

An aerial photograph of a large park area. In the foreground, there are several green sports fields, including what appears to be a baseball field and several soccer fields. A large, dark pond or lake is visible in the middle ground. The background shows a large body of water, likely a lake or bay, and a long, white building complex, possibly a school or government building, situated along the shoreline. The trees are in various shades of green and yellow, suggesting an autumn setting.

Advocating for a Comprehensive Clean-Up Worthy of this Cherished Park

Gerry Pollet

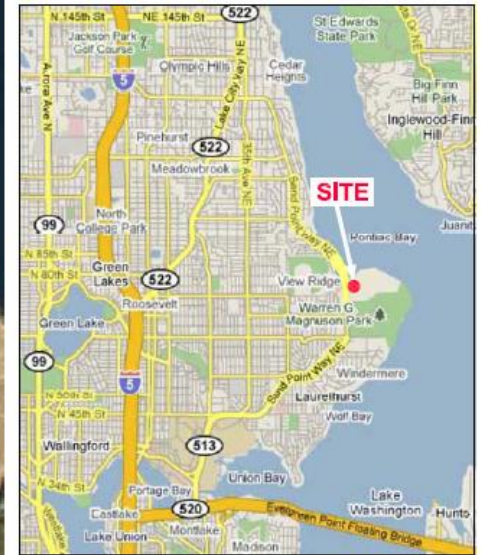
State Representative, 46th District

Executive Director, Heart of America Northwest

Site Map



SOURCE: 2009 GOOGLE-MAP DATA © 2009 TELE ATLAS



SCALE: 1"=2 MILES



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FIGURE 1
SITE LOCATION MAP
FORMER NAVAL STATION - PUGET SOUND
7500 SANDPOINT WAY NE
SEATTLE, WASHINGTON

Background on Radioactive Contamination in Magnuson Park

Where: The northern side of park. Soil and parking lots around, and building attached to, Hangar (Building 27) housing Arena Sports; soils, parking lots and buildings (2 and 12) behind (east) Mountaineers – former indoor soccer and volleyball facility (Earth Corps)

However, **all indications are that it is safe to play/exercise at Arena Sports and Magnuson Athletic Club.**

When: Contamination confirmed in 2010 by surveys. 2009 Seattle Parks asked about radium room while preparing for renovation.

Background on Radioactive Contamination in Magnuson Park

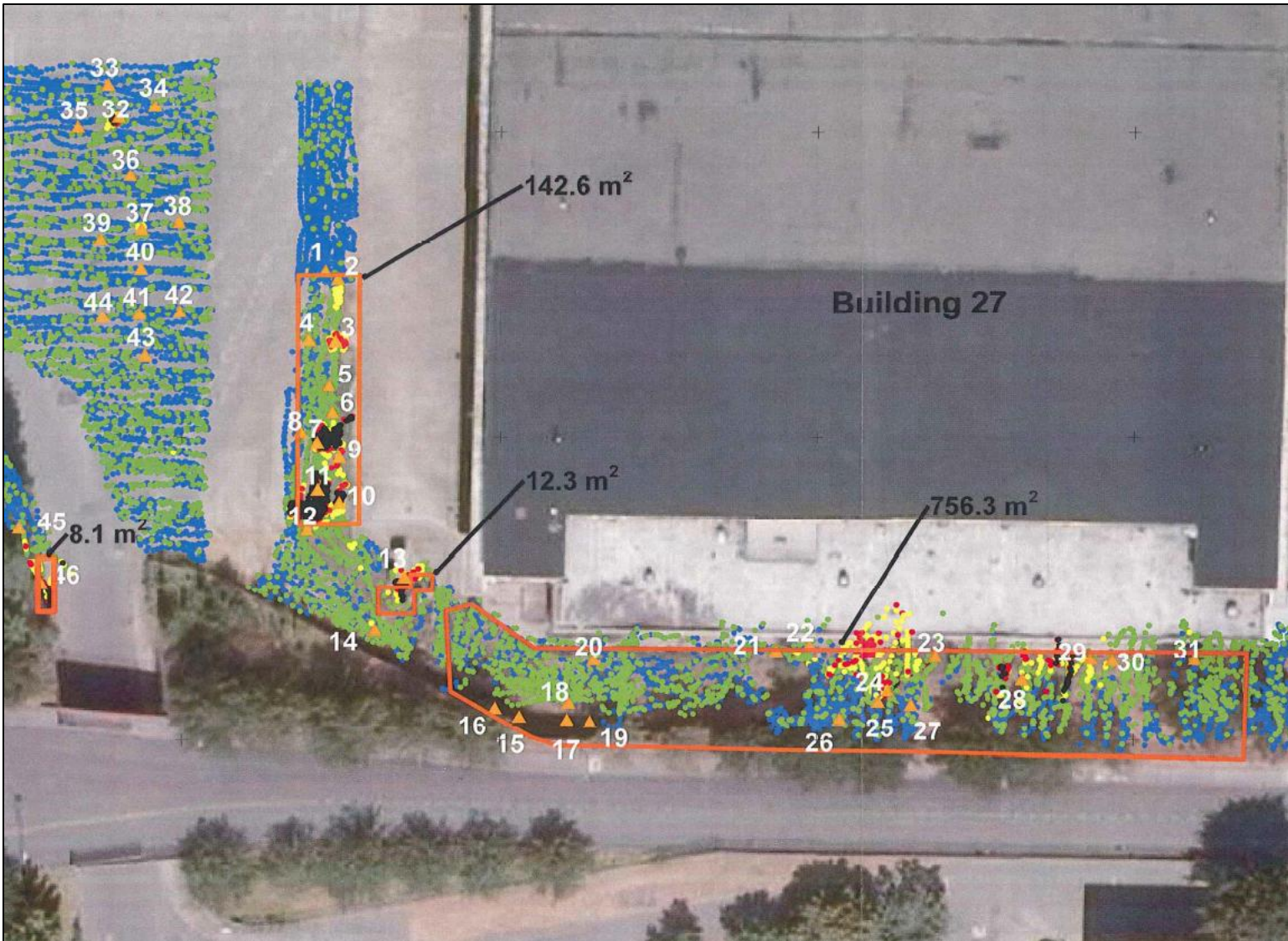
Notice? For over 3 years after confirming high levels of radiation, the Navy and Seattle Parks chose NOT to disclose that there was contamination. Washington Dept of Ecology was only informed in April of plans by Navy to begin work in May.

How: The Park used to be a Naval Facility. The Navy used radium-based paint for aircraft instrument panels or other glow-in-the-dark needs. **The Navy has refused to identify the sources of Strontium and Cesium, however.** You should ask them where those came from tonight.

Why: When the land was transferred to the City, **the Navy signed off** that there were **no hazardous substances** such as radioactive contamination.

Contamination Around Building 27

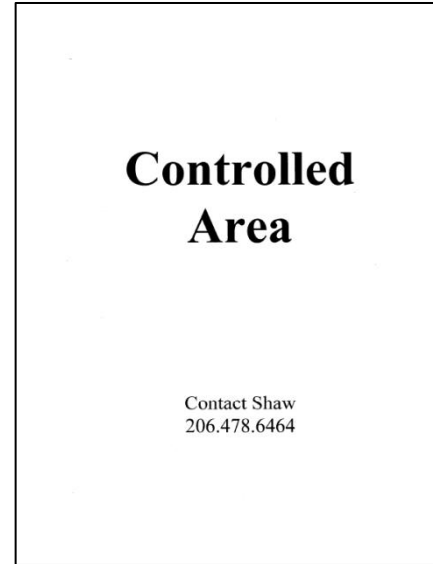
Arena Sports view N



Improper Signage



Example of sign used at other radiological cleanup sites, but not at Park



8 1/2 x 11 signs that Parks, the Navy, and DoH used in order to keep the radioactive contamination a secret for three years. Likely allowed exposures to park users who did not understand the dangers.

