNCILMEMBERS: Blair Halverson
Kent Hyer
Angie Petty
Merv Taylor
Wayne Winsor

CITY ENGINEER: Brandon Jones

DEPUTY RECORDER: Lisa Smith

CITY TREASURER: Paul Laprevote

Transcriber: Minutes transcribed by Michelle Clark

ATTENDEES: Chris Tremea, Preston Lasater, Lynn Wood, David Harris, Mark Roginske, Keith Russell, Shannon Smith, James Cook, Stanley Cook, Chris Loock, Adrienne Andrews, Albert Andrews.

Mayor Sjoblom called the meeting to order and welcomed those in attendance.

PLEDGE OF ALLEGIANCE: Council Member Winsor

PRAYER: Mayor Sjoblom

CONFLICT OF INTEREST: None

CONSENT AGENDA:

- Approval of April 10, 2018 Minutes
- Approval of April 17, 2018 Minutes
- Approval of March 2018 Budget to Actuals Report

Council Member Taylor moved to approve the consent agenda as amended with the deletion of the March 2018 budget to actuals report. Council Member Halverson seconded the motion. Mayor Sjoblom called for the vote. Council Members Halverson, Hyer, Petty, Taylor, and Winsor voted yes. The motion carried.

PUBLIC COMMENTS: Mayor Sjoblom said anyone who would like to participate in public comment may come to the pulpit, state name and address, and keep comments to three minutes.

Albert Andrews, 1972 Cedar Bench, said there is an Air B& B close to them. There are strangers coming and going at all hours of the night. There is a day care located down the street. He would like to know if South Weber City is thinking about it.

Adrienne Andrews, 1972 Cedar Bench, said she was really troubled with having an Air B&B because the address on the map is different. She said this is a business. She feels the City needs to be aware of this.

Mayor Sjoblom asked Chris Tremea, Ordinance Enforcer, if he has any comment. Chris Tremea said he has received complaints about vehicles parking on street. He said every community has been bothered by this. He said most communities don't regulate rentals. He feels the city needs to make a plan of attack. He said currently there are two of them in South Weber. He said this is advertised as business. This particular occupancy allows for ten people every night. He said this is going to be a problem. He will put together a plan to see what can be done. He is working with other local communities who have this type of business going on in their city as well.

Written statement submitted by Brent Poll (See attachment)

Environmental Update Presentation by HAFB: Hill Air force Base (HAFB) is a Superfund site. HAFB monitors the contamination within South Weber City and other cities around the base. They are in attendance tonight to update the council on the results of the monitoring and the source rehabilitation.

Shannon Smith, of Hill Air Force Base Civil Engineer Center, reviewed the areas of contamination. She said there are three areas Operable Units, 1, 2, & 4. She noted that drinking water is not contaminated. She said contamination is found in shallow groundwater. Cleanup levels are based on drinking water standard. She said all remedies are agreed upon by the Air Force, EPA Region 8 & Utah Department of Environmental Quality (UDEQ). She identified Operable Unit 1. The source areas are located on base and cover about 64 acres. The contaminant of concern is (cis) 1, 2-Dichloroethene (DCE). She said it is the most widespread contaminant. She said it is not known to cause cancer. The cleanup standard is of 70 parts per billion. She reviewed the actions and remedies at OU 1. She said the Record of Decision was signed in 1998. HAFB installed groundwater collection trenches around the source areas to capture contaminated groundwater and fuels floating on top of groundwater preventing migration of contaminants off-base. 265 million gallons of contaminated groundwater have been captured. 19,200 gals of fuel removed, and trenches have a 98% capture efficiency. HAFB removed contaminated sediments around off-Base springs when flows stop. She said the remaining arsenic does not pose a human health risk. HAFB is also monitoring natural attenuation rates in plume. She then reviewed the OU1 cleanup time frame. The current plume cleanup is estimated in 2040s. She discussed OU1 remedies concerning groundwater extraction system and landfill caps. She said there is ongoing groundwater monitoring. She said using the results of the health risk assessment presented in the ROD as a baseline, she asked the question, "Are the treatment systems preventing exposures which could lead to a health risk (i.e. are the remedies protection)?" The 2013 review found the remedy was protective and the 2018 review is under way.

Shannon then reviewed Operable Unit 2 (OU 2). She said in 1967-1975 HAFB disposed and estimated 50,000 gallons of solvents. The primary contaminant of concern is Trichloroethene (TCE). It was a degreaser used at Hill AFB. The Carcinogenic can cause cancer. It is the most widespread contaminant. She reviewed the actions and remedies which include: containment wall, extraction wells, air stripper (SRS), interceptor trench, seep intercept system. Additional actions include source area soil mixing by zero-valent iron (ZVI) and clay, mixed into subsurface using large auger, clay binds contaminants & reduces groundwater flow through treated area, and ZVI treats contaminants. If successful, this could be used in remaining source areas. OU2 cleanup timeframe is estimated to be 15 to 30 years; however, complex hydrogeology makes it difficult to estimate. The current plume cleanup is estimated in 2100s. She said in 2013 the review found the remedy was protection and the 2018 review is under way.

Shannon then reviewed Operable Unit (OU 4). She said TCE is the primary contaminant of concern. The TCE plume has not significantly expanded since 1994 ROD. She said overall, concentrations have remained fairly constant. Remedies for OU 4 include: low-permeability cap, horizontal drain network, and groundwater monitoring. She said in 2013 Five-Year Review the current remedy is not functioning as intended but remains protective in the short-term. Landfill 1 cap likely limits infiltration of surface water. Horizontal drains have extracted 42 million gallons of groundwater. It works but is not reducing cleanup timeframe. She discussed the OU 4 cleanup timeframe and stated the cleanup timeframe is greater than 30 years. She said we know it is longer. She said the TCE is continuing to source to groundwater. She said more work needs to be done at Landfill 2. Current plume cleanup is estimated in 2080s.

Council Member Taylor asked if individuals are exposed to the contaminants. Shannon said they will provide information to a developer and it is their decision as to how they handle it. She said we will give a developer the data we have collected. Council Member Winsor asked Shannon if she were to build her dream home would she live in this area. She said she would. Council Member Halverson discussed requiring a developer to conduct studies. Shannon said there are environmental contractors who offer that service.

Mark Roginske, of HAFB, stated a lot of these contaminants are in our consumer products. He discussed the Vapor Intrusion (VI) in OU 1, 2, & 4. He said at OUs 1 and 2 the VI is not from traditional evaporation from groundwater pathway. VI is from sewer line receiving TCE contaminated groundwater from on-base treatment system. At OU 4 there is no significant VI occurring. He said action levels are established for each chemical with EPA and UDEQ approval. He then review the 2016/2017 Air Sampling Results. He said there are 61 homes in the affected area. 61 homes have been sampled since 2003 (many outside current affected area). He said 7 homes agreed to sample in 2016-2017. He said there were 4 homes with detections above action level, 57 homes with results below the action level, 1 sewer vent fan installed in January 2017 and 1 sewer vent fan installed in February 2011. 5 homes have vapor intrusion mitigation systems. In 2016-2017 there were no homes with detection above action level.

Council Member Taylor asked how often the air sampling is conducted in homes. Mark said they sample once a year. The Mayor and Council thanked Mark and Shannon for their presentation.

Discussion on Development of Larry Ray Property Request by Keith Russell: Mayor Sjoblom stated this property is located with two counties, Davis and Weber. Mr. Keith Russell has requested to appear before the council to discuss his proposal for the property. He is desirous to change the county line and develop the property entirely within South Weber City.

Keith Russell said he has discussed this item with Barry Burton. He said having parcels in different counties is unique. He said five acres are not in South Weber but are in unincorporated Weber County.

Mayor Sjoblom said we haven't dealt with this before. Keith said it is a land locked piece for Weber County. He said they would like direction or help in figuring out how to go about annexing a piece of property into Davis County.

Lynn Wood said it seems like the natural boundary is the freeway. He would like to know if there are other property owners who would like to annex into Davis County. It was stated Barry Burton has identified other property owners in his memo of 18 April 2018.

Brandon Jones, City Engineer, reviewed the Land Use Map. He identified the property. He said the city's annexation plan does identify this area. He said this is certainly something that can be addressed; however, he doesn't know how difficult the process would be to do this. He suggested the Council give the city staff direction to work with the Planning Commission. Council Member Winsor said the first step is to get the counties together.

Council Member Winsor said there is a cost involved with annexation. He suggested going through the Lieutenant Governor's Office. Lynn Wood said they are willing to look at cost sharing.

Council Member Hyer directed city staff to look into what is needed to do the annexation for this area and report back on the magnitude. Keith asked the Council's opinion concerning a concept plan for developing R-M in this area. Brandon said this general plan identifies this area for R-LM density. Mayor Sjoblom said the Planning Commission will need to review a rezone request.

Discuss Extension of Kingston Drive:

Mayor Sjoblom stated the city vehicle transportation plan and map show Kingston Dr. extending from the current stub on the east side of the Soccer complex (Raymond Dr.) on west to the county line. During discussions with the soccer facility, the need to extend Kingston Dr. across this property was discussed. The need to expend Kingston Dr. further west was also discussed in the Planning Commission meeting of April 12, 2018. The item was not on the agenda and no official action was taken. It is not fiscally feasible for the Kelly Parke to put the road through. If this portion of his property was sold, it is unlikely that a developer could afford to pay for the road with an industrial development. When the Larry Ray property to the west develops, they will be required to also stub a road to the soccer property. This would leave the city paying the cost of the road and underground infrastructure if the two stub roads are to eventually be connected. She said the city staff feels Kingston Dr. can end at Raymond Drive without any negative impact on growth and traffic movement in the future. Harper Way to the north will meet the traffic flow needs of this area. She said if the city council agrees to end Kingston Dr. at Raymond Drive, the processes to change the Vehicle Transportation map and eliminate the current stub road will begin. Brandon Jones asked the Council if they feel it is important for Kingston Dr. to extend. Mayor Sjoblom said the Council is open to the idea stopping the road at Kingston Dr. and not stubbing west. Council Member Winsor is not in agreement and feels the city is challenged on east west travel connections.

Award of Contract for 6650 South Closure:

Brandon Jones, City Engineer, stated he has reviewed all bids, start dates and completion days. Taking these factors into consideration, he recommends that the Council award the project contract to Advanced Paving and Construction, LLC, based upon their experience in doing similar work, their low bid of \$44,351.00, their start date of June 1, 2018, and their 21 calendar days to complete the work.

The bids received are as follows:

Advanced Paving Construction, LLC	\$44,351.00
Post Construction	\$46,149.25
Staker & Parson Co.	\$52,573.50
ABC	\$60,462.50

Mayor Sjoblom stated this bid is over the City Engineer's estimate; therefore, the budget would need to be opened. She discussed this item with Mark McRae, Finance Director, and said the money is available.

