



Hughes Brownfield Case Study

*A State and Tribal Response Program Clean Up of the
Former Community Tank Farm Generator Footprints in
Hughes, Alaska*

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Map adapted from aerial imagery provided by Google Earth Pro,
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Hughes Former Generators
Hughes, Alaska

VICINITY MAP

November 2012

32-1-17509-001

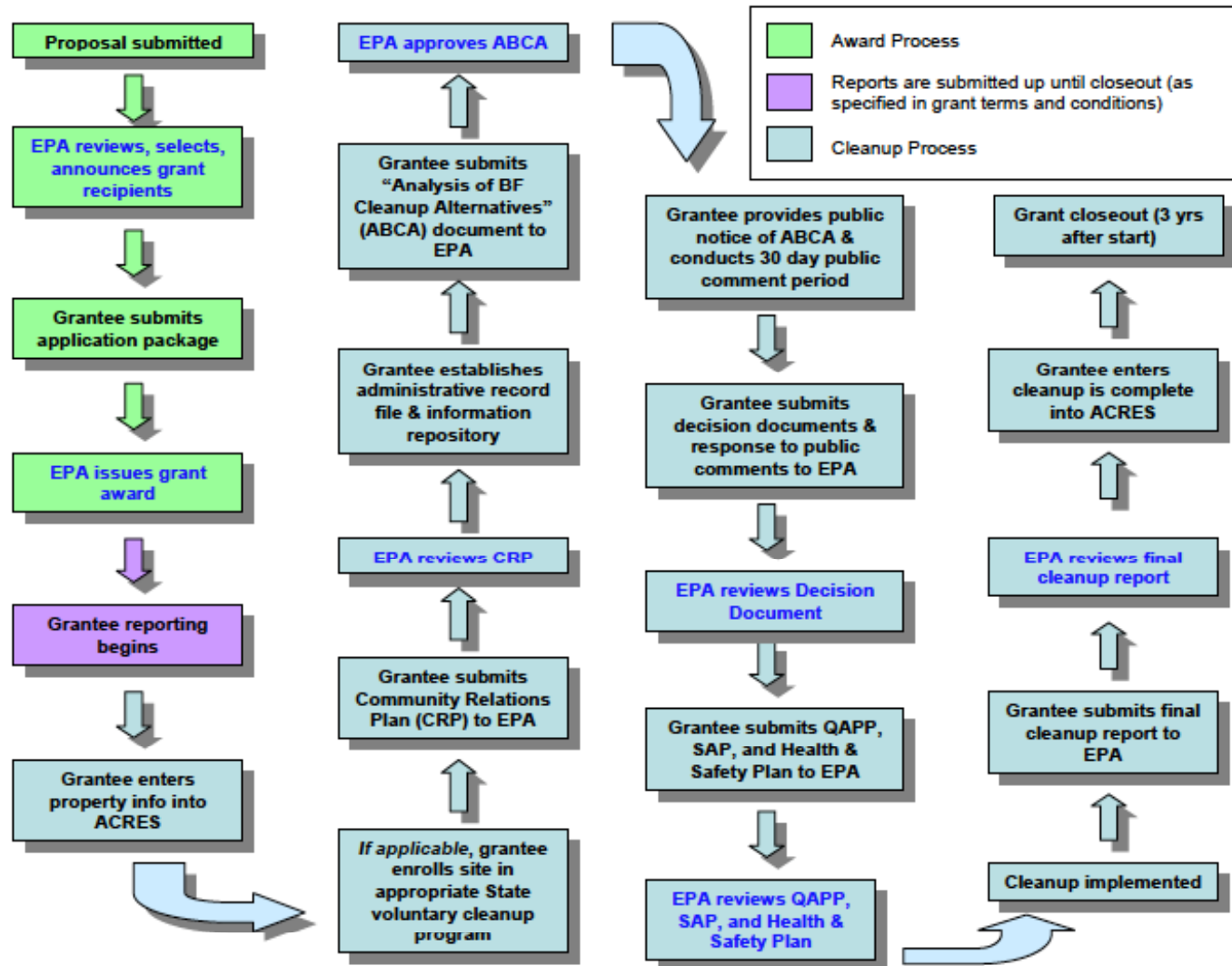


SHANNON & WILSON, INC.
Geotechnical & Environmental Consultants

Fig. 1



CLEANUP GRANTS PROCESS



What Was The Goal?

- **Generally:** *Finally do a cleanup! – after years of building capacity, assessments, we wanted to use STRP funding to do more and go further.*
- **Specifically:** *Mitigate exposure pathways by removing petroleum contaminated soil and replacing with clean fill before ANTHC installs a 40,000 gallon water storage tank*
- *DEC & YRITWC collaboration established by dividing tasks and incorporated them into EPA funding requests*



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YRITWC's Brownfields Program

DEC's Reuse & Redevelopment Program

Environmental Protection Agency

Where Did This All Begin?