Who's in Charge of the Cleanup and What Standards Govern?

- The Navy keeps trying to play by its own interpretation of its own rules – while giving lip service to state law.
- They claim to be following a federal law called CERCLA (the federal Superfund law). CERCLA does not apply to a site that is not owned by the Navy and is not a federal Superfund site – our state law (MTCA) governs, and the Navy must follow it.
- Navy didn't inform the agency that enforces MTCA (Ecology) for three years and is trying to call this a "Time Critical Removal Action" under CERCLA.
- **State law (MTCA) provides more protective cleanup standards and more meaningful public involvement**

State law MTCA applies, and the Navy isn't above the law

- By trying to call this a “Time Critical Removal Action” under CERCLA, the Navy continues to try to **bypass the reviews** needed by the public and regulators to **compare alternative cleanup plans** which would provide more protection and **describe health and environmental impacts** of the Navy’s plan compared to other alternatives.
- Even if CERCLA did apply, the law forbids the Navy from skipping these reviews and public processes if it knew of the contamination for more than 6 months.
- **Our State cleanup law provides a cancer risk protection standard which is at least 150x more protective of children than the Navy’s proposal for leaving 15 millirem of exposures to Radium and Strontium.**

Lack of Public Review

- **Many documents required for public review are still not available for public review**
 - Including:
 - Feasibility Study (FS)
 - Environmental Impact Statement (EIS)
 - Engineering Evaluation and Cost Analysis (EE/CA)
 - The EE/CA is especially important. It is an analysis of alternatives to the proposed clean-up plan. Stakeholders, such as businesses and park users, have a right to review and comment on it in order to arrive at the best possible clean-up plan.
- **The Navy has refused to produce public records for this project as required by law. We would have liked to share those with you tonight.**
 - In part, that records request was designed to gather the missing information.
 - According to people with knowledge of the Navy's activities, requested records will also show some things the Navy would rather we not see – possibly explaining why they are hiding the records.

Cleanup Standards

- Currently, the project proposes violating the state's Model Toxics Control Act (MTCA) by using a less protective federal cleanup standard for radionuclides (carcinogens).
- The standard the **Navy proposes** to use has an **additional cancer rate 150x MTCA for children**. In a high-use public park, that is very significant.

Is This a Low Level of Radioactivity?

- The Navy says Yes – ignores how Park is used
- Navy would leave behind radioactive Radium, Strontium and Cesium at levels allowing 15 millirem exposure to public
- For adult males, this = 1.6 additional fatal cancers for every 1,000 exposed. (per BEIR VII – Nat'l Academy)
- Children and women = 3 -10 x higher risk
- State law (MTCA) requires cleanup to cancer risk level so that no more than 1 additional cancer for every 100,000 persons exposed.


Testing Needed for Contamination in Lake, Groundwater, Other Areas

Despite the opinions of multiple experts, the Navy refuses to include in its work plan for additional testing *this summer*:

- **Groundwater** – experts say there is likely contamination. Groundwater runs into Lake Washington and upwells onto parking areas and soils. Just a few feet below the highly contaminated soils. State law requires cleanup level to protect groundwater from contamination!
- **Storm Lines** – storm drain lines are highly contaminated. The Navy needs to test the **full length** of the line up to its discharge point into Lake Washington at sailing dock and beach.
- **Lake Sediment** – Seattle Parks first asked the Navy to test Lake Sediment near the contaminated drain lines in 2010. It still hasn't – but the potential for contamination is greater than ever. People wade; swim; launch canoes, kayaks, sail... here

Full Cleanup, as soon as possible

Public Record: Email excerpt from **Parks to the Navy** in **2010** asking for **Lake Sediment to be tested** – 3 years later, the Navy continues to drag its feet on testing necessary areas



Seattle Parks also strongly requests that the following tasks be included in the Work Plan:
Building 27 – survey and remediation former watch repair room, noted as “Safety Chief” per 1985 drawing;
Building 11 and 27 – sewer line repairs due to potential damage by jet pressure washing and cleaning;
Building 116 – survey, remediation, and maintenance repairs to sewer pumps;
Building 116 – survey, remediation of sewer line up to connection with Seattle Public Utilities (SPU) mainline;
Building 117 – survey, remediation, demolition and clean up of structures, below and above ground;
Building 98 – survey, remediation, demolition and clean up of building structure; and
Lake Washington – survey, remediation of sediments surrounding former stormwater outfall located off shore from existing recreational boating area.

- Dealing with additional contamination “later” is **not acceptable**
- The Navy has already had **over three years** to test, remediate serious contamination
- The public has been exposed to this material for decades already despite the **Navy signing off that no hazardous material was present prior to transfer**

What You Can Do – **Ask Ecology, SP and Navy to:**

- **Test and remediate additional contamination areas**
 - Groundwater, Lake Sediment, Storm Lines, Other buildings and soils
- **Use state law (MTCA) process and clean-up standards – follow our state cleanup standards and process:**
 - Resulting in 150x lower additional cancer rate for children
 - Give us the reviews we need to provide informed input
- **Public Involvement Plan:** post proper signage disclosing contamination, and provide plan with on-going public meetings, updates, review of impact statement and alternatives AFTER testing.

What You Can Do – Ask Ecology, SP and Navy to:

- **Plan a better course of action:**

- Test for the additional contamination *this* summer. Do the cleanup of soil and groundwater Right the FIRST TIME.
 - Ok if Navy proceeds with demolition of auxiliary building and interior of buildings, but test and plan soil, sewer line and groundwater cleanup as well.
- Analyze the test results, complete proper reviews and processes, then finish a comprehensive clean-up including soils, ground-water, and Lake Sediment **no later than next summer.**
 - Return to public for comment with results of additional testing, proper review of alternatives for cleanup and their impacts.