Council Member Taylor moved to accept the bid and award the project contract to Advanced Paving Construction, LLC with their bid of \$44,351.00, starting on June 1, 2018 and completing the work by June 22, 2018. Council Member Halverson seconded the motion. Mayor Sjoblom called for the vote. Council Members Halverson, Hyer, Petty, Taylor, and Winsor voted yes. The motion carried.

Discussion on Development at Approximately 2100 E South Weber Dr. Request by Chris Loock: Mayor Sjoblom stated the City's owns property on the s curve at approximately 2100 E South Weber Dr. The property was put up for sale around a year ago and is zoned Commercial.

Chris Loock said he would love to bring a commercial project to South Weber but he doesn't see it happening at this location. He is interested in this property for high density development. Mayor Sjoblom asked Chris if he is interested in any type of mixed use. Chris said he isn't confident this is a good location for commercial. He said there is no visibility from Highway 89. He said the city's population just isn't there to support commercial. Chris Loock said this property is located next to Parsons gravel pit, which makes it tough. Brandon Jones discussed the city's infrastructure and the Capital Facilities Plan (CFP). He said the CFP does include high density for this area, but it isn't unlimited. He said higher density would require pipe upsizing. Council Member Winsor understands today's climate, but any ground designated as commercial that we give up for residential, puts more burden on taxpayers in this community. He said this city owned property can be used for a new city office etc. He is not in favor of high density in that area. Mayor Sjoblom suggested taking this to Planning Commission as well. Council Member Petty stated she hesitates putting high density at this location. Council Member Halverson stated he is up in the air about it. He said putting it up for sale was before his time, and he wouldn't have put it up for sale. Council Member Taylor feels the city needs to hold onto the property.

Approval of Cost Share on 1375 East Paving:

Mayor Sjoblom stated as part of the utility work required for the Ray Creek Estates Subdivision, much of the pavement in 1375 East (by Canyon Drive) had to be cut. The Developer is responsible to patch all of the utility trench cuts in the road. However, due to the number of cuts and the poor condition of the remaining pavement, the Public Works Department felt it would be best to remove all of the asphalt and install new pavement across the entire width of the road. Jones & Associates agree with and fully support this recommendation. This will provide for a much longer life on this road than if it was only patched.

The Developer is not responsible for the entire road. Therefore, a cost share approach was proposed and a bid to do the additional work was requested. The bid for the additional work that would be the City's responsibility from Wilcoxon Enterprises is \$17,055.

Council Member Winsor asked if this is approved, would there be a moratorium on any cuts on the road. Brandon said he would want to investigate to see if there are any other needs before paving.

Council Member Hyer moved to approve the cost share on 1375 East of \$17,055 to Wilcoxon Enterprises for paving. Council Member Winsor seconded the motion. Mayor Sjoblom called for the vote. Council Members Halverson, Hyer, Petty, Taylor, and Winsor voted yes. The motion carried.

REPORTS:

Council Member Taylor: He asked about the Sheriff's Office increase. Mayor Sjoblom said city staff has been directed to look into other options.

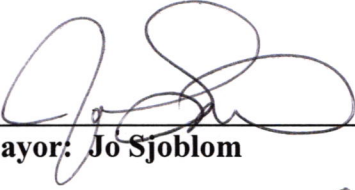
Council Member Halverson: Environmental Committee Meeting will be held next Thursday at 6:00 p.m.

Council Member Petty: She stated the Parks and Recreation Committee met to discuss a restroom at Veteran's Memorial Park. She said there are no garbage cans at Central Park. Chris Tremea said he thinks they have it sorted out.

Council Member Winsor: He will be attending the Mosquito Abatement Meeting.

Mayor Sjoblom: She reported that Blair Halverson will be attending Planning Commission meetings. Also, a new city manager has been hired.

ADJOURNED: Council Member Winsor moved to adjourn the Council Meeting at 8:21 p.m. Council Member Petty seconded the motion. Council Members Halverson, Hyer, Petty, Taylor, and Winsor voted yes. The motion carried.

APPROVED:  _____ Date 5/22/18
Mayor: Jo Sjoblom

 _____
Transcriber: Michelle Clark

 _____
Attest: City Recorder: Mark McRae



ATTACHMENT:

South Weber Coalition

Executive Director
Brent Poll

Technical Advisor
Dr. John Carver



8 May 2018

City Council
City of South Weber
1600 East South Weber Drive
South Weber, Utah 84405

Subject: Critical Factual Error
Rezone of Cook Property
Approval of 10 April

Minutes

Dear City Council,

Several significant errors of material fact were voiced by the Mayor, Council members and the developer in efforts to support a 4 to 1 vote in favor of the subject rezone. Some of those were: (1) the claim that the OU2 Superfund site was the one potentially impacting the proposed Cook-property rezone. (2) The supposedly very limited “hard evidence” the City had, to define risks in the subject area, was mostly through sentry-well testing and (3) the developer’s insistence that the City’s own Sensitive Land Maps discounted pollution as a threat for the subject area.

The main problem, with the above conclusions, is the question of authority/responsibility for deciding the scope of risks associated with a National Priority List (NPL) site. Hill AFB was placed on the NPL largely due to the massive amounts of pollution it allowed to flow off-Base into the South Weber Valley. Such placement necessitated a Remedial Investigation/Feasibility Study (RI/FS). This study for OU1 (in section 3.1.0.3), not OU2 as cited in subject meeting, defines the Exposure Assessment for most of the western portion of our valley. It includes all the property proposed for rezone in the subject meeting. This section remains as the only ‘hard evidence’ of risk for valley residents in the areas thus defined. The Explanation of Significant Differences (ESDs) in 2015 further reports that those risks are projected to remain until ‘some uncertain timeframe estimated to be in the 2040s.’

The developer touted the City's Sensitive Land-use Maps, but those are baseless and grossly inaccurate (see our TAG reports). In fact, they completely contradict the RI/FSs reflected above as required by placement on the NPL. The City has absolutely no justification for the vast disparity between its maps and those necessitated by the NPL.

Likewise, it has no authority to discount, disregard or otherwise misconstrue the clear language in those RI/FSs. However, in doing so, it has greatly elevated potential exposures in our valley by approving higher-density zoning (with higher-density populations soon following) in areas that it should have known were well within areas threatened by leaking Superfund sites as identified through NPL required RI/FSs. A review of NPL criteria accounts for developing or redeveloping affected property AFTER a property is 'de-listed.' Those guidelines are silent regarding land-use authorities who audaciously decide to place even more potential receptors in pathways of contaminants that are expected to remain a threat 'until some uncertain time in the 2040s.'

Rather than the statutory protector/promoter of the health and welfare of present and future residents, our City has become a major contributor to a contrary result. There is no valid excuse for this. Everything mentioned above about risks has been publicly available for decades. But City officials need to learn this for themselves. Relying on a military polluter has never been fruitful here or elsewhere. Congress, through SARA, made real remediation 'discretionary' for such polluters.

Stop digging this City into an even bigger hole. You may not be able to move us old-timers (who should know better) out of threatened areas, but you should deny rezones of pollution-threatened areas (per NPL required RI/FSs). The City might also avoid being so dismissive about the continuing "imminent and substantial endangerment to the public health" posed by the Base's pollution. The OU1 ROD, 2013 FYR and 2015 Explanation of Significant Differences formally disagree with such unfounded inferences.

Let me know if you have questions regarding the above observations.

Brent Poll

Air Force Civil Engineer Center



South Weber City Council Update

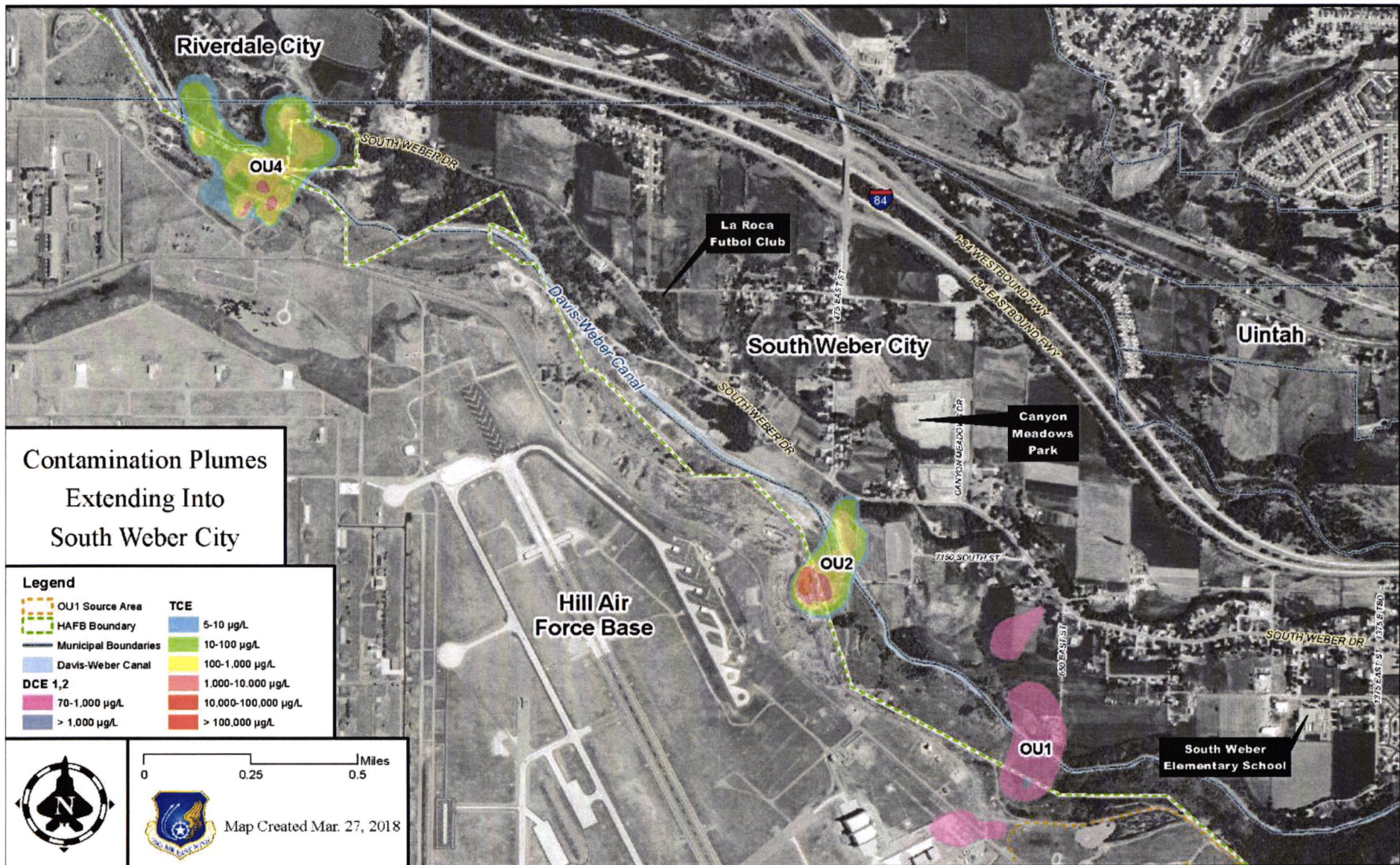
Shannon Smith and
Mark Roginske

8 May 2018

Battle Ready... Built Right!

