Pasco Landfill

Cleanup Action Plan, legal agreements, SEPA
Comment period 9/3 – 10/3/19

Chuck Gruenenfelder & Jeremy Schmidt
Site Managers

Erika Beresovoy
Public Involvement

Toxics Cleanup Program, Eastern Region

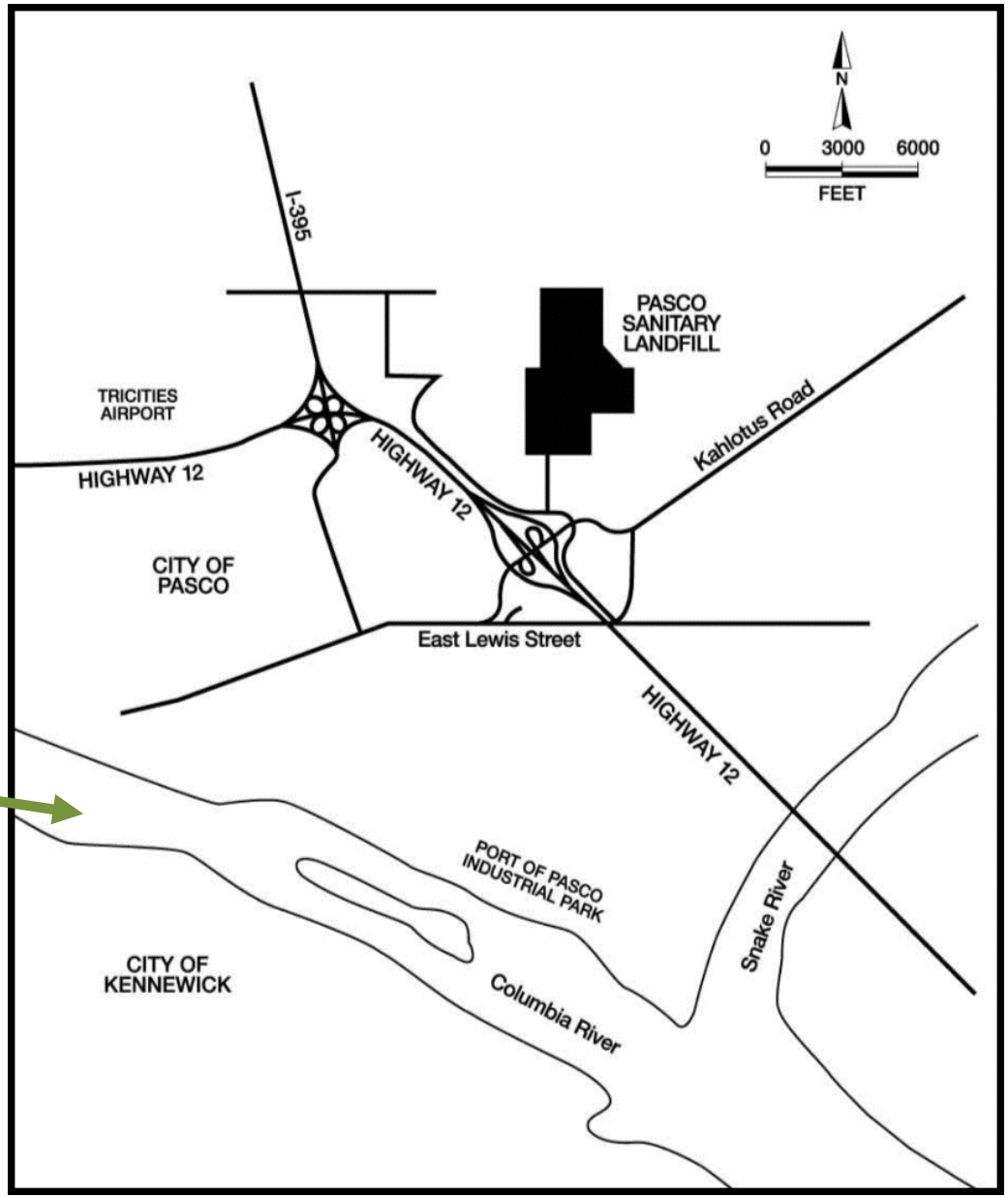
DEPARTMENT OF ECOLOGY
State of Washington

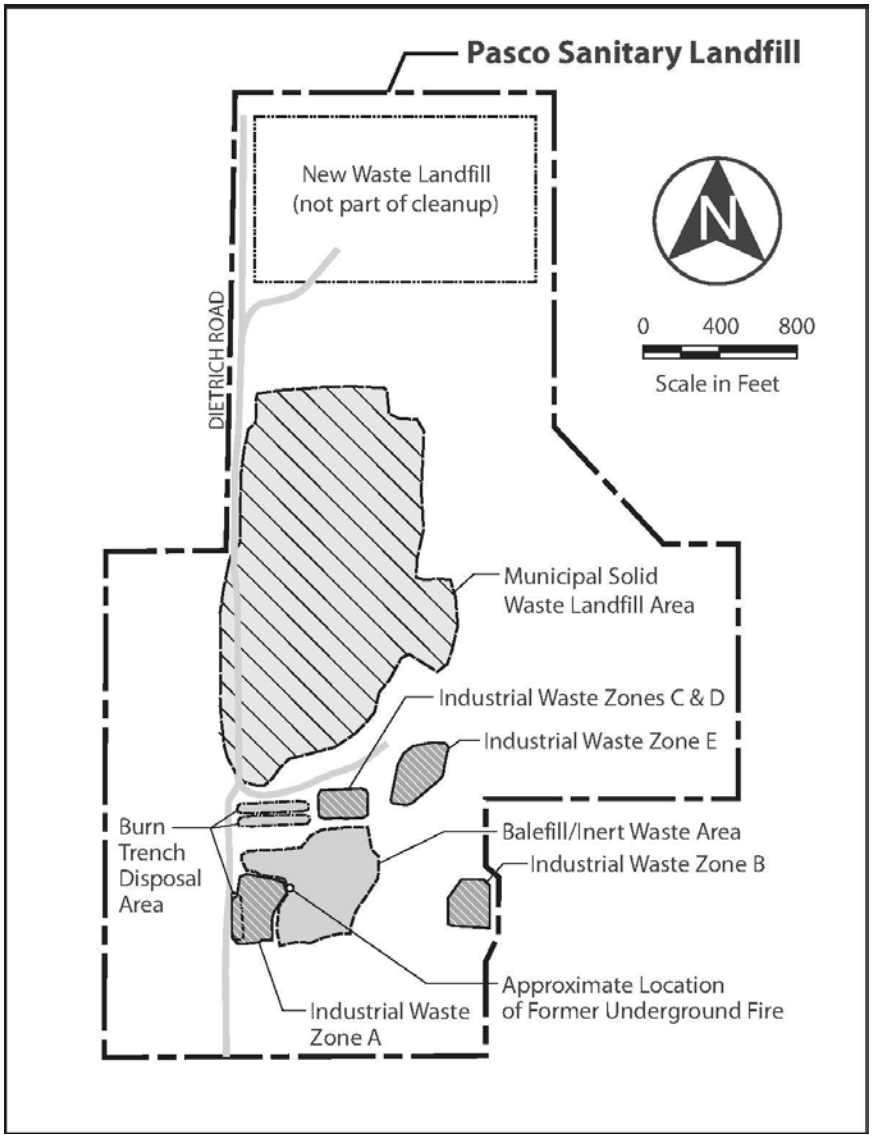
Site History and MTCA Cleanup Process Overview