*SEATTLE PARKS
AND RECREATION*

CITY OF SEATTLE PARKS AND RECREATION



Jodi Sinclair

Parks Project Coordinator

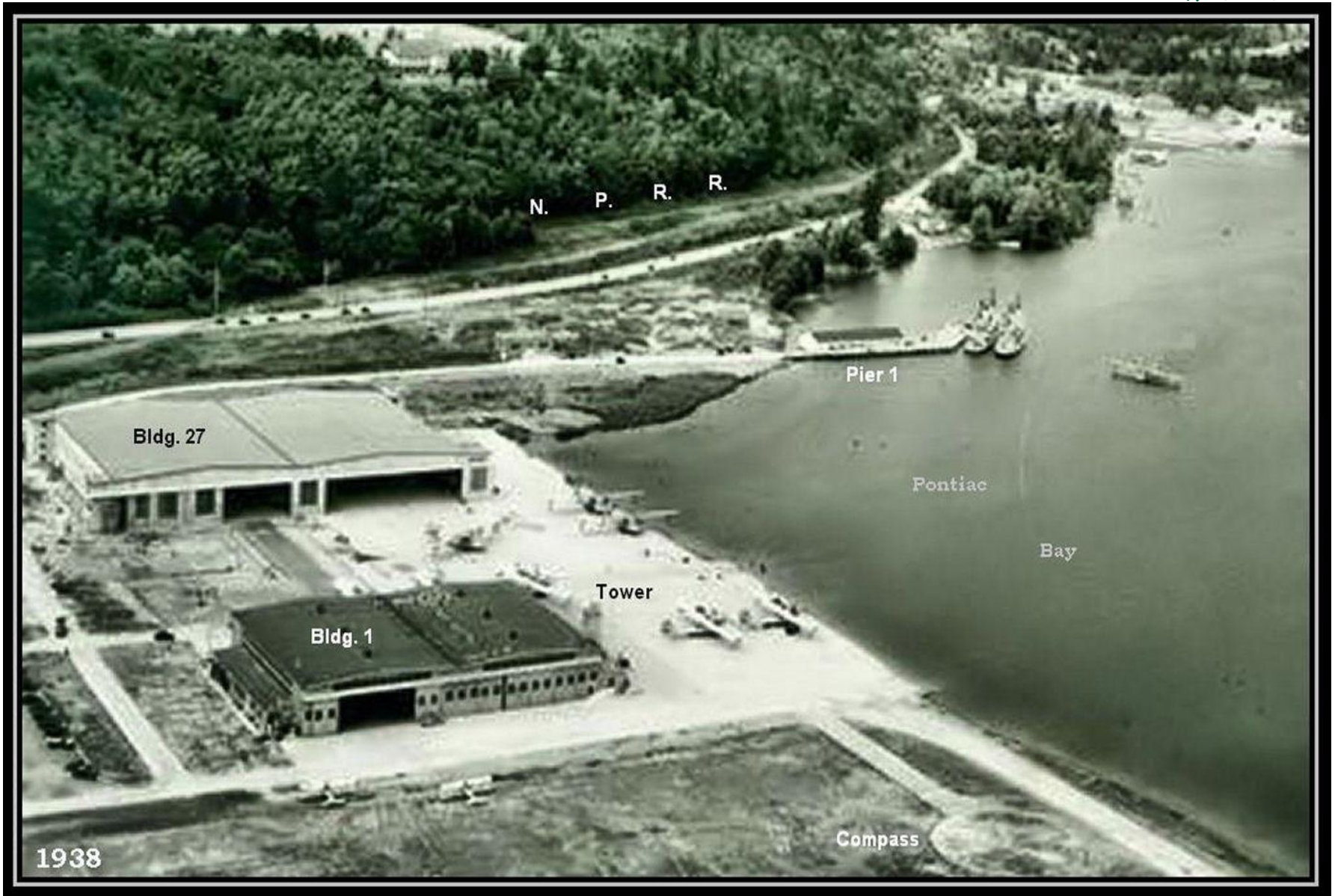
Senior Environmental Analyst

Parks Division

Environmental Services

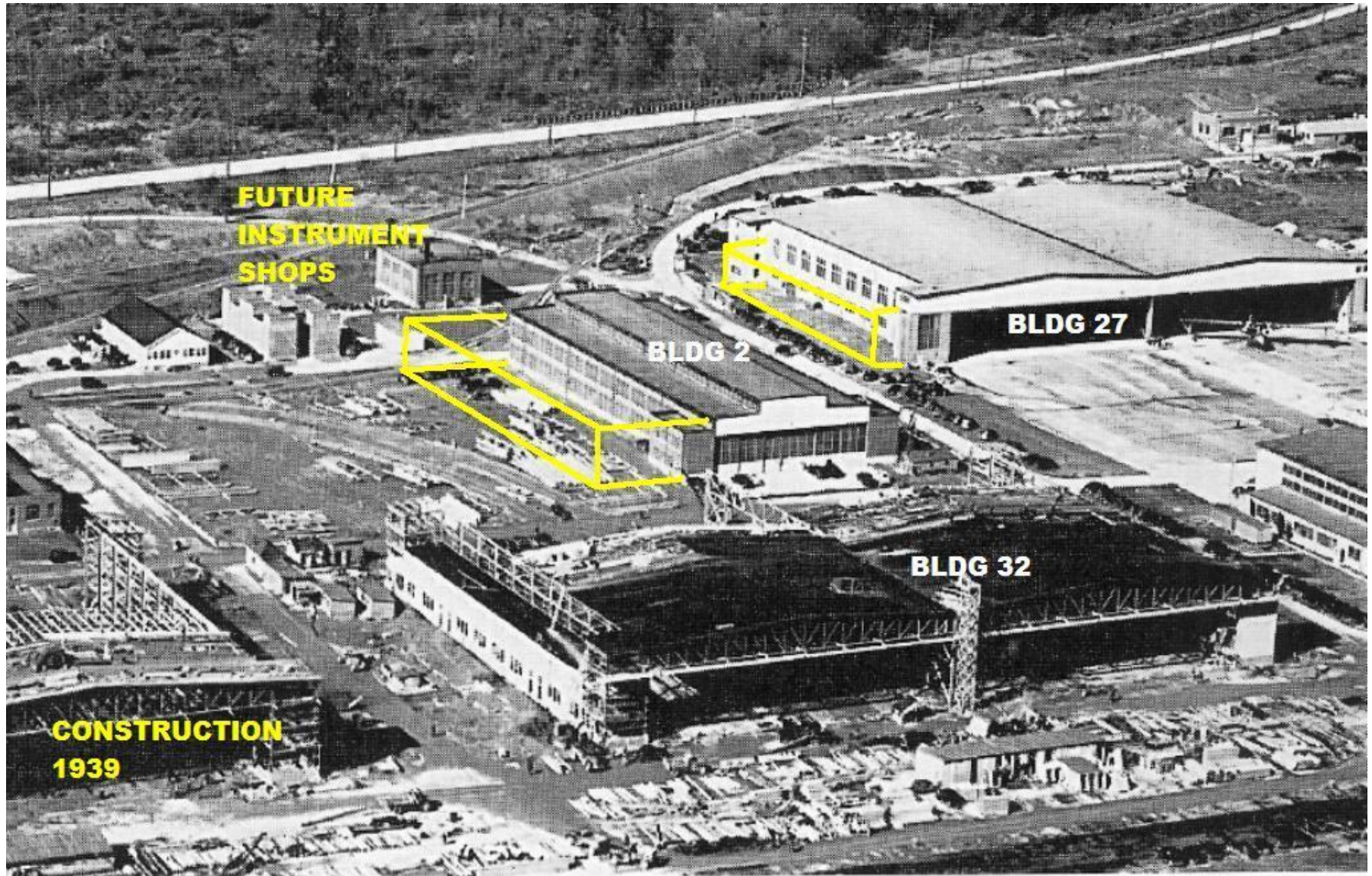
Jodi.sinclair@seattle.gov

NAS Puget Sound 1938



NAS Puget Sound 1939









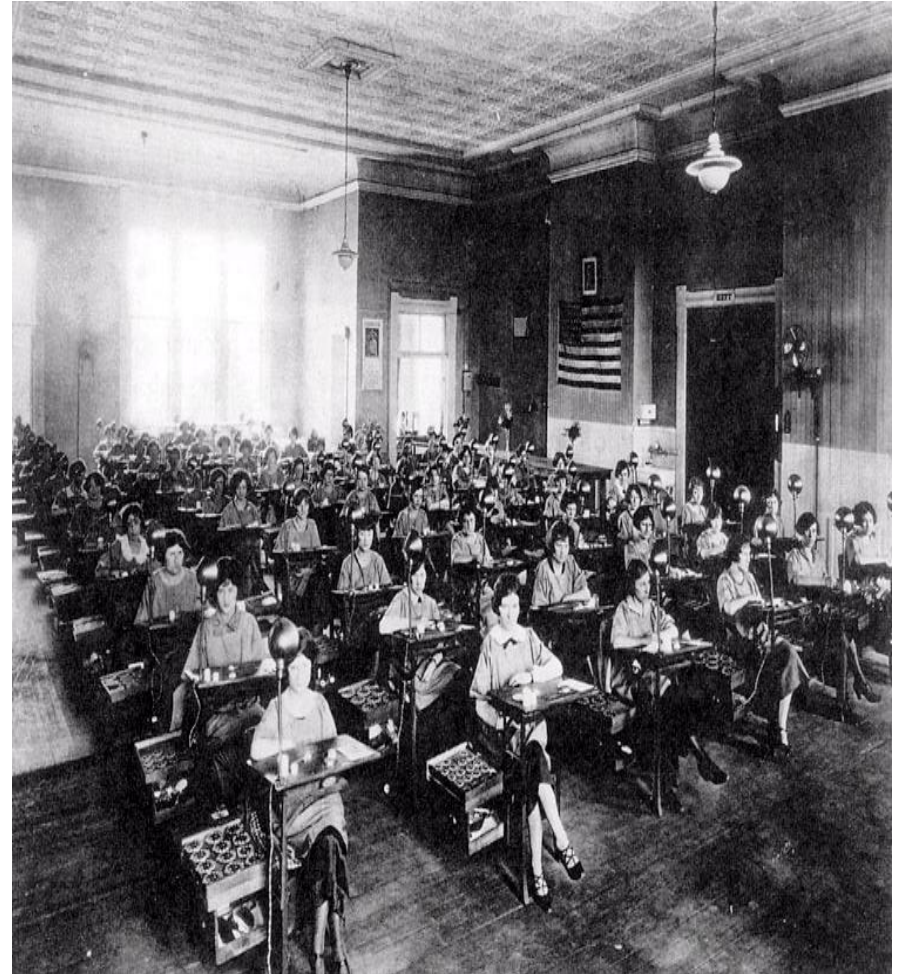






Paint room production

US RADIUM CORP, NEW JERSEY



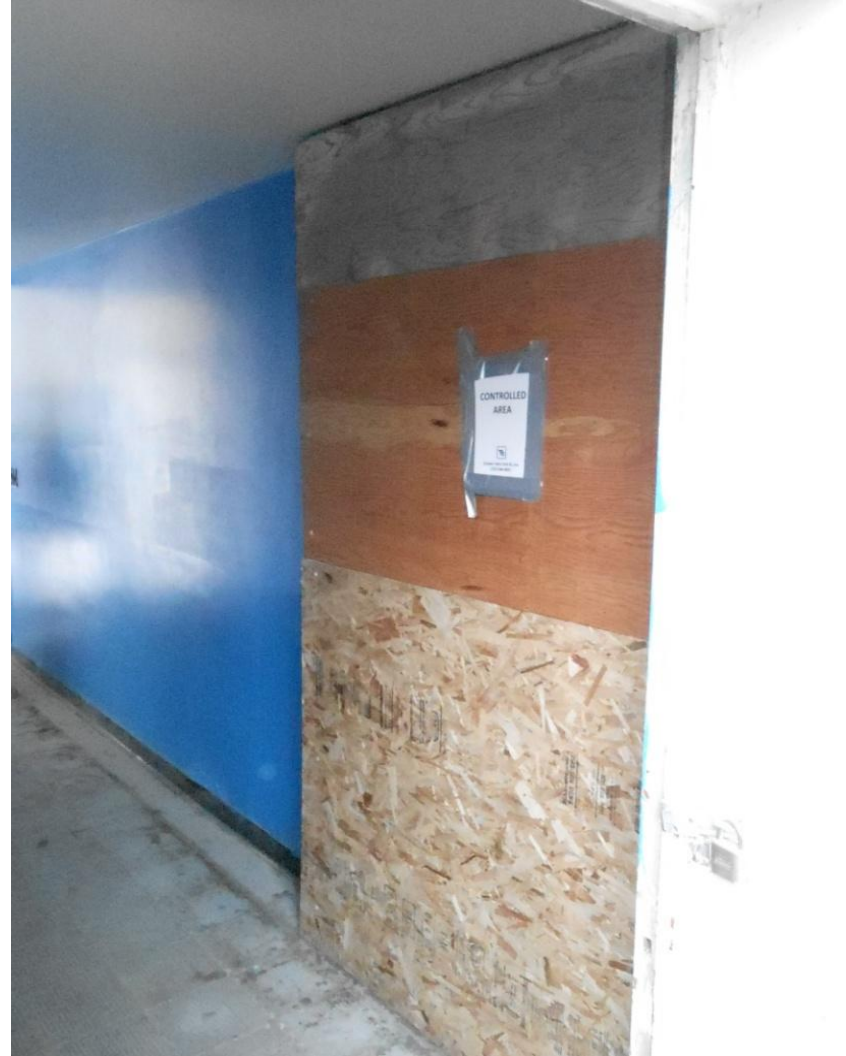
SAND POINT HAD ONLY 2-3 PAINTERS



1953









Approximate location
radium room

US Navy Presentation





Former Naval Station Puget Sound (Sand Point) on Warren G Magnuson Park

**Time Critical Removal Action
Radiological Contamination**

July 2013

Radiological Cleanup – Former Naval Station Puget Sound, WA



Navy's Environmental Cleanup Program

Through its Environmental Restoration Program, the U.S. Navy is working hard to cleanup releases of contaminants to the environment . We are determined to expedite the cleanup process and demonstrate a commitment to action.

All available information is at the information repository with select documents on the Navy website.

- Northeast Branch of the Seattle Public Library
- <http://goo.gl/t4JKw>
- or Google/Bing Magnuson Park NAVFAC

The South Shed Bldg 27



July 2013

Inside the Hangar



July 2013

Historical Background

Naval Base was closed under Base Realignment and Closure (BRAC) in 1995

The Environmental Baseline Survey (EBS) completed supporting the transfer did not identify radiological contamination

Transfer of the Property

The Navy transferred the property to the Department of Interior, who conveyed it to the City of Seattle, for park and recreational purposes only

The transfer deeds include Federal Cleanup covenants to allow the Navy to respond to hazardous substances found and verified on the site after transfer

Identification of Radiological Contamination

City of Seattle identified the potential for radiological contamination in Buildings 2 and 27 (Spring 2009) and notified the Navy