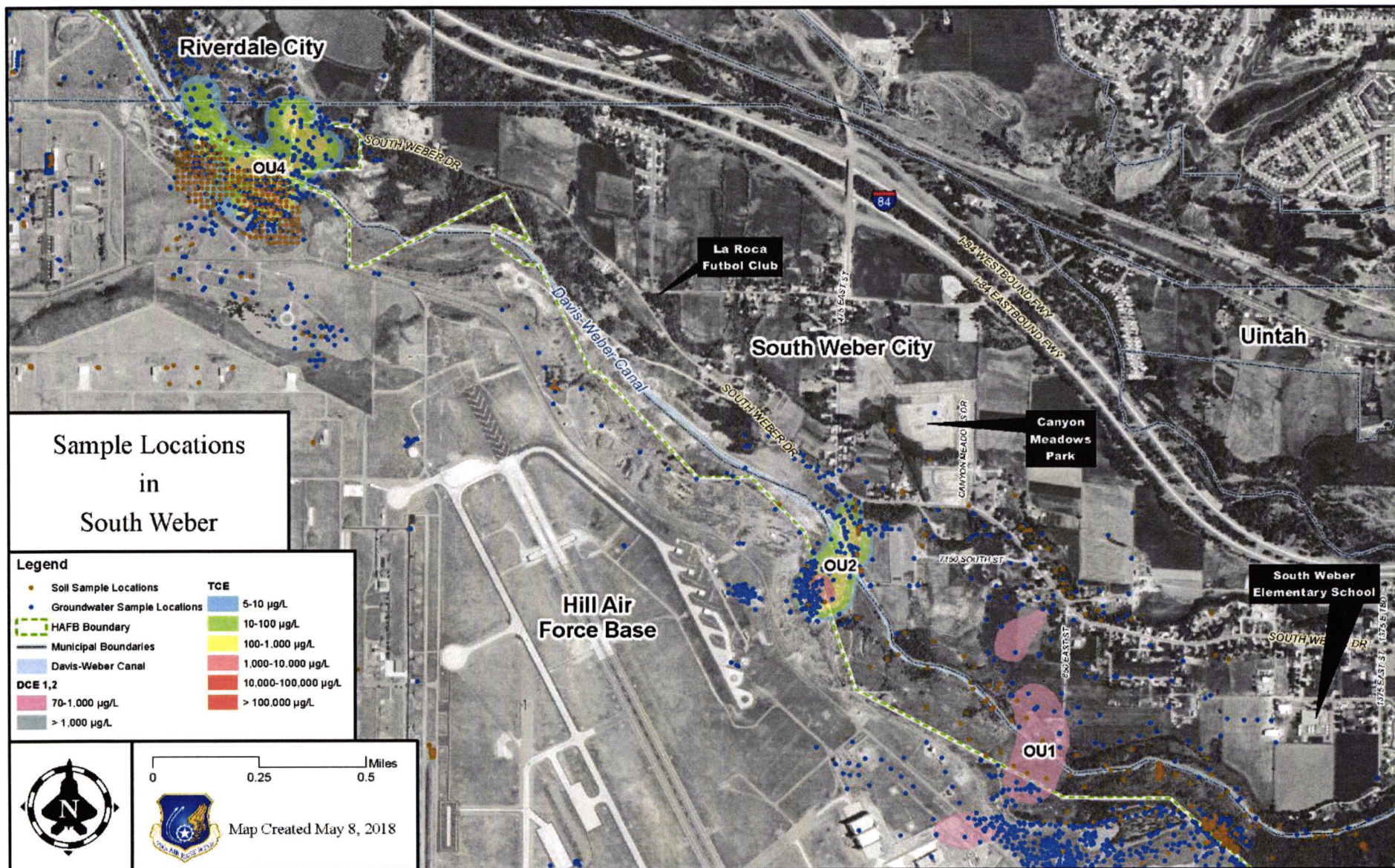


Areas of Contamination





South Weber Sample Locations





Overview



Operable Units 1, 2 & 4

- Areas of Contamination & Treatment Systems
- Cleanup Progress /Timeframe
- Protectiveness of Cleanup Remedy

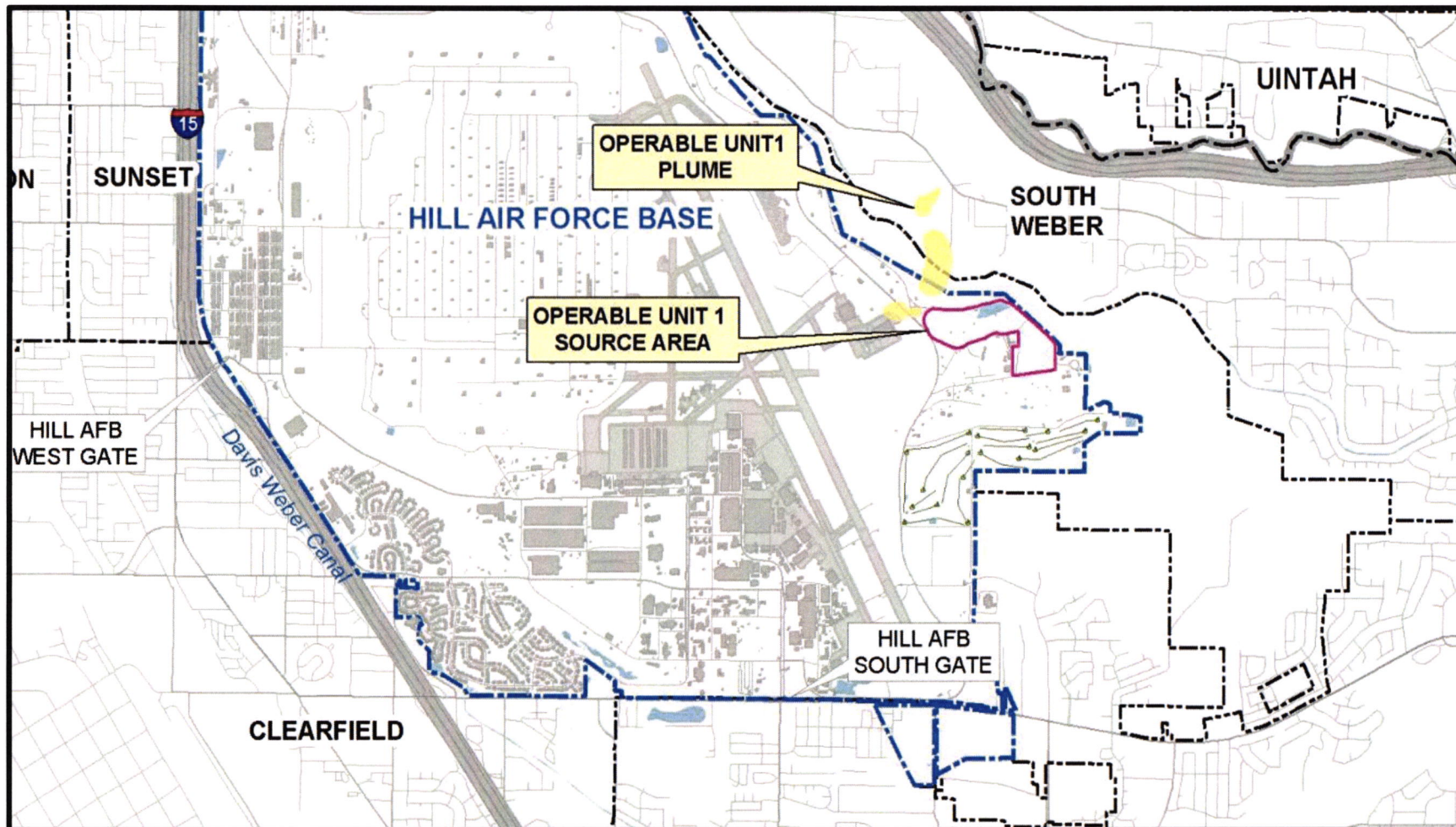
Indoor Air Sampling Program

Items to Note:

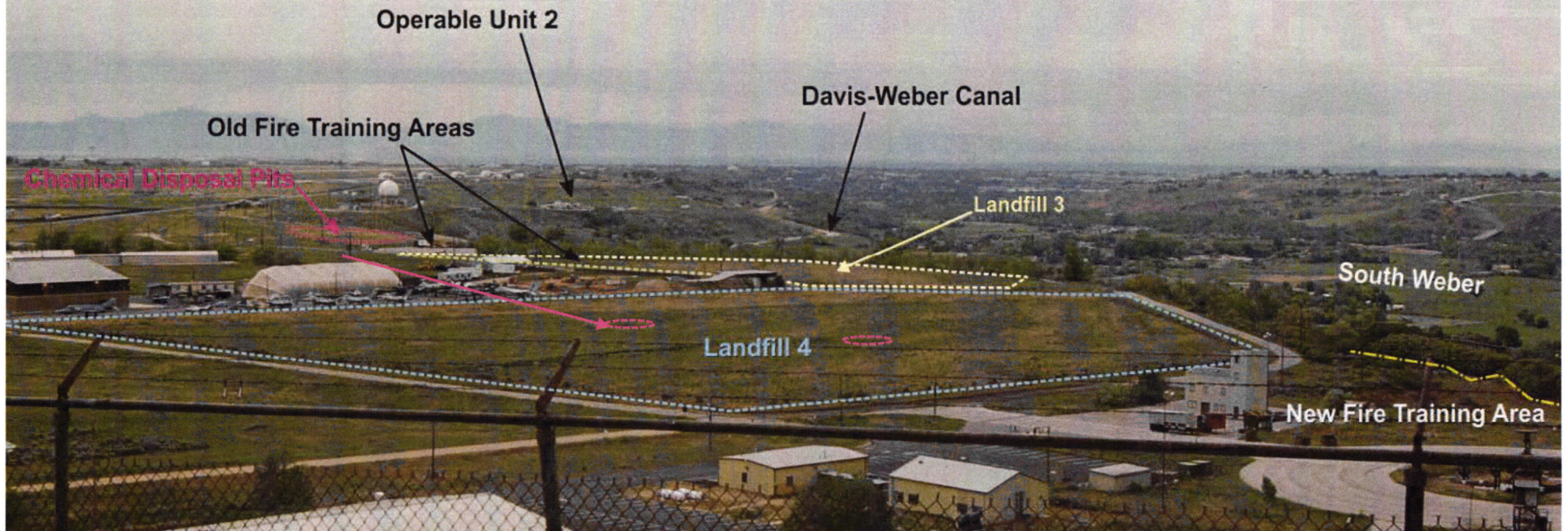
- **Drinking water is not contaminated**
 - Contamination found in shallow groundwater
 - Cleanup levels are based on drinking water standards
- All remedies are agreed upon by the Air Force, EPA Region 8 & Utah Dept. of Environmental Quality (UDEQ)
- **Part per billion – The number of parts per one billion parts of something**
Common examples of one part per billion
 - One penny in \$10M
 - One grain of salt in 115 boxes
 - One drop of water in a typical backyard swimming pool