Site Location

Dietrich Road by intersections of Kahlotus Road and U.S. Highway 12

Columbia River





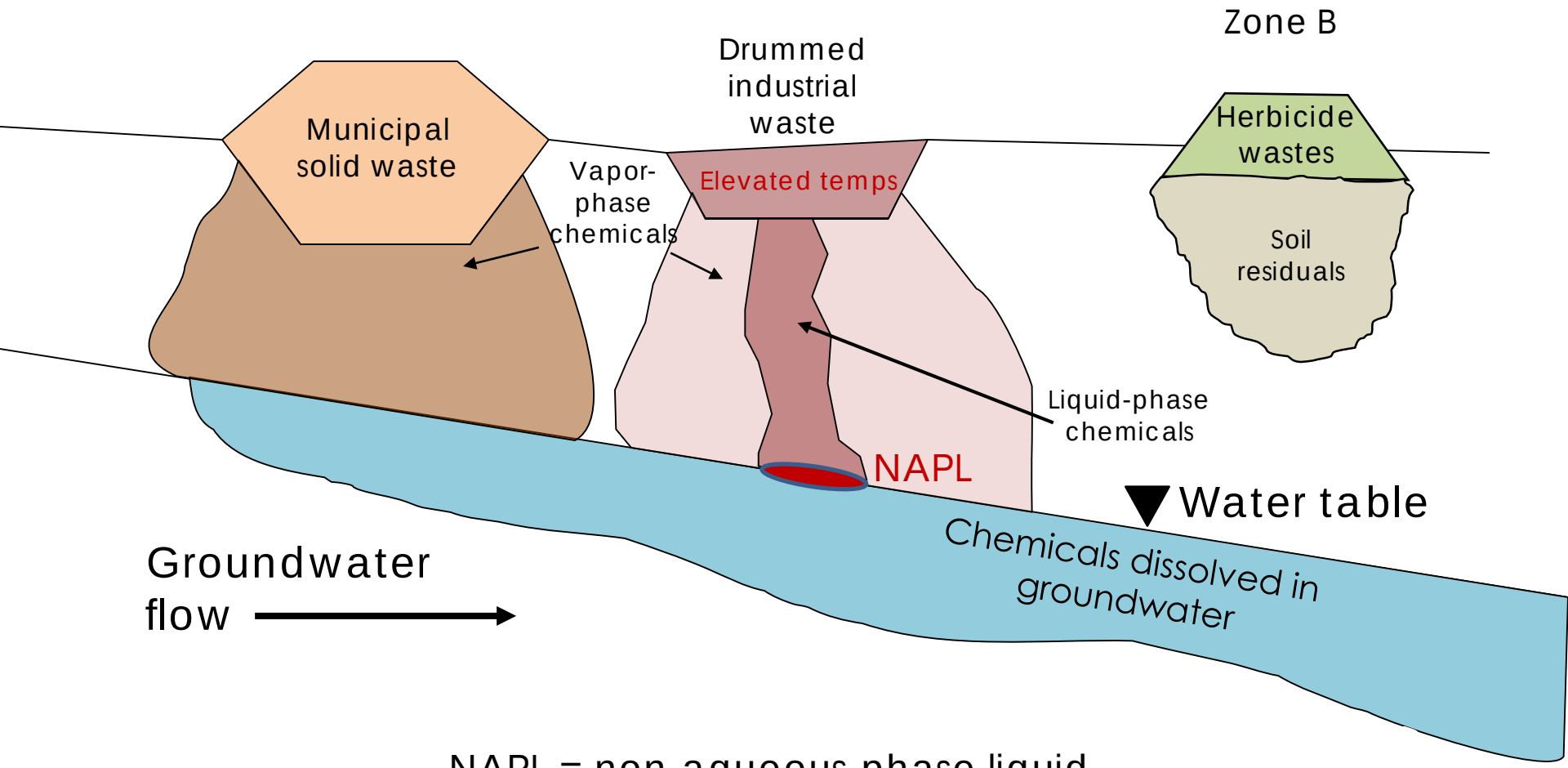
SVE = soil vapor extraction

Site History & Features

- **Industrial Wastes (1972 – 1975)**
  - Zone A: 35,000 – 40,000 drums mixed industrial waste
  - Zone B: Herbicide wastes (~5,000 drums)
  - Zone C/D: Various sludges/resins (>3,000,000 gallons)
  - Zone E: Chlor-alkali wastes (~11,000 tons)
- **Municipal Landfill (1958 – 1993)**
  - Burn trenches (1958 – 1971)
  - Balefill and Inert Waste Area (1976 – 1993)
  - Septic tank wastes, sewage sludge (1976 – 1989)
- **Offsite Plume (1985 – present)**
  - Groundwater protection ordinance in place