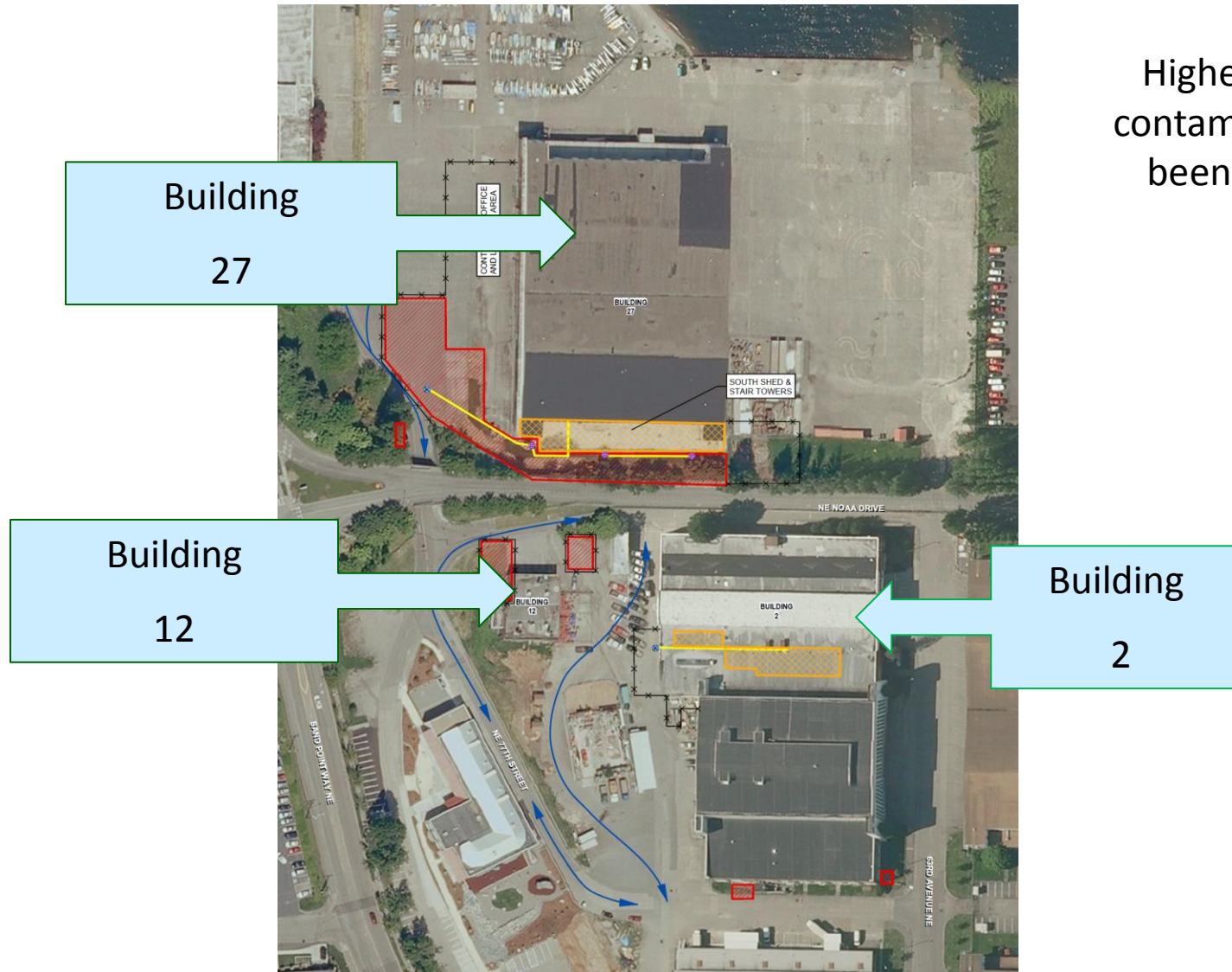
Navy conducted an investigation to assess the magnitude and extent of low level radiological contamination (started summer 2009, completed 2011)

Communication

Navy informed EPA, Ecology, and First Responders by letter in 2009. Agencies deferred regulatory consultation to Health

Navy submitted the Remedial Investigation report to the City of Seattle, regulatory agencies, and Administrative Record in 2011

Areas of Removal Action



Highest Ra-226 contamination has been removed

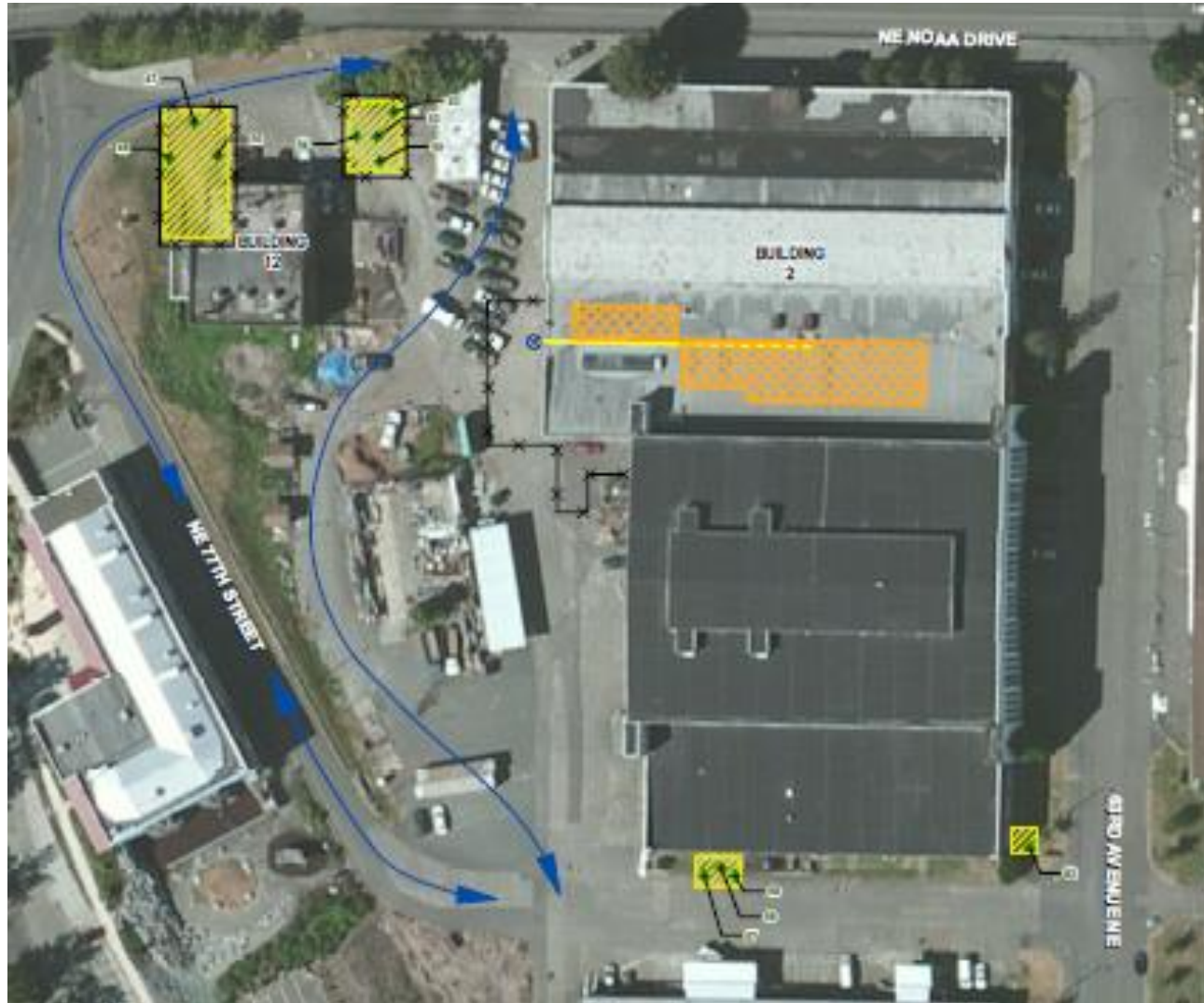
Work Area Bldg 27

Area of highest contamination was already removed from radium room piping



Work Area Bldg 2 and 12

Areas of highest contamination were already removed from instrument shop piping



Drain Pipes Investigated

Examples of areas investigated



Closed Ventilation Systems Investigated



July 2013

Flooring Investigated



Storm Water System Investigation



Protective Measures



Planned Cleanup

If more contamination is found, the Navy will perform additional assessment and/or remediation, as necessary.

No anticipated impacts to current park activities but dependent on findings.

Removal Action Phases

Mobilization, air monitoring system placement, and assessment sampling

Inside work Building 2 and South Shed

Soil removal

Removal of the South Shed of Building 27

Site restoration and demobilization

Thank You

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Christopher Generous PG
Remedial Project Manager

More information at the Northeast Branch of the Seattle Public
Library
6801 35th Ave N.E, Seattle

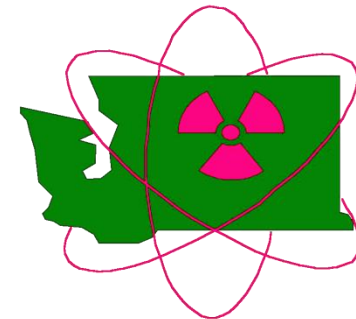
&

<http://goo.gl/t4JKw>

The website is updated weekly.