Operable Unit 1



Operable Unit 1



Source areas
– located on base
– cover about 64 acres

Contaminant of Concern (cis)1,2-Dichloroethene (DCE)

- Breakdown product of trichloroethene (TCE)
- Non-carcinogenic – not shown to cause cancer
- Most widespread contaminant – all other contaminants fall within the footprint of DCE plume
- Cleanup standard of 70 parts per billion



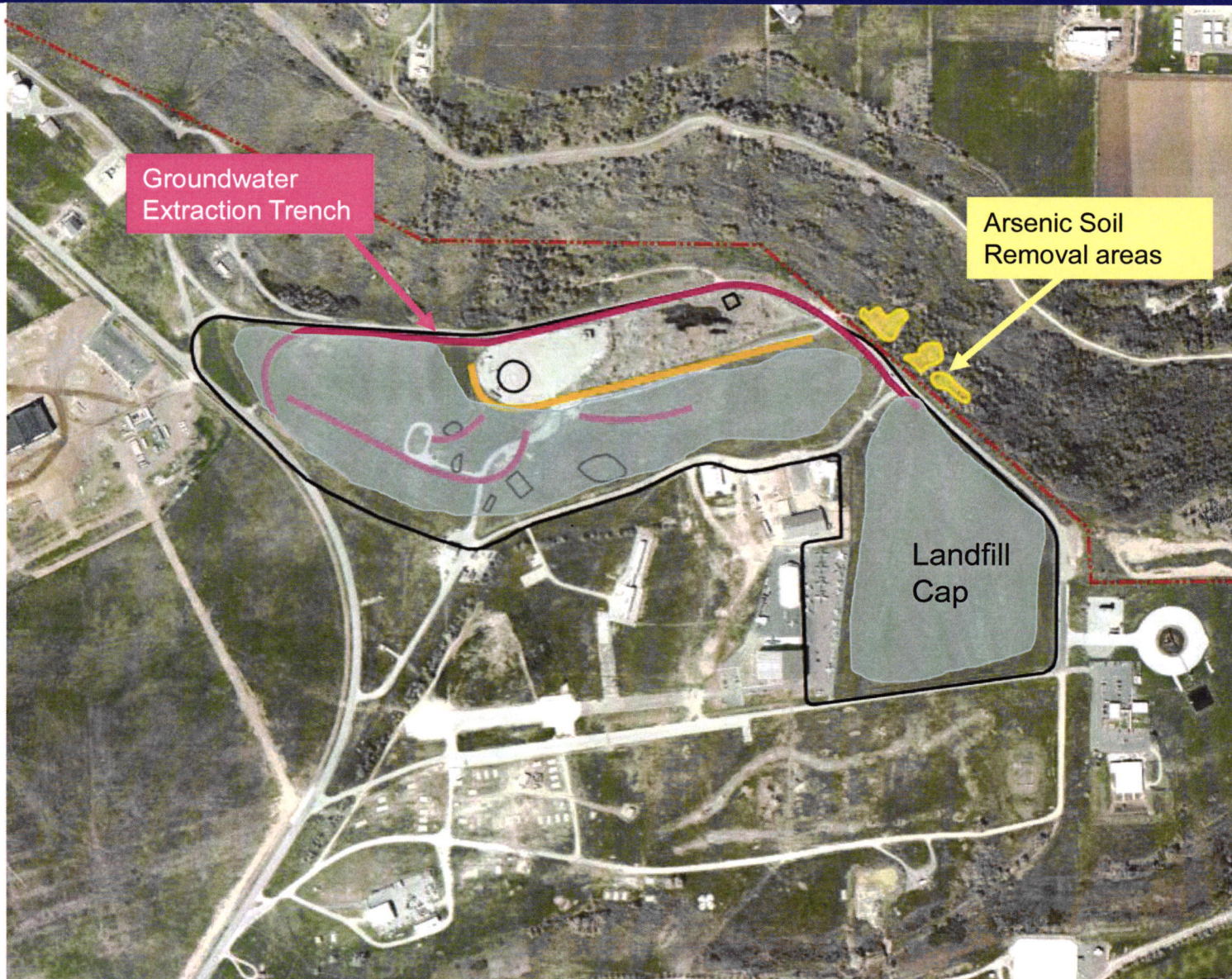
Actions & Remedies at OU1



- **Record of Decision signed in 1998**
- **Install groundwater collection trenches around source areas**
 - To capture contaminated groundwater and fuels floating on top of groundwater preventing migration of contaminants off-base
 - 265 million gals of contaminated groundwater captured
 - 19,200 gals of fuel removed
 - Trenches have a 98% capture efficiency
- **Institutional controls – to limit any potential exposure**
 - Prevent exposure at off-Base springs – fencing and signs
- **Improve and expand landfill caps on-Base**
 - Prevent surface water from entering landfill



Actions & Remedies at OU1





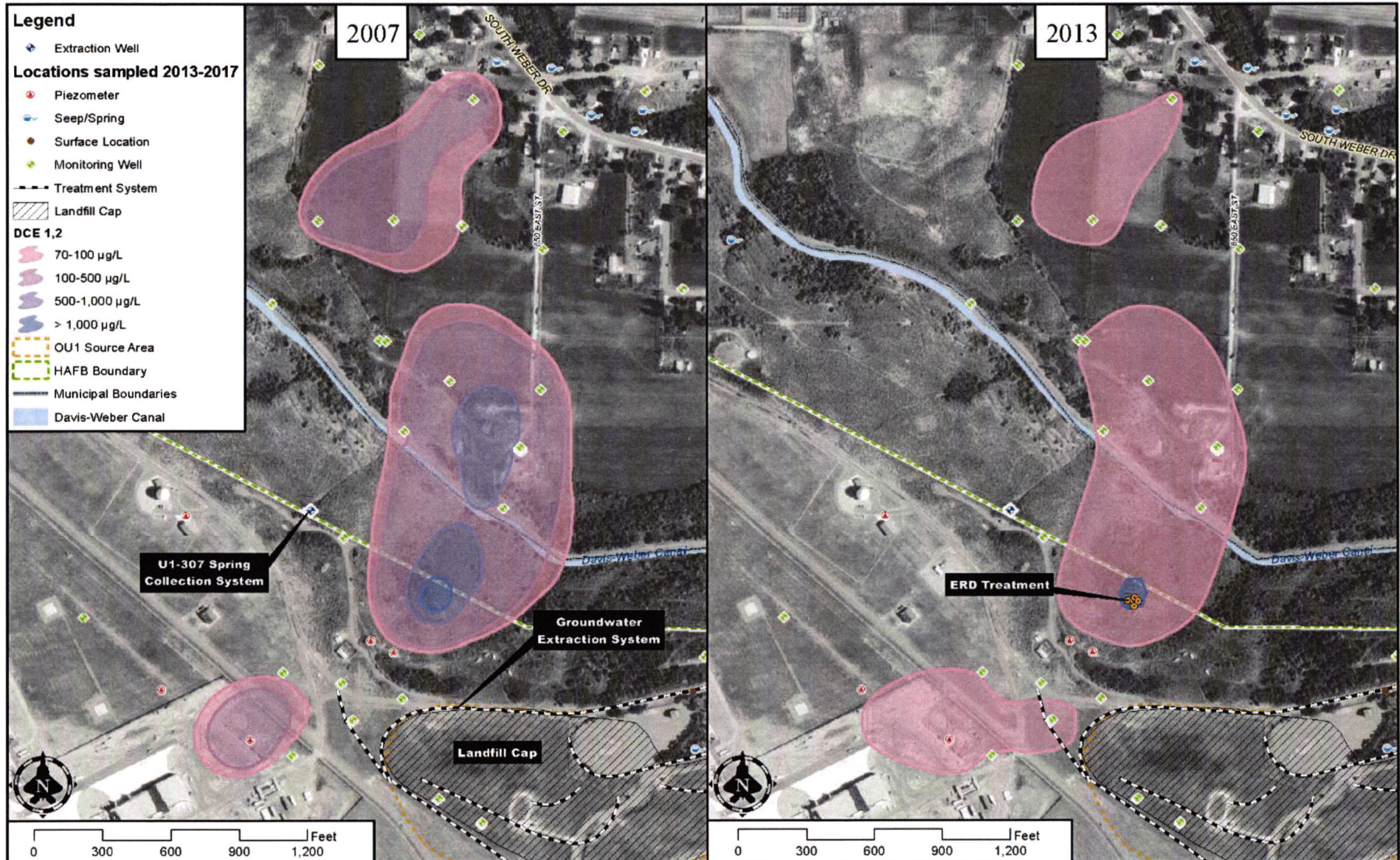
Actions & Remedies at OU1



- **Remove contaminated sediments around off-Base springs when flows stop**
 - To prevent exposure above acceptable risk range (>11 mg/kg)
 - Removed 1,550 cubic yards of arsenic contaminated soil
 - Steep hillside made further excavation unsafe
 - Remaining arsenic does not pose a human health risk
- **Monitor natural attenuation rates in plume**
 - Allow plume to break down naturally
 - Concentrations measured periodically
 - Data used to draw areal extent of plume
 - Data used to evaluate concentration changes in monitoring wells
 - Plume is shrinking



OU1 Cleanup Progress





OU1 Cleanup Timeframe



- **At ROD signing, cleanup timeframe for plume uncertain (range: 5 to 50 years) but estimated at 12 years**
 - That was a bad estimate!
 - Limited information and limited understanding of how natural attenuation works
- **Current plume cleanup estimated in 2040s**
 - Based on observed data
 - More information = Better estimate
- **Understanding of the site continually improves as we gather more information ...**
 - More accurate now than in 1990s ...
 - Will be more accurate in 2020s than now



Is OU1 Remedy Protective?