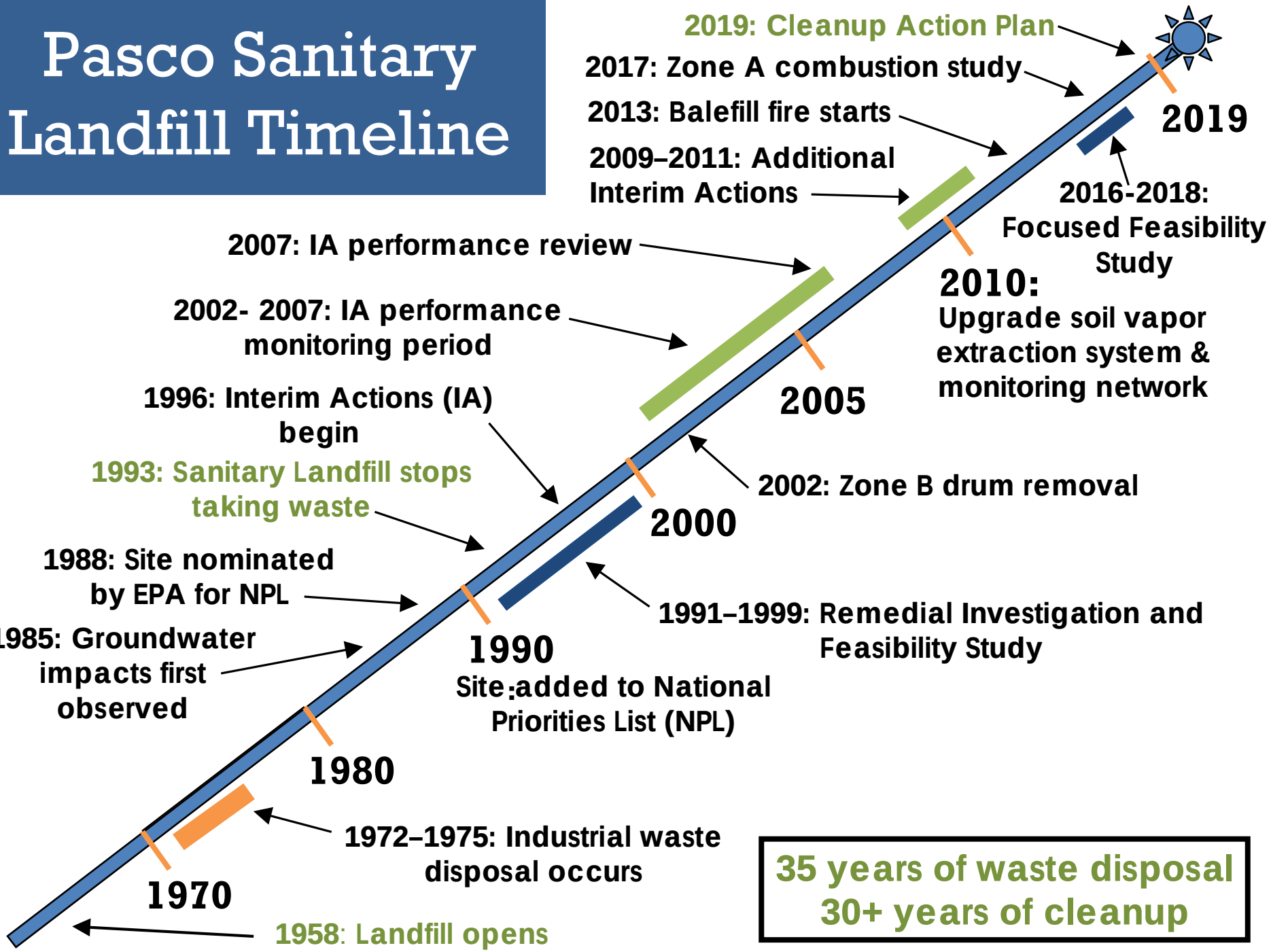
What's happened here?

Simplified conceptual site model



NAPL = non-aqueous phase liquid

Pasco Sanitary Landfill Timeline



35 years of waste disposal
30+ years of cleanup

Who are Potentially Liable Persons?

- **Current owner and operator** with any ownership interest or exercises any control
- **Owner and operator at the time of release**
- Persons who owned the hazardous substance and arranged for disposal, treatment or transport (**generators**)
- Persons who transported the hazardous substance (**transporters**)
- **Manufacturers of hazardous substance that cause pollution** when used according to their instructions

Pasco Landfill Potentially Liable Persons

- Advance Electroplating
- Basin Disposal Company
- Boeing Company
- Philip Environmental, Inc.
- Burlington Environmental, Inc.
- Chemical Processors, Inc.
- Resource Recovery, Inc.
- Burlington Northern, Inc.
- Carr Aviation
- Collier Carbon and Chemical
- Chempro of Oregon
- Crown Cork and Seal Company, Inc.
- E.I. du Pont de Nemours and Co., Inc.
- Franklin County
- Freightliner Corporation, a Subsidiary of Daimler-Benz of North America Holding Company
- Georgia-Pacific Corporation
- Glidden Corporation, a Subsidiary of ICI Americas, Inc.
- Harbor Oil, Inc.
- ICI Canada, Inc.
- Intalco Aluminum Corporation
- James River Paper Company, Inc.
- Kalama Chemical Company
- Leonard and Glenda Dietrich
- Minnesota Mining and Manufacturing Company
- Morton Chemical Company
- National Service Industries, Inc.
- Pasco Sanitary Landfill, Inc.
- Franklin Land Recovery, Inc.
- Puget Sound Naval Shipyards
- The O'Brien Corporation
- Oregon Cutting Systems Division of Blount, Inc.
- PACCAR, Inc.
- Precision Castparts Corporation
- Piute Energy & Transportation Company
- PPG Industries
- ~~Rhone-Poulenc Company~~ (Zone B)
- Sandvik Special Metals
- Simpson Timber Company
- UARCO Incorporated
- United States Air Force
- United States Department of Agriculture, Forest Service
- United States Department of Interior, Bureau of Reclamation
- Weyerhaeuser Corporation
- Wood Treatment Chemical Company

More than 30 PLPs!!