Washington State Department of
Health



Radiation and Magnuson Park

Al Conklin

Senior Health Physicist

Office of Radiation Protection



PUBLIC HEALTH
ALWAYS WORKING FOR A SAFER AND
HEALTHIER WASHINGTON

Introduction:

Public concerns about radiation in Magnuson Park

- The Department of Health's role in radiation and public health.
- How we are exposed to radium.
- Current radiation levels around Buildings 2 and 27, and adjacent neighborhoods.
- Precautions department will take during clean-up.

Department of Health

- By statute (RCW 70.98) Department of Health is the Radiation Control Agency.
- Mission: to protect and improve the health of people in Washington State.



PUBLIC HEALTH
ALWAYS WORKING FOR A SAFER AND
HEALTHIER WASHINGTON



Exposure Pathways for Radium

- **Radon gas** given off by Radium– the most significant pathway
 - Measured as *picocuries* – or pCi – per liter of sampled air. (1 pCi = 1/ 1 trillionth of a curie)
- External **gamma exposure** measured in units of *rem* or microR/ hour which equals 1/1 millionth of a rem
- **Swallowing** the radium itself.



Swallowing is Not an expected issue like in the past

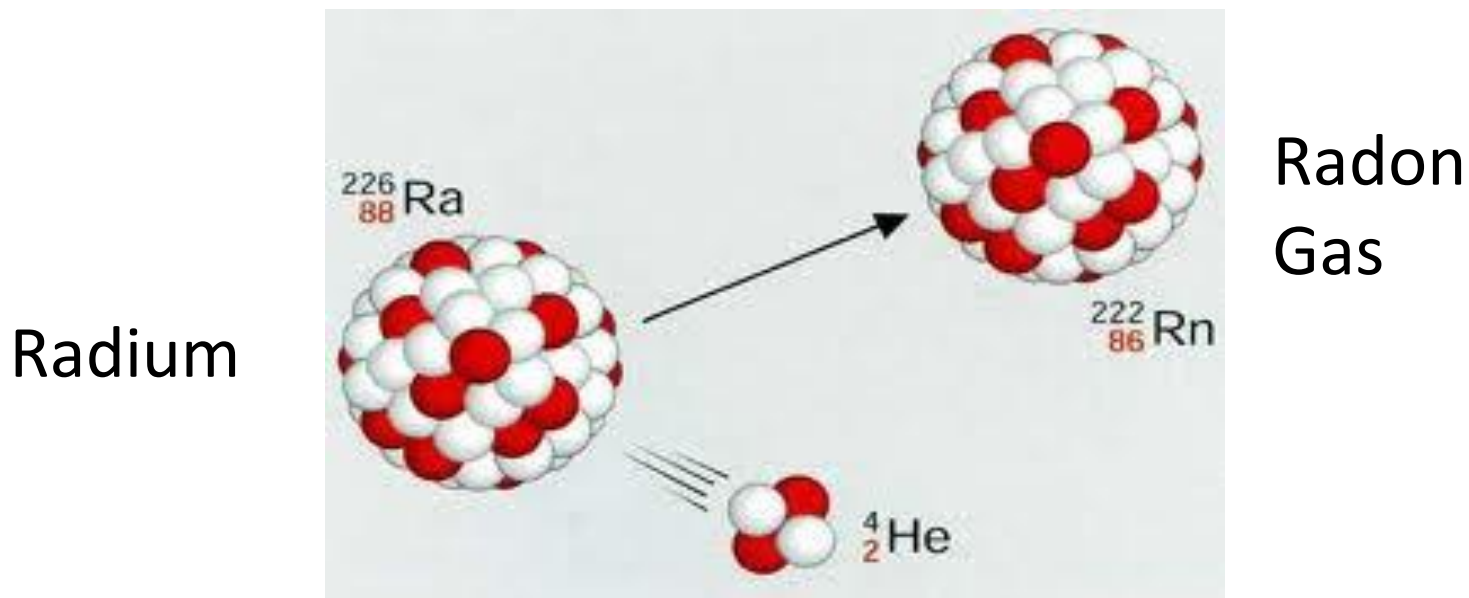
US RADIUM CORP, NEW JERSEY



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Radon Gas- primary exposure pathway from Radium 226 (indoors)

- EPA advises remediation at or above 4 picocuries per liter of air.