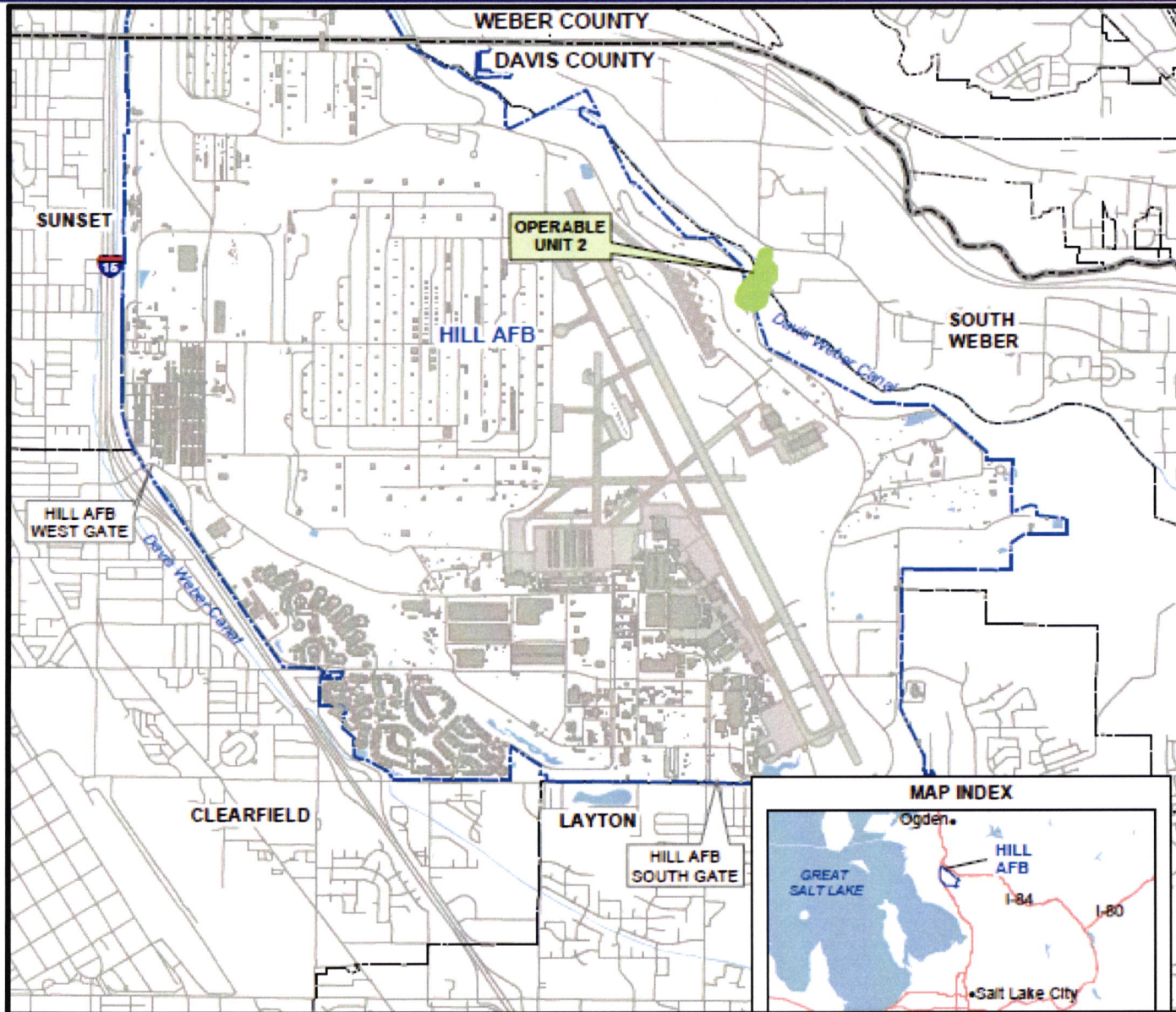
- **Remedies control the source areas**
 - Groundwater Extraction System
 - Landfill caps
- **Restrictions on groundwater use**
 - Manages any potential for exposure
- **Ongoing groundwater monitoring**
 - Tracks progress and effectiveness of remedies
- **Five-Year Reviews (FYR)**

Using the results of the health risk assessment presented in the ROD as a baseline – Asks the question, “Are the treatment systems preventing exposures which could lead to a health risk (i.e. are the remedies protective)?”

- 2013 review found the remedy was protective
- 2018 review under way

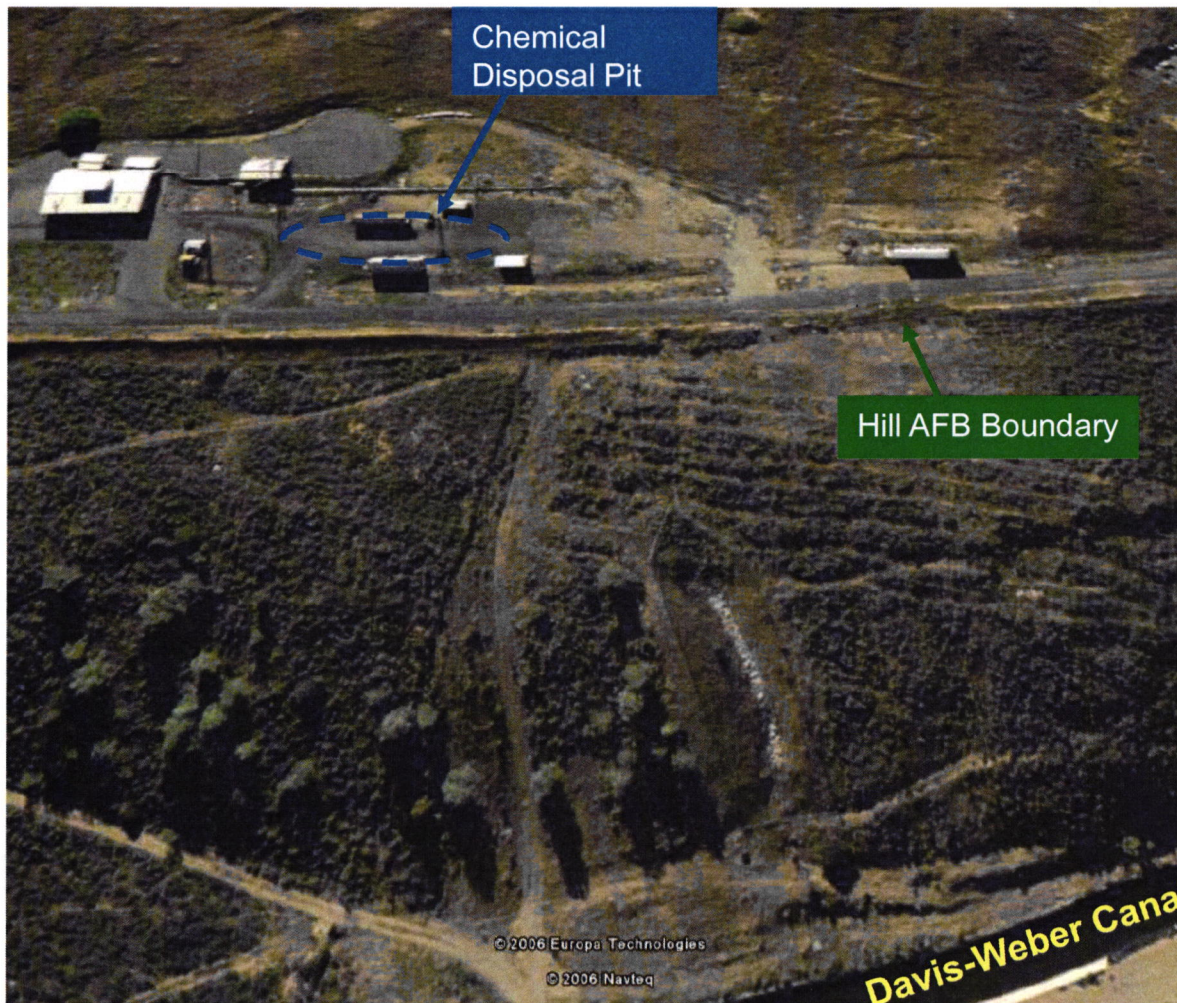


Operable Unit 2





OU2 Source Area



- **1967 – 1975: Disposal of an estimated 50,000 gallons of solvents**

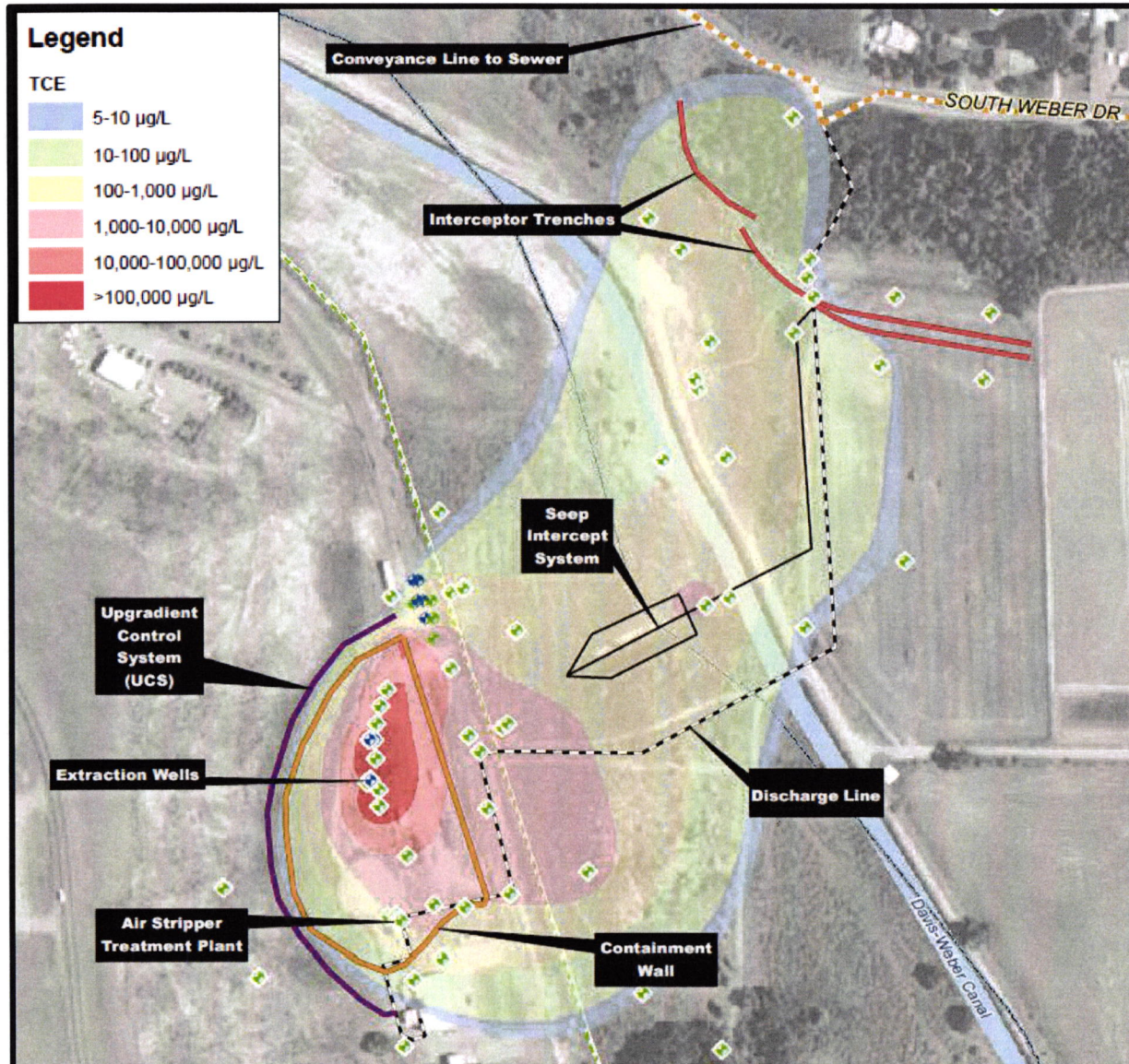
- **Primary Contaminant of Concern – Trichloroethene (TCE)**