Zone B becoming a separate site

History: ~5,000 drums of herbicide-manufacturing waste disposed offsite in 2002 (incineration)

- Approved request to become a separate site
- Draft CAP and legal agreement will be available for public comment later

Zone B Removal Action
February 5, 2002

CAP = cleanup action plan

Selecting a Cleanup Remedy

Threshold requirements

- Protect human health and the environment
- Comply with cleanup standards
- Comply with state and federal laws
- Provide for compliance monitoring

Other significant requirements

- Use permanent solutions to fullest extent practicable
- Provide reasonable restoration time frame
- Consider public concerns

FFS ➡ CAP ➡ Final Cleanup

Focused Feasibility Study

- Identified cleanup options for all landfill areas
- Evaluated technical approaches and overall costs
- Comment period 9/12 – 10/26/18, meeting 9/26/18

Cleanup Action Plan

- Presents Ecology's preferred cleanup remedy
- Includes preferred FFS alternatives except for Zone A
- Draft open for comment 9/3 – 10/3

Final Site Cleanup

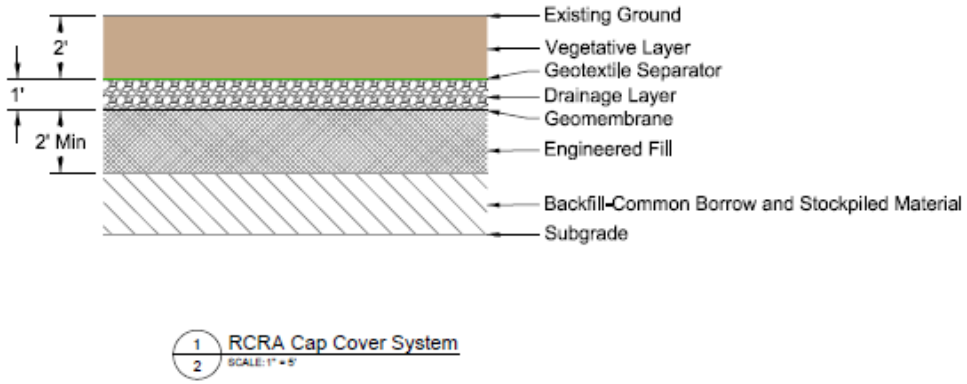
- Preliminary engineering design is ongoing
- Consider adjusting plans based on public input
- Begin construction in 2020

Common Cleanup Elements

All cleanup actions will include:

- Engineered covers over residual wastes and contamination
- Routine inspection, maintenance, monitoring, and reporting
- Environmental covenants to limit disturbance of residual waste or contaminants
- Access control via fencing/signage
- Financial assurance for long-term custodial care of the site
- Periodic reviews (every 5 years) to evaluate cleanup performance and effectiveness

RCRA-compliant cover systems installed in 2001/2002 at Zones A-E and MSW Landfill



1 2 RCRA Cap Cover System
SCALE: 1" = 5'

Zone A cover system test pit

Multi-layer covers minimize water infiltration and potential for contact with waste materials

HDPE = high-density polyethylene GCL = geosynthetic clay liner
RCRA = Resource Conservation & Recovery Act

Cleanup plans:
Municipal Solid Waste Areas

Municipal Solid Waste Landfill

History: Household and commercial garbage, septic sludges

Proposed action:

- Maintain engineered cover
- Operate landfill gas collection and treatment (flare) system until gas generation rate declines
- Monitor groundwater; install additional wells
- Fencing & signs
- Long-term custodial care

FFS cost = $1.4 million

The flare unit burns off landfill gas

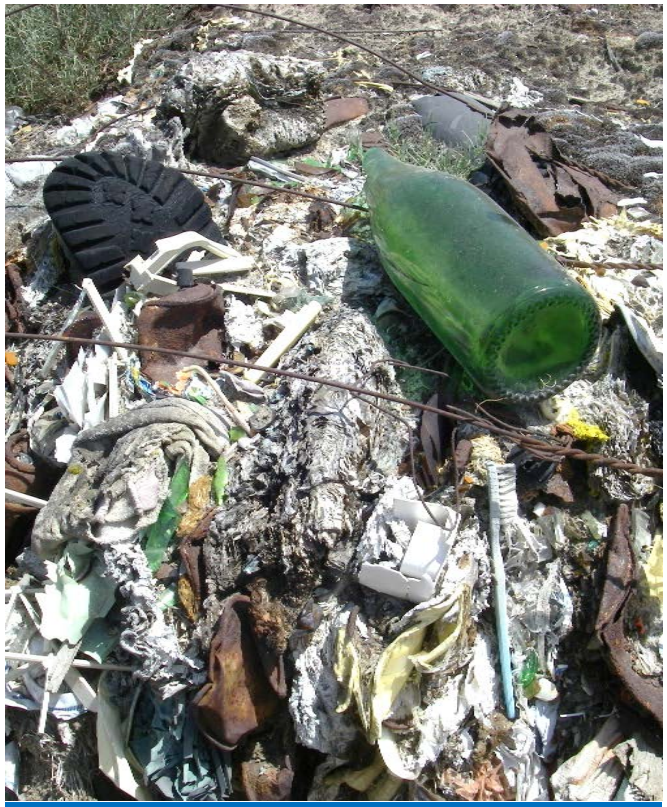
Balefill/Inert Waste Area

History: Household waste and construction debris

Proposed actions:

- Repair/improve existing soil cover
- Perform routine O&M
- Long-term custodial care