Radon Measurements in Buildings

EPA Standard = 4.0 pCi/L

4 locations tested

All tests – less than 0.3 pCi/L

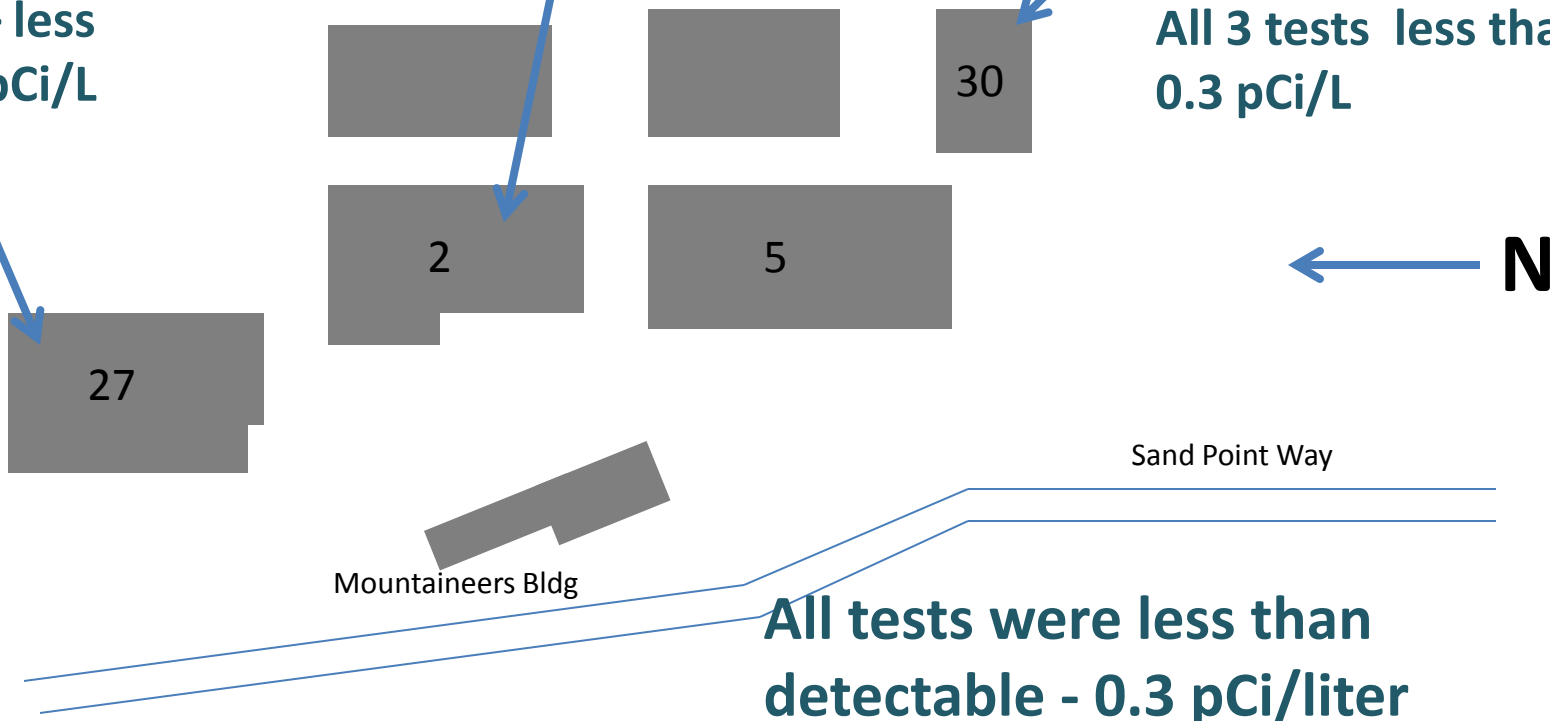
11 locations tested

All tests – less than 0.3 pCi/L

Controls

3 locations tested

All 3 tests less than 0.3 pCi/L

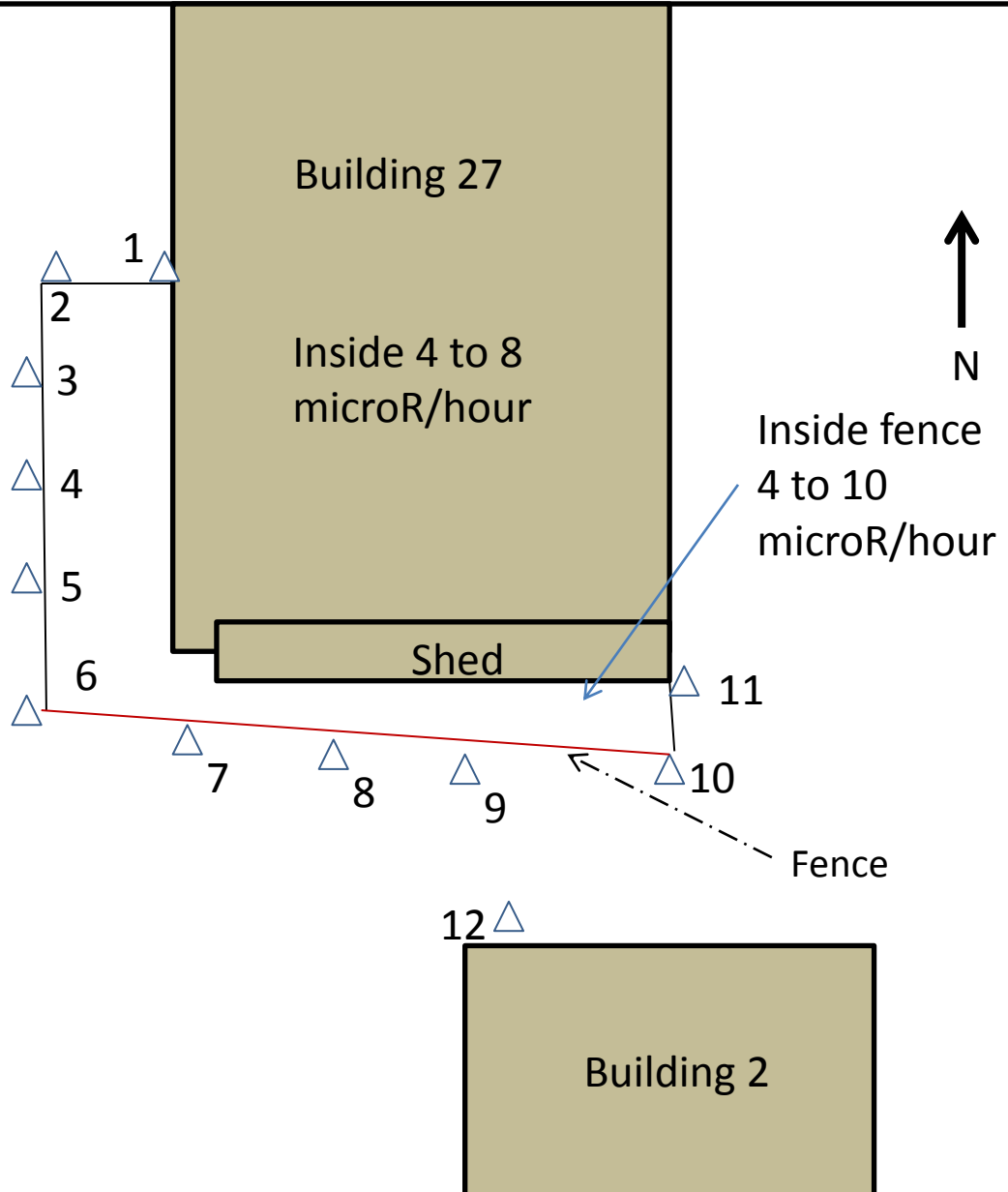


All tests were less than detectable - 0.3 pCi/liter

Gamma Radiation – Outside Bldg 27

Radiation Surveys of
Perimeter Fence
microR/hour

	Grumbles	Conklin
1	4-6	4-6
2	4-6	4-6
3	7-9	
4	7-9	
5	7-9	
6	7-9	
7	7-9	
8	7-9	
9	8-10	
10	8-10	6-8
11	7-9	8-10
12	4-6	4-6