- a degreaser historically used at Hill AFB
- Carcinogenic – can cause cancer
- Most widespread contaminant – all other contaminants fall w/in footprint of the TCE plume
- Cleanup standard is 5 parts per billion

Impacted Area: 5 acres on-base, 19 acres off-base



Actions and Remedies – ROD 1996



Containment Wall

To prevent groundwater from flowing in & out of source area

Extraction Wells

To prevent groundwater from flowing in & out of source area

Air Stripper (SRS)

To treat extracted groundwater prior to discharge to sewer

Interceptor Trench

To intercept contaminated groundwater to prevent further plume expansion

Seep Intercept System

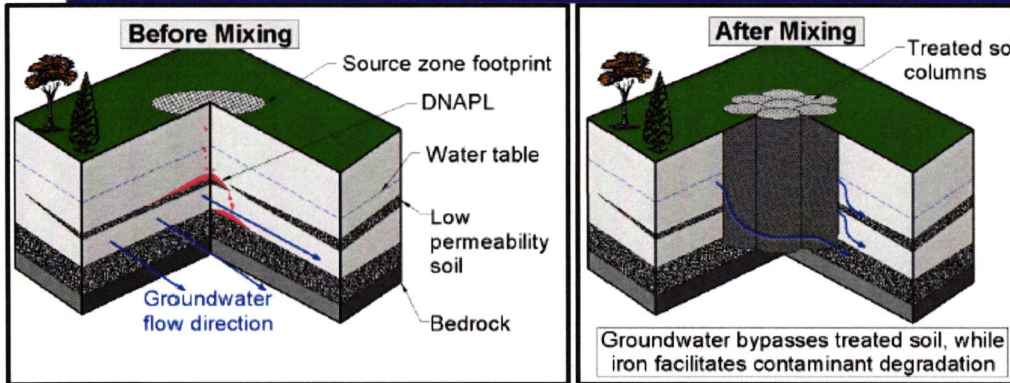
To collect seep water and discharge to sewer

Systems have removed:

- 253M gal groundwater
- 44,400 gal of solvent

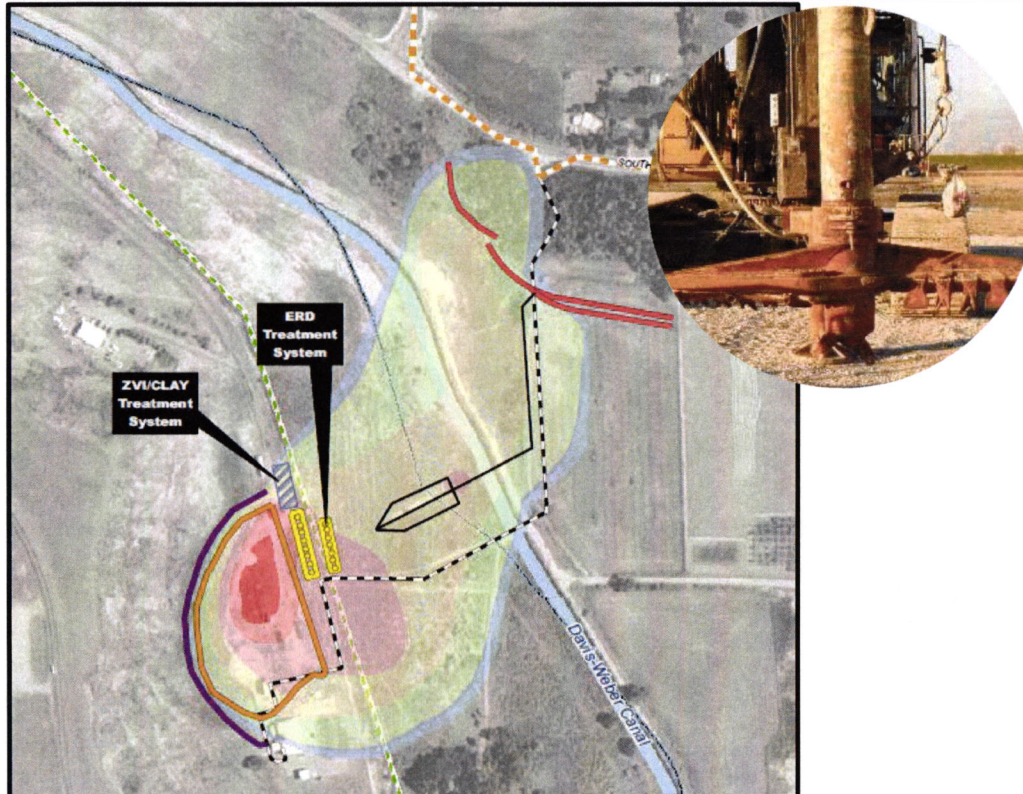


Additional Actions 2016-2017



Source Area Soil Mixing

- Zero-Valent Iron (ZVI) & Clay
- Mixed into subsurface using large auger
- Clay binds contaminants & reduces groundwater flow through treated area
- ZVI treats contaminants
- If successful, could be used in remaining source area

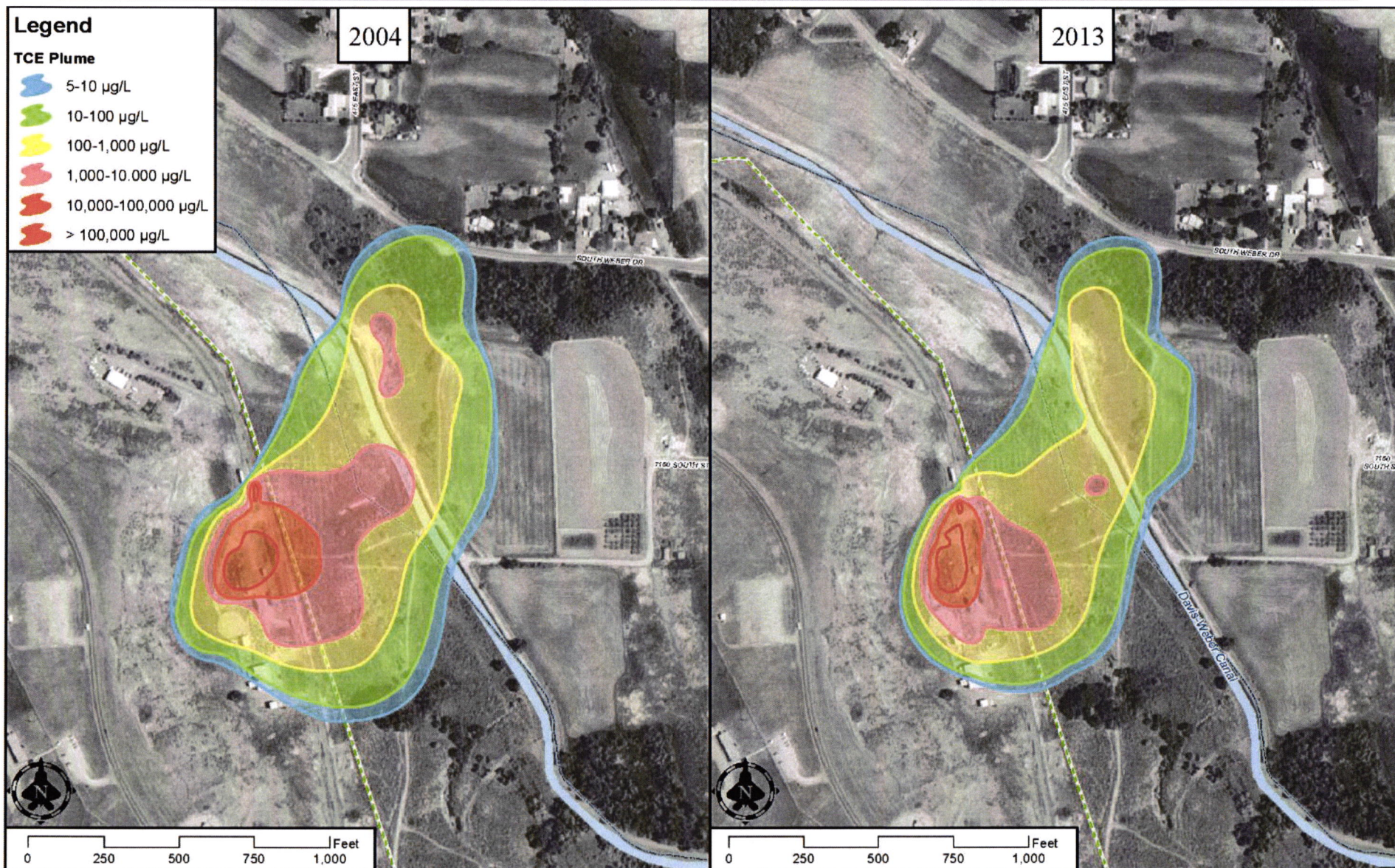


Biobarriers

- Subsurface injections of vegetable oil to speed up natural degradation of contaminants
- 99% reduction in concentrations
- Reduction in remedial timeframe ~ 25yrs



OU2 Clean Up Progress





OU2 Cleanup Timeframe

- **1996 ROD stated, cleanup timeframe estimated...**
 - 15 to 30 years
 - “...complex hydrogeology makes it difficult to estimate...”

- **Current plume cleanup estimated in 2100s**
 - Based on observed data
 - More information = Better estimate
 - Additional source area actions could reduce cleanup timeframe



Is OU2 Remedy Protective?