FFS cost = $500,000



Surface-exposed Balefill Area wastes

O&M = operations & maintenance

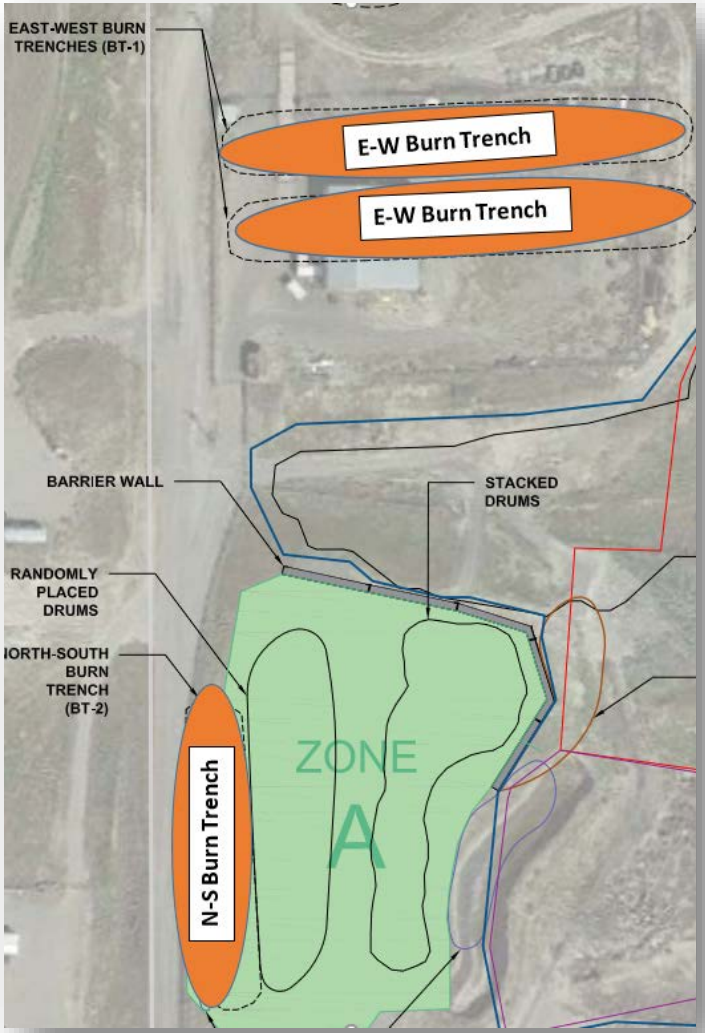
Burn Trenches

History: Household and commercial garbage was burned

Proposed action:

- Assess E-W trench covers and improve as needed
- Perform routine O&M
- N-S trench may be affected by Zone A work
- New Zone A cover will extend over N-S trench
- Fencing & signs

FFS cost = $140,000



O&M = operations & maintenance

Cleanup plans: Industrial Waste Areas

Zones C/D

History: Evaporation ponds for bulk liquid industrial waste disposal (sludges, resins, paint, solvents, cutting oils, etc.)

Proposed action:

- Maintain engineered cover over waste residues
- Maintain fencing & signs
- Monitor groundwater

FFS cost = $700,000

Zones C/D vapor monitoring

Zone E

History: 11,000 tons of paper manufacturing sludge with mercury

Proposed action:

- Maintain engineered cover over wastes
- Maintain fencing & signs
- Monitor groundwater

FFS cost = $800,000

Landfilling toxic sludges into Zone E in 1973 or 1974

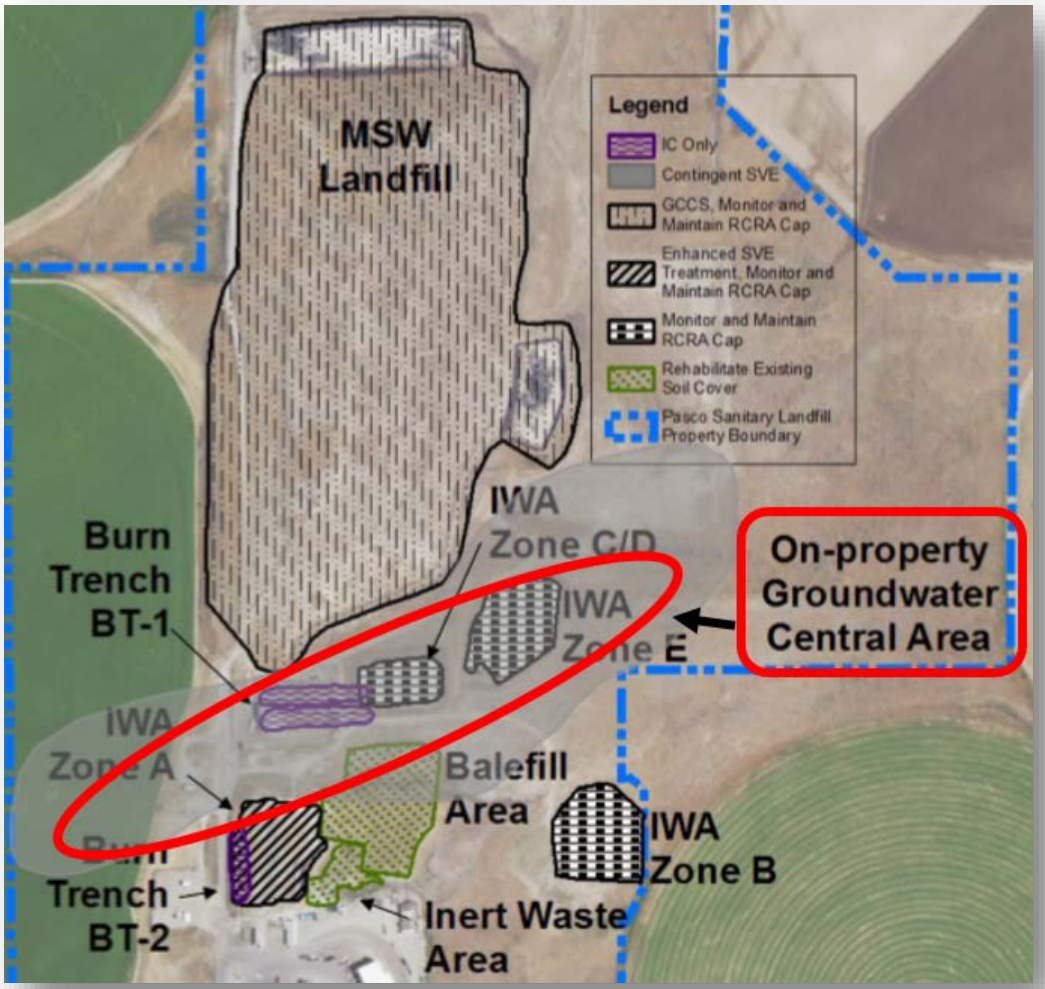
Central Area: On-property groundwater

History: Low-level VOC contamination in groundwater

Proposed action:

- Future actions triggered by monitoring trends
- Assess likely source(s)
- Use SVE treatment if contaminant levels exceed cleanup levels

FFS cost = $1.5 million



SVE = soil vapor extraction
VOC = volatile organic compound

Zone A

History: ~35,000 drums containing a variety of industrial wastes

Proposed action:

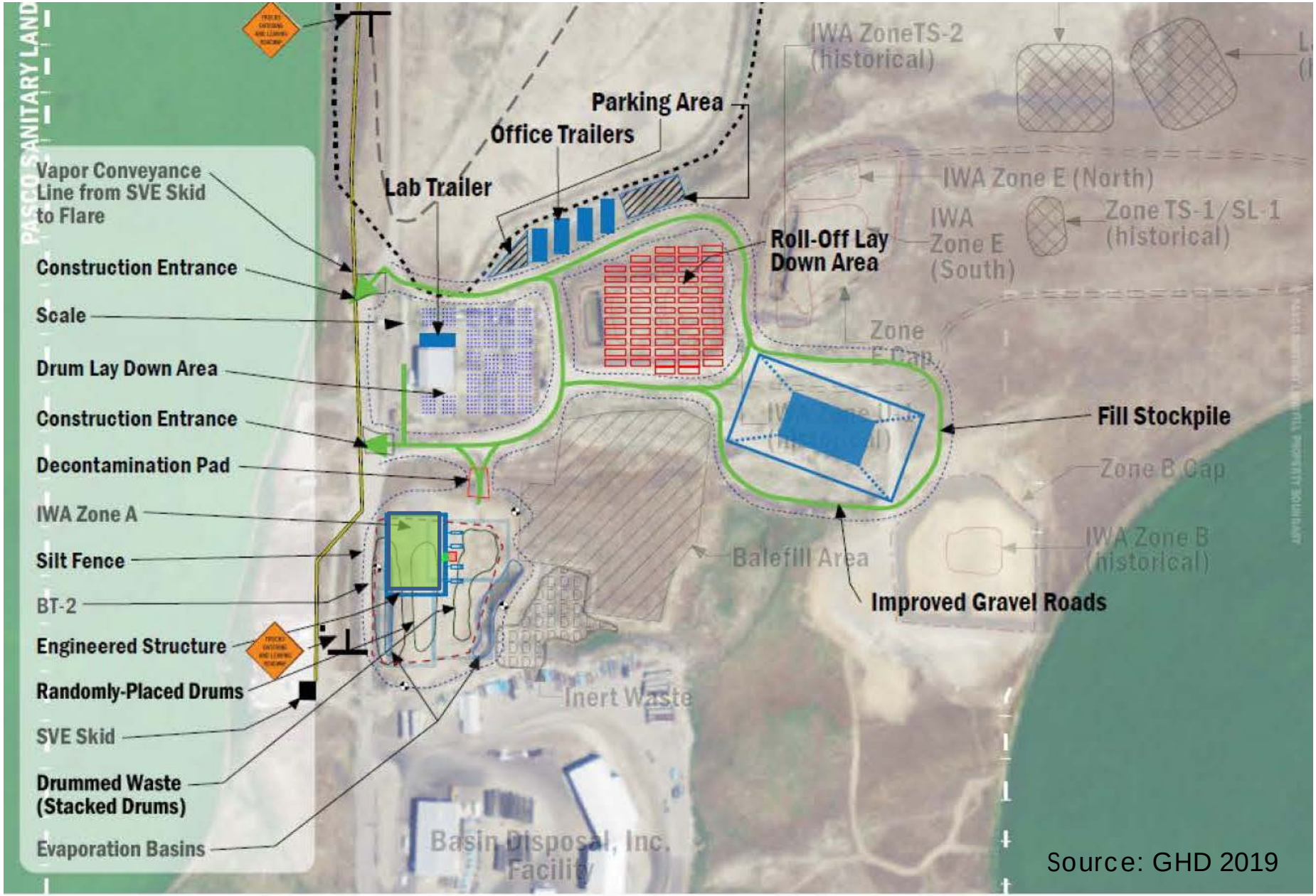
- Excavate all drums and drum-related wastes
- Dispose wastes offsite
- Operate SVE system during drum removal
- In-situ thermal treatment
- New engineered cover
- Groundwater monitoring
- Maintain fencing/signage