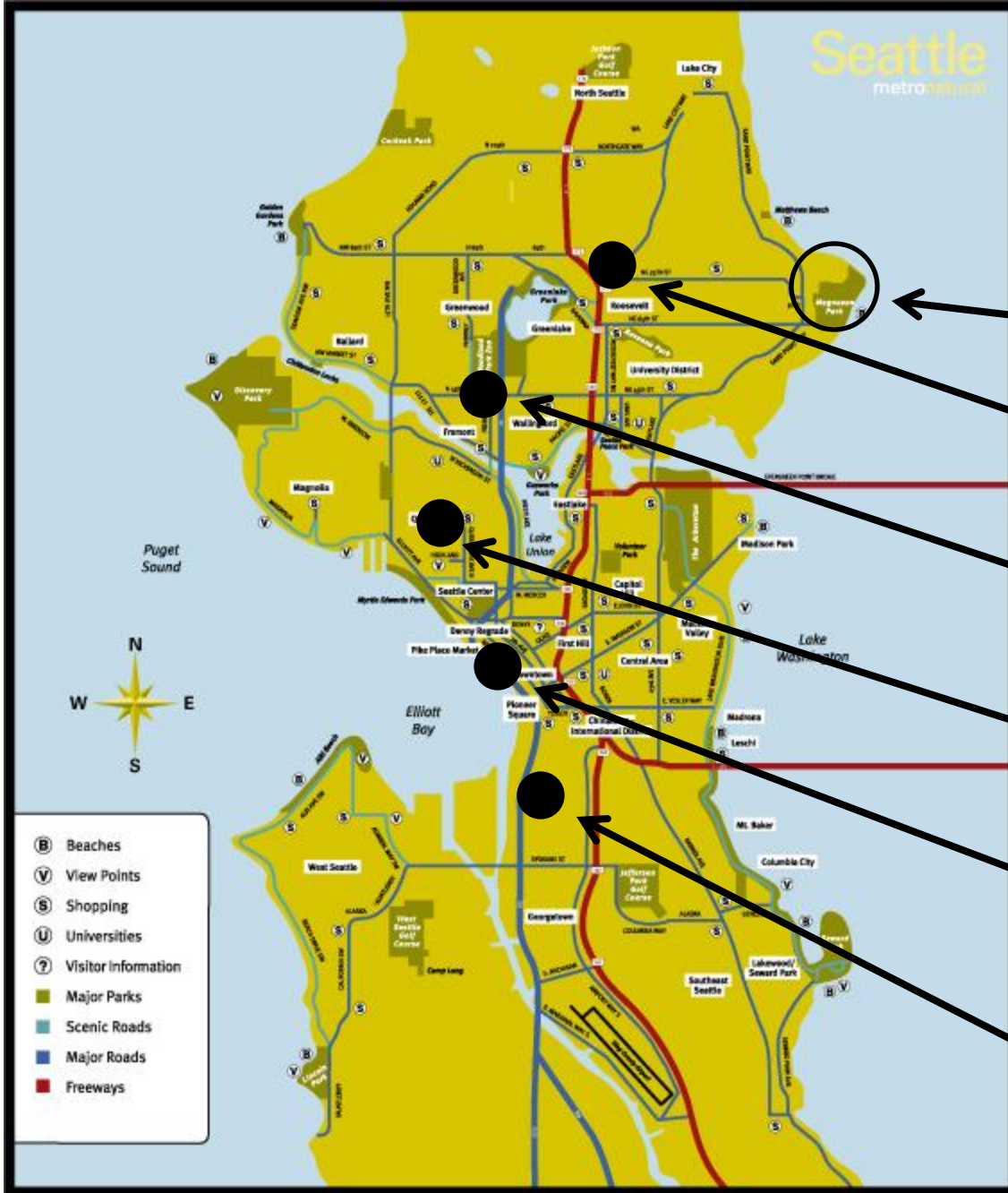
Gamma Radiation- Neighborhood

Local Radiation Surveys for
comparison
microR/hour

Location	Results
1	8 to 10
2	7 to 8
3	5 to 7
4	5 to 7
5	5 to 10
6	7 to 9
7	4 to 6
8	4 to 6
9	4 to 6
10	4 to 6
11	4 to 5
12	5 to 8



Background Radiation Surveys in Seattle



microR/hour

Magnuson Park

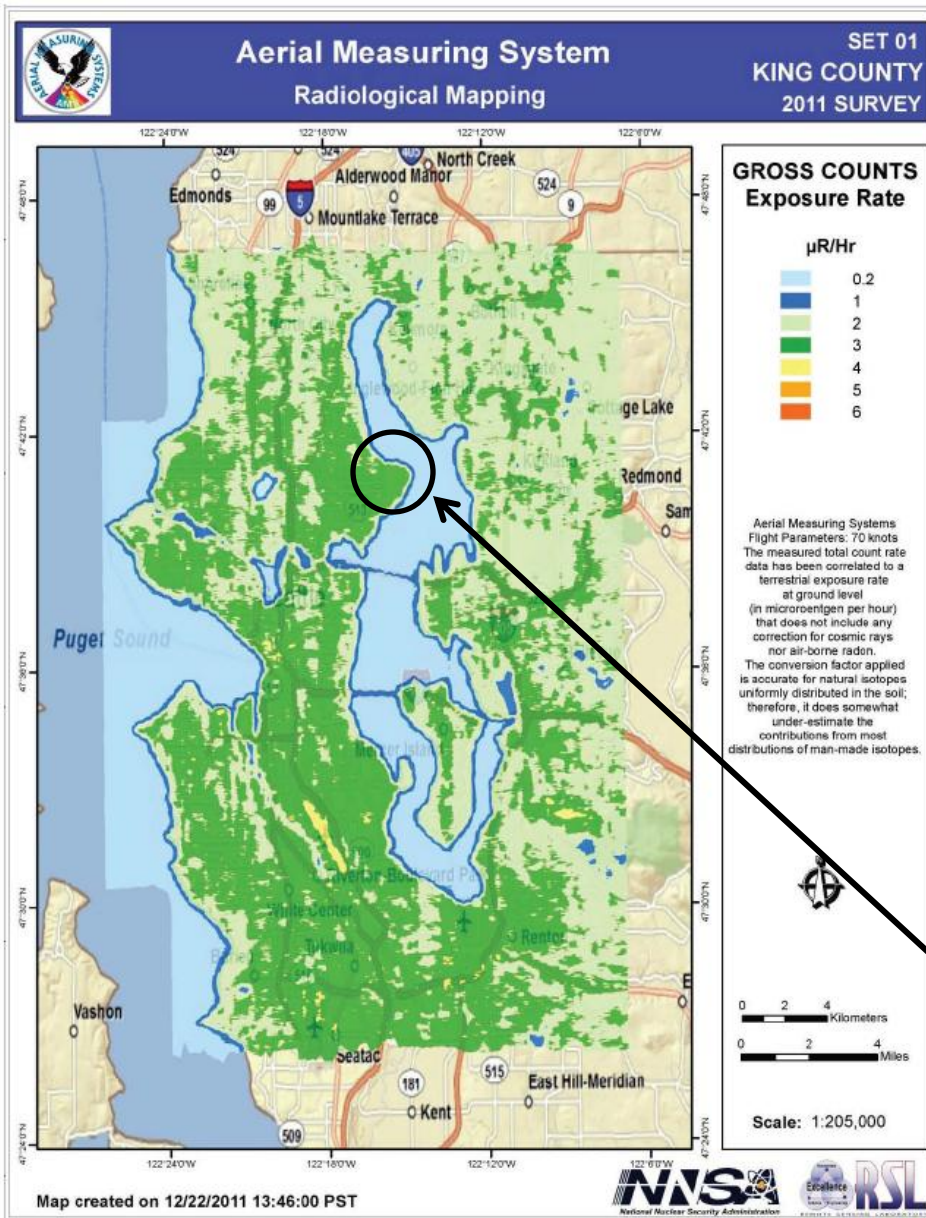
Lake City Way
4 to 6

Woodland Park
6 to 8

Queen Anne Hill
8 to 10

**Pike Street Market
Park**
4 to 7

Safeco Field
7 to 9



Aerial Radiation Survey July 2011

- Extremely sensitive detectors
- Intended as a baseline survey
- A future radiological emergency can be compared to this data

**Sand Point and
Magnuson Park area**

Green = 3 microR/hour

Figure 5. The terrestrial exposure rate map for the King County area based on the helicopter survey data.

Aerial Radiation Measurement Helicopter



Putting the Numbers in perspective

Average gamma exposure – Sand Point neighborhood **6 to 7 microR/hour**

Average annual radon exposures in Seattle homes **9 microR/hour**
Average annual radon exposure in U.S

21 microR/hour

Eating a banana **10 microR/banana**

Sleeping next to someone **5 microR/night**

Living in a brick building **8 microR/hour**

Chest X-ray **10,000 microR/X-ray**

One-way flight Seattle to New York **4,000 microR/flight**

What does it all mean?

Radiation in the public areas of Magnuson Park and Sand Point areas is the same as rest of Seattle.

Then why clean it up?

To remove contamination – including other hazardous materials – for future generations.

What will the clean-up accomplish?

While areas currently accessed by people will not change, contaminated areas in buildings or behind fences will also be made safe.

Will there be more investigation?

Yes. We don't know what else may be in the ground in other places. This is not the final clean-up action.

What's next for Dept. of Health?

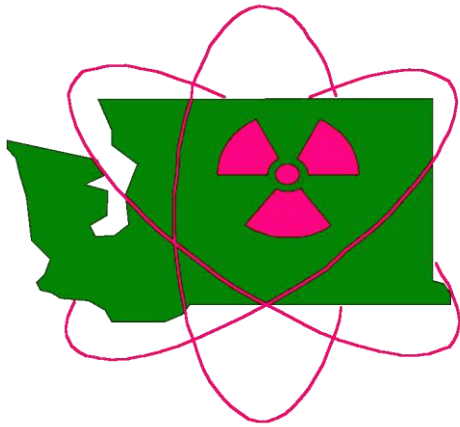
- Issue and enforce a radioactive materials license for clean-up activities. (Tetra Tech)
- Ensure safe transportation of materials from the site.
- Re-evaluate as work proceeds to determine if there are more risks.
- Support and encourage further study – called *characterization*.

What's happening now?

- Reviewing investigation and clean-up plans to ensure safety.
 - Requirements include:
 - Using HEPA vacuums and *shrouded* tools to keep dust out of the air.
 - Applying fixatives or water for the same purpose.
 - Air sampling by the contractor and by Dept. of Health.

Environmental Air Sampler





Questions may be directed to:

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