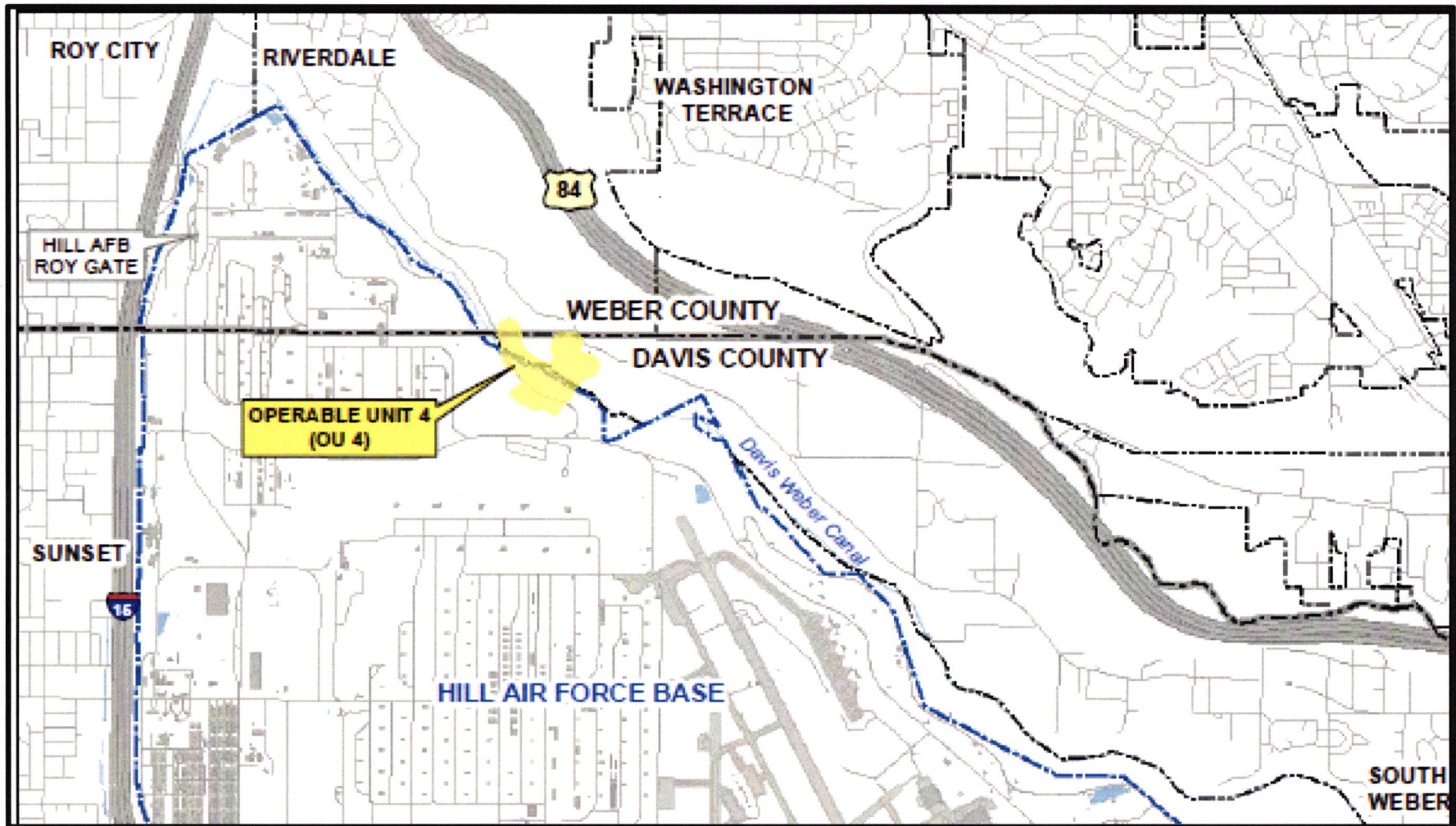
- **The remedies control source area**
 - Groundwater Extraction System w/ Upgradient Collection Trench
 - Containment Wall
- **Restrictions on groundwater use**
 - Manages any potential for exposure
- **Ongoing groundwater monitoring**
 - Tracks progress and effectiveness of remedies
- **Five-Year Reviews**

Are the treatment systems preventing exposures? Are the remedies protective?

- 2013 review found the remedy was protective
- 2018 review under way

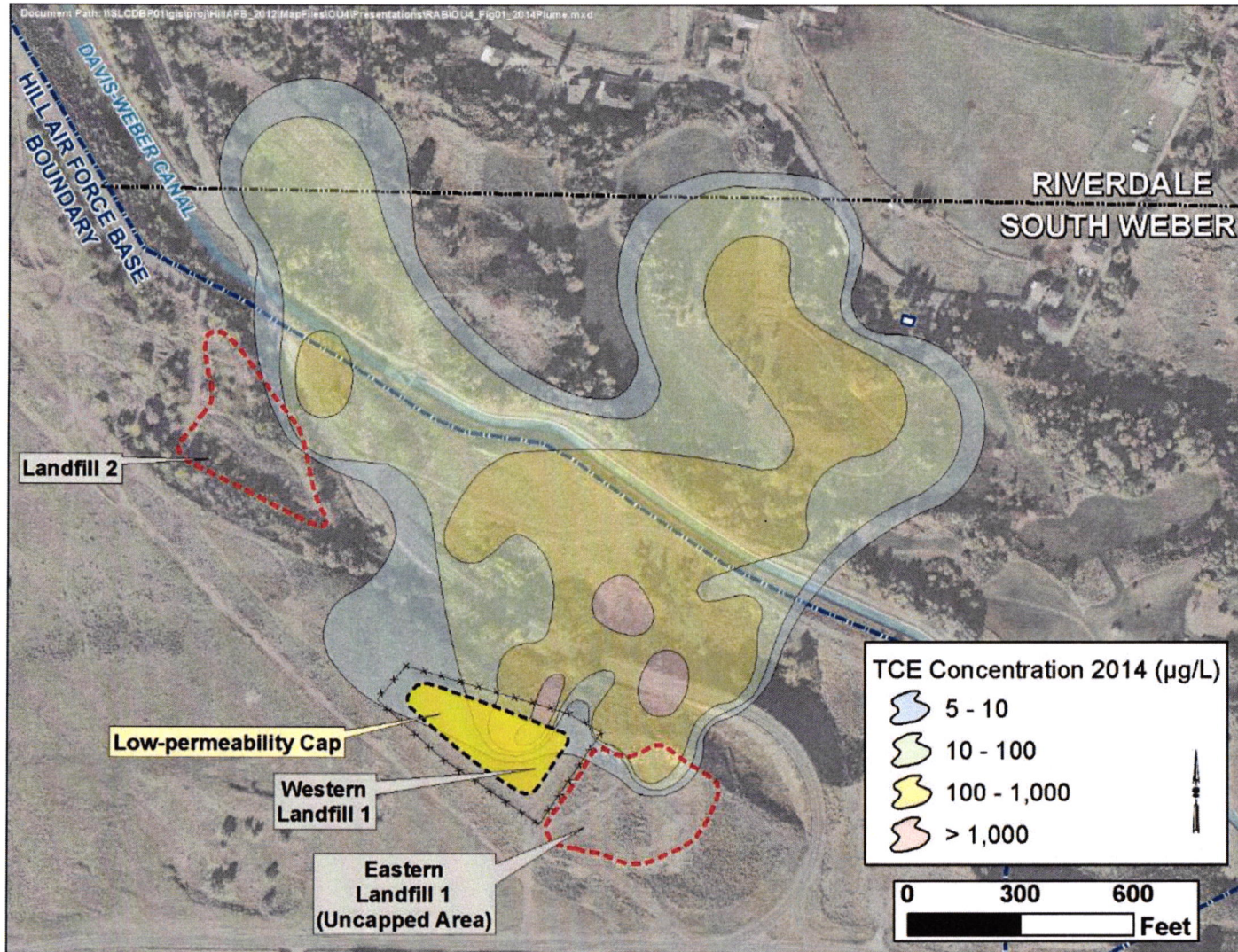


Operable Unit 4





OU 4 Source Areas and Background



– TCE is primary Contaminant of Concern

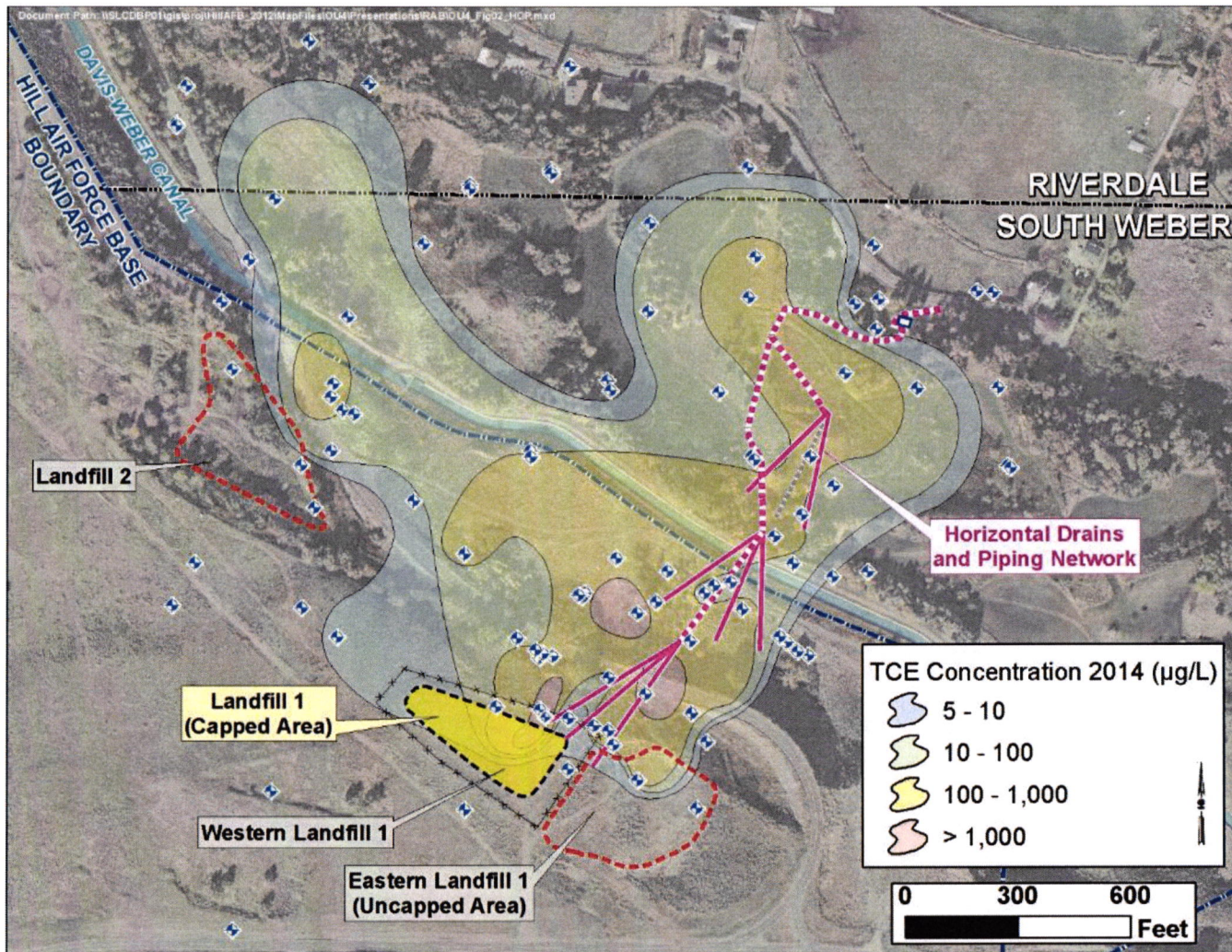
– TCE plume has not significantly expanded since 1994 ROD