FFS cost = $56 – 128 million

Drums of industrial waste being readied for burial - 1973

SVE = soil vapor extraction

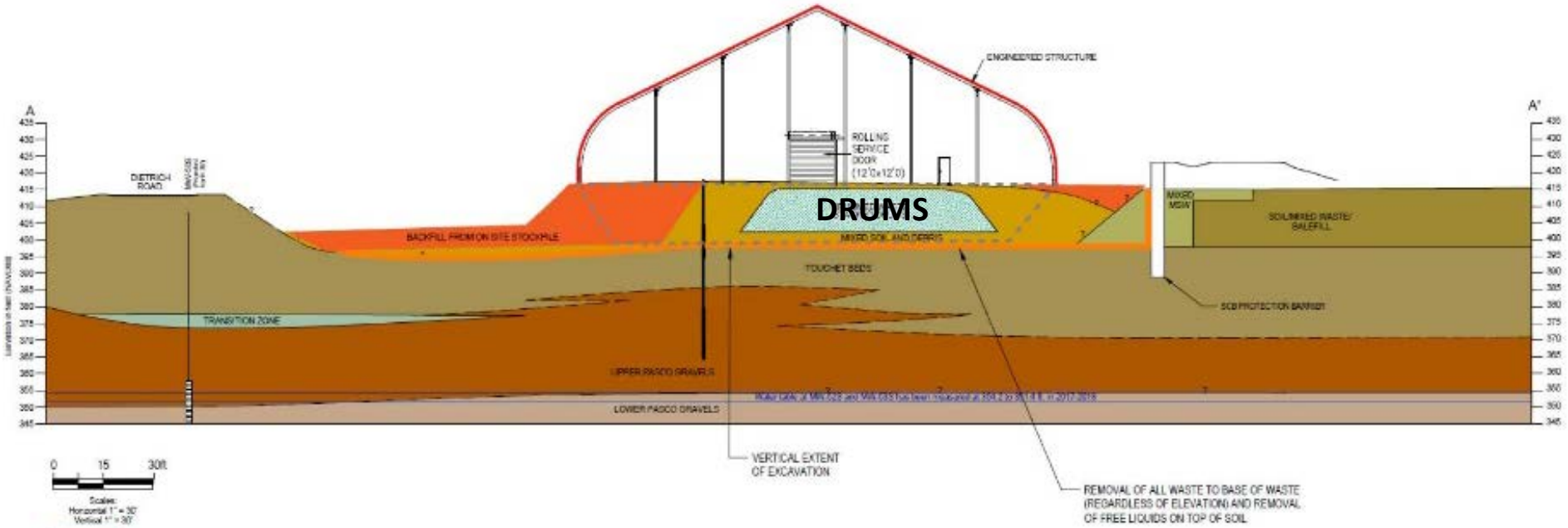
Preliminary Zone A construction layout



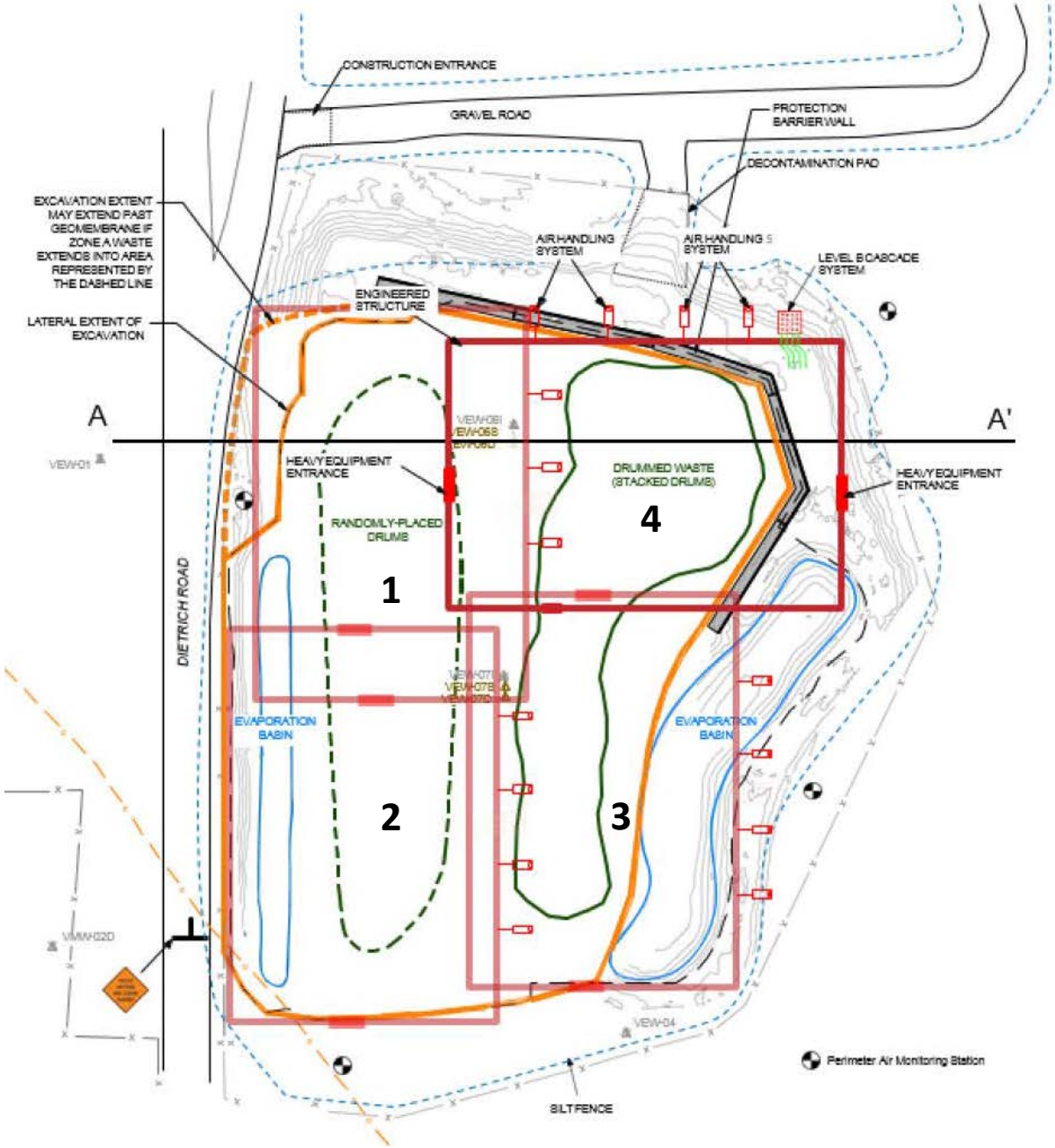
Source: GHD 2019

Example temporary structure

Temporary structure over excavation



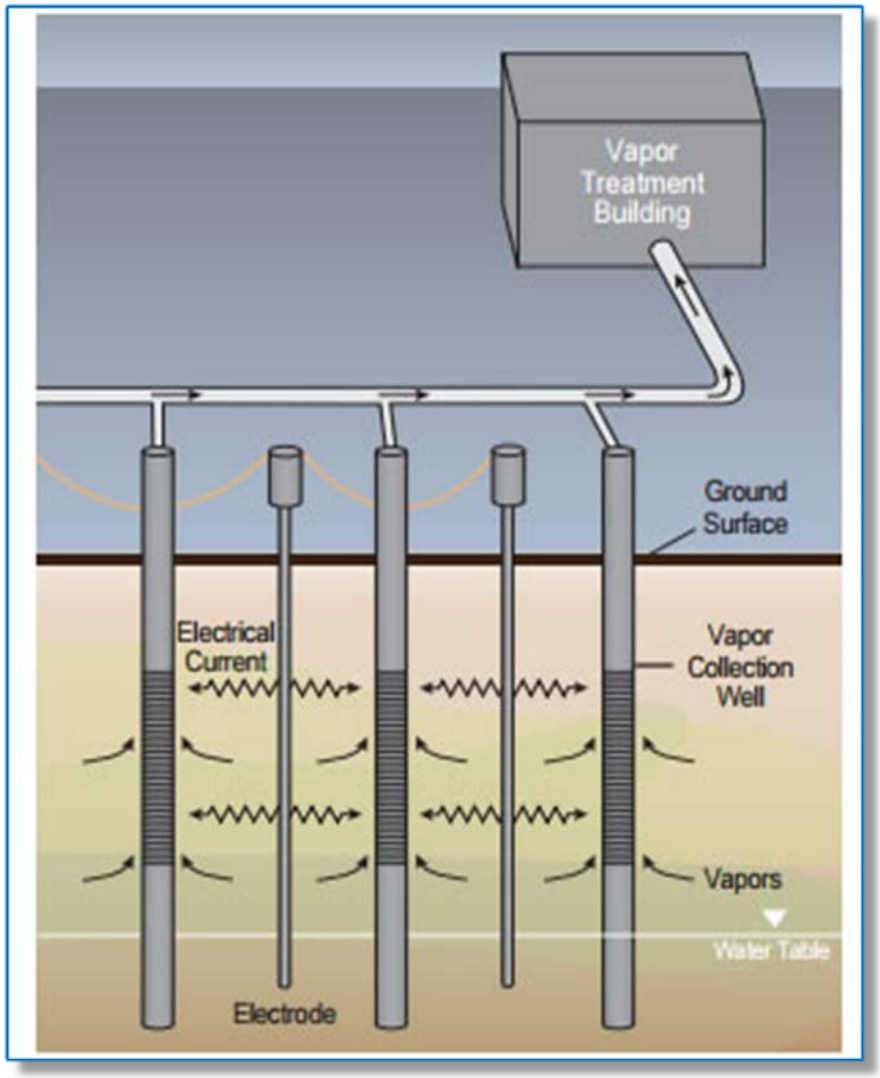
Structure moved to 4 locations



In-situ thermal treatment

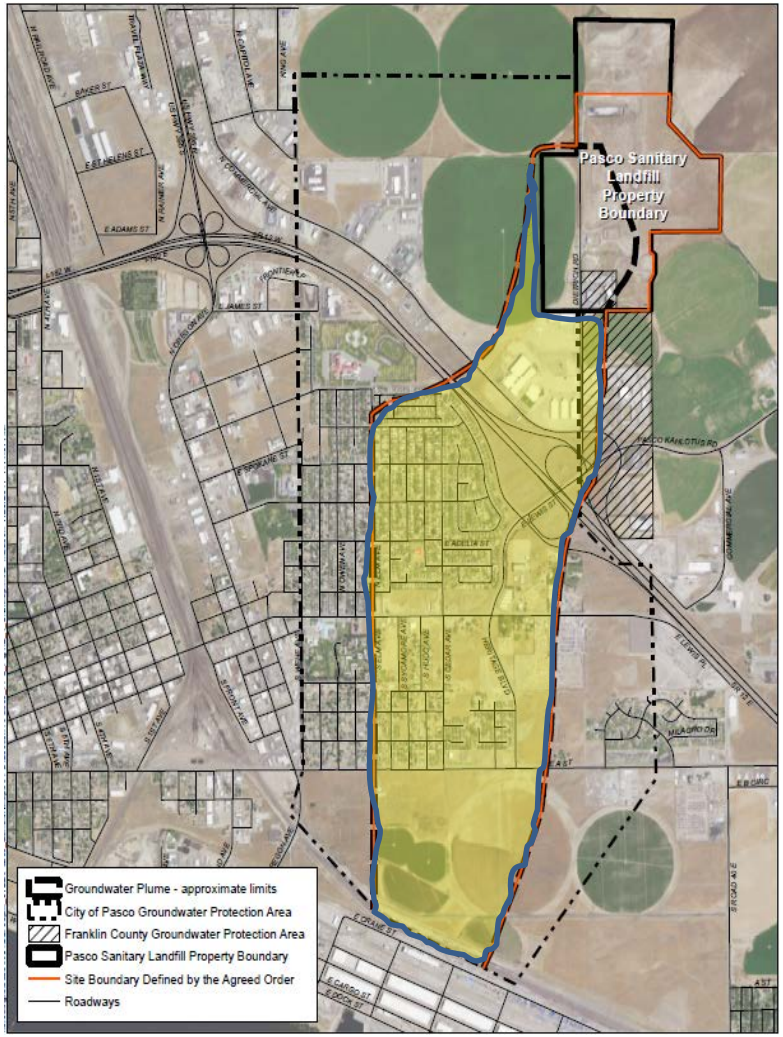
Following Zone A drum removal:

- Heat the soil beneath Zone A
- Capture and treat contaminant vapors that are released
- Residual contaminants are immobilized
- Install new Zone A cover



Off-property groundwater plume

- Contaminants still detected below cleanup levels
- VOC levels in groundwater do not pose a vapor intrusion risk
- Cleanup work may cause short-term changes in groundwater quality
- Maintain existing City of Pasco groundwater protection area during cleanup
- Analyze off-property well data during periodic reviews (every 5 years)



VOC = volatile organic compound

Public Review Process and Steps Ahead

Effective Public Comments

1. Review all documents available for public comment
2. Before drafting comments, contact Ecology or other technical experts listed on the fact sheet
3. Be specific when writing comments
   - Could they be interpreted multiple ways?
   - Explain your reasoning with examples