– Overall, concentrations have remained fairly constant

– Extent: 32 acres



Remedies – ROD 1994



Low-permeability cap
installed at Landfill 1 – to limit water infiltration and movement of contaminants from beneath landfill cap

Horizontal Drain Network
- a passive groundwater collection system to remove contaminated groundwater and discharge to sanitary sewer

Groundwater monitoring
- to ensure cleanup goals are being met



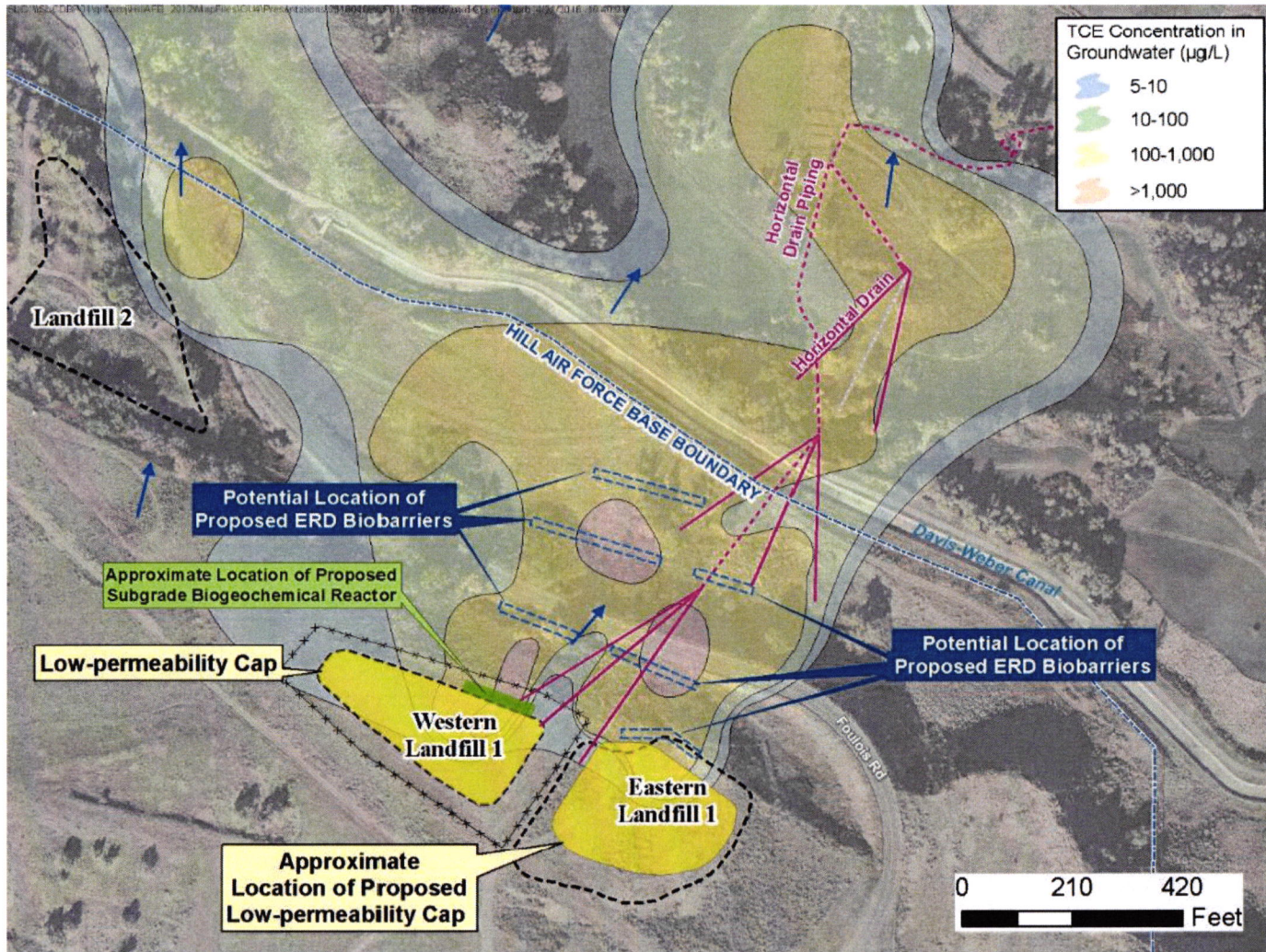
Existing Remedy Performance



- **2013 Five-Year Review**
 - Current remedy is not functioning as intended but remains protective in the short-term.
- **Landfill 1 cap**
 - Likely limits infiltration of surface water
 - Seeing increase in TCE concentrations in groundwater downgradient of Landfill 1
 - Landfill 1 contents - ongoing source of TCE contamination
- **Horizontal Drains**
 - Extracted 42 million gal of groundwater
 - Works but is not reducing cleanup timeframe
- **Uncapped portion of Landfill 1 and Landfill 2 also identified as ongoing TCE source areas**



Expanded Remedy – 2017



ROD Amendment signed 2017 to implement additional remedies

Bioreactor downgradient of Landfill 1 – series of column bioreactors

Low-permeability cap on Eastern Landfill 1

Biobarriers – core of plume and downgradient of new landfill cap

More work needs to be done at Landfill 2

– Collect additional samples

– Evaluate treatment alternatives



OU 4 Cleanup Timeframe



- **1994 ROD stated...**
 - Cleanup timeframe greater than 30 yrs (*or 2020s*)
 - We now know it is longer
 - TCE is continuing to source to groundwater
 - More work needs to be done at Landfill 2
 - Complete site characterization
 - Evaluate treatment alternatives
- **Current plume cleanup estimated in 2080s**
 - Based on 2017 ROD Amendment with Expanded Remedy



Is OU 4 Remedy Protective?



- **The remedy controls source areas**
 - Landfill Caps – improved with the additional cap
 - Groundwater Collection Trenches
- **Restrictions on groundwater use**
 - Manages any potential for exposure
- **Ongoing groundwater monitoring**
 - Tracks progress and effectiveness of remedies

- **Five-Year Reviews**

Are the treatment systems preventing exposures? Are the remedies protective?

- 2013 review found the remedy was protective in the short-term
- 2018 review under way

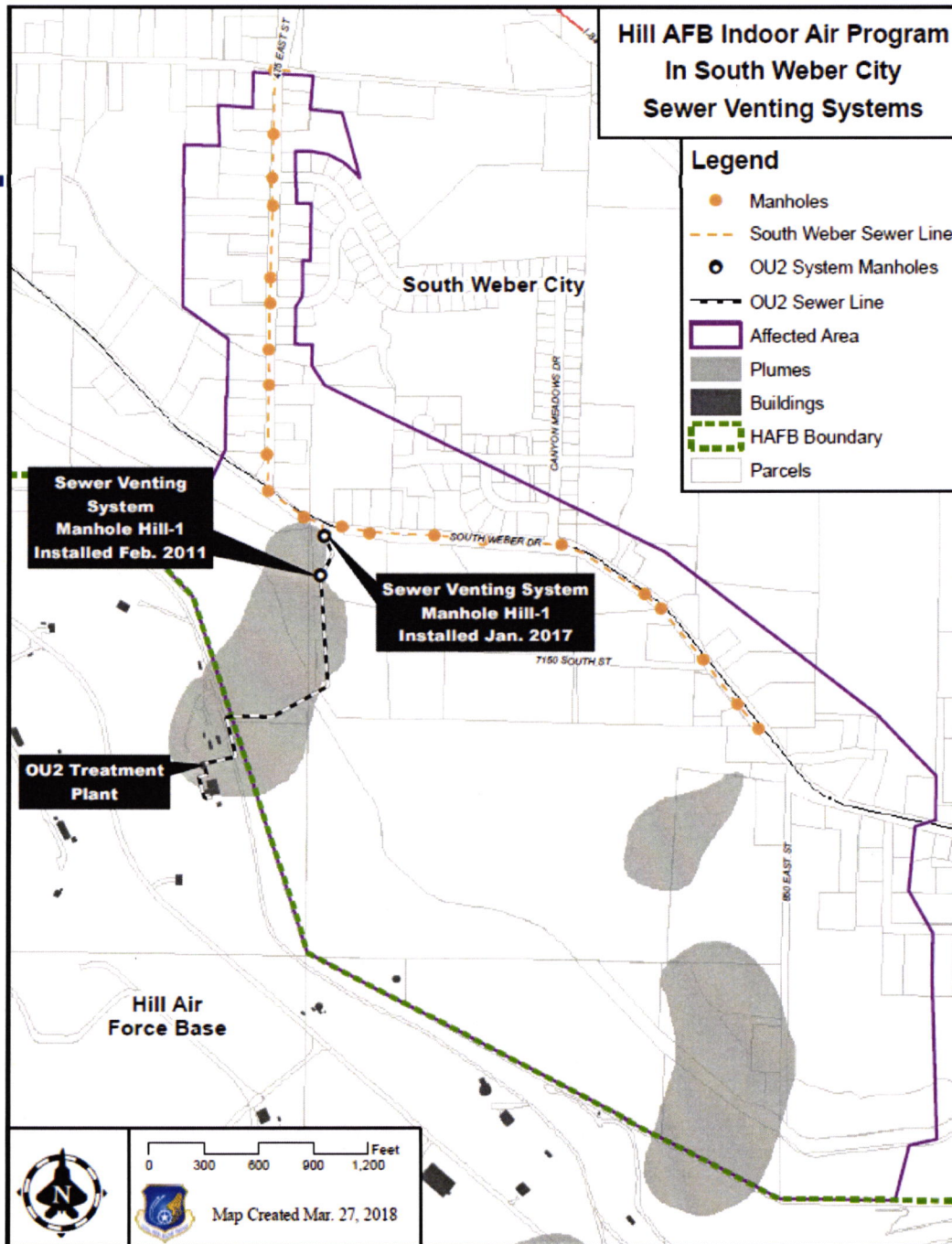


Vapor Intrusion (VI) in Operable Units 1, 2, and 4



- **At OUs 1 and 2:**
 - VI is not from traditional evaporation from groundwater pathway
 - VI is from sewer line receiving TCE-contaminated groundwater from on-base treatment system
- **At OU 4:**
 - No significant VI is occurring
- **Action levels are established for each chemical with EPA and UDEQ approval**







2016/2017 Air Sampling Results



Total Locations Sampled:

- 61 homes in affected area
- 61 homes sampled since 2003 (many outside current affected area)
- 7 homes agreed to sample in 2016-2017 event

Historical Sampling Results:

- 4 homes with detections above action level
- 57 homes with results below action level

Mitigation Systems:

- 1 sewer vent fan installed in January 2017
- 1 sewer vent fan installed in February 2011
- 5 homes have vapor intrusion mitigation systems

In 2016-2017 Sampling Event:

- No homes with detection above action level