   - Refer to document pages, paragraphs, etc.
4. Ensure Ecology could enact your ideas within the framework of existing laws

TIP: Coordinate your comments with others!

After the comment period

We will:

- Respond to all comments
- Consider public input before finalizing cleanup action plan
- Hold another comment period if documents change substantially
- Begin Zone A drum removal in 2020 if proposed cleanup plan proceeds

Next steps

- PLPs sign a consent decree, or we issue an enforcement order
- PLPs develop engineering design reports and associated planning documents; Ecology review & approval
- PLPs finalize contracting with cleanup contractors, vendors, and suppliers
- Coordination with local emergency response and public health agencies

PLP = potentially liable person

Project Contacts

Ecology

Chuck Gruenenfelder
Ecology Project Manager
(509) 329-3439
charles.gruenenfelder@ecy.wa.gov

Erika Beresovoy
Public Involvement
(509) 329-3546
erika.beresovoy@ecy.wa.gov

Potentially Liable Persons

Barbara Smith
PLP Representative
(206) 343-0250
barbara@harrisandsmith.com

Peter Bannister
PLP Representative
(206) 780-7728
pbannister@aspectconsulting.com

Thanks for your involvement!

DEPARTMENT OF
ECOLOGY
State of Washington

Cleanup Action Plan
Pasco Landfill NPL Site

Kahlotus Road & Highway 12, Pasco
Facility Site ID 575, Cleanup Site ID 1910