Assessments

YRITWC conducted Phase I and Limited Phase II Environmental Site Assessment of Lots 11 & 13 in summer of 2008.



DEC prepared an Environmental Management Plan in 2009 summarizing the characterization work already done and describing the recommended actions for removal.

Assessments Confirmed Contamination:

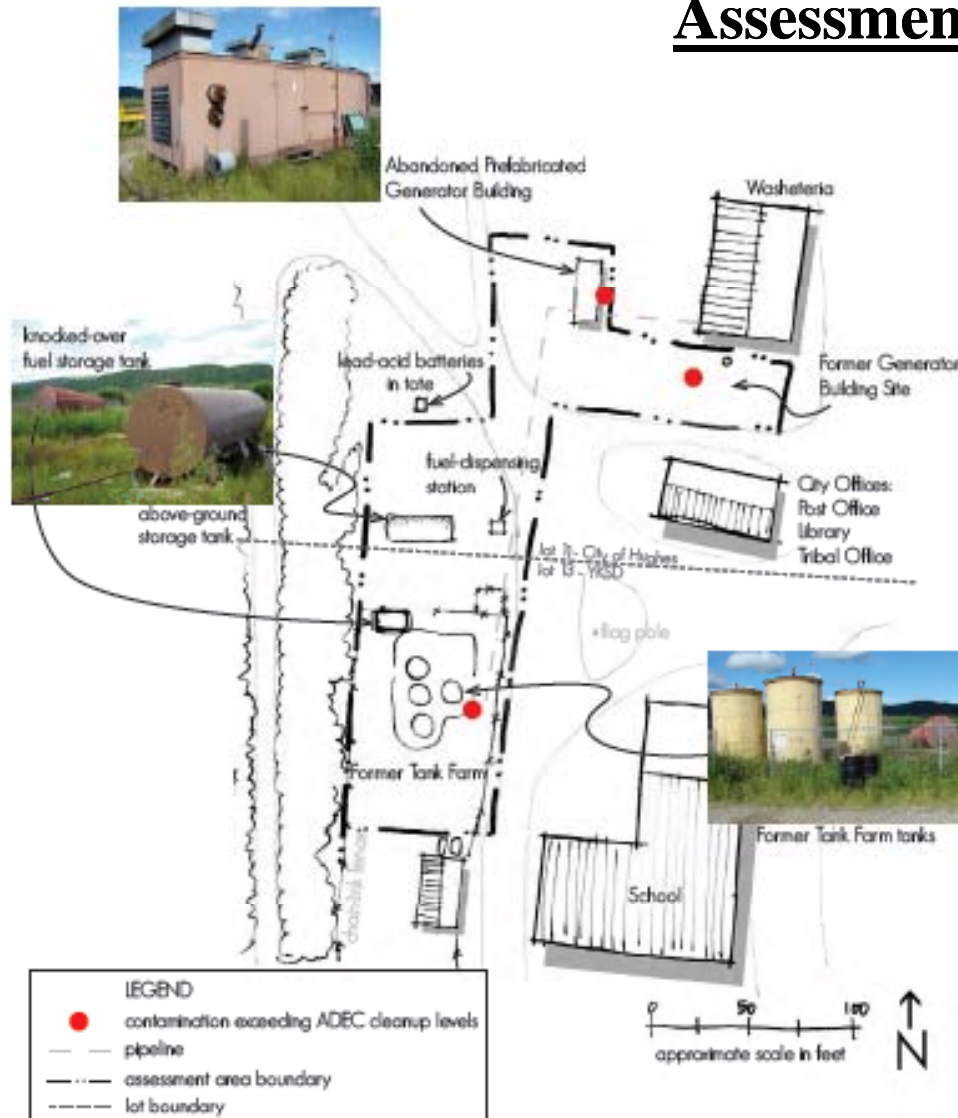
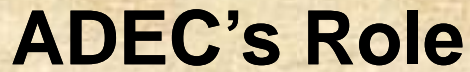


Figure 2: Site Map and Locations of Contamination

- Abandoned Generator Building
- Location of Former Generator Building
 - Location of Former Fuel Dispenser Island
- Buried Piping Between Former School Tank Farm and Abandoned Generator Building
 - Former School Tank Farm



- **SHPO** – State Historical Preservation Office
- **Endangered Species Act Concurrence**
- **ABCA** – Analysis of Brownfields Cleanup Alternatives
- **CAP** – Corrective Action Plan
- **Regulation**



ABCA – Analysis of Brownfields Cleanup Alternatives



- Discusses different cleanup strategies and prioritizes the best approach
- **This project had 5 alternatives:**
 - Alternative 1 – No Action
 - Alternative 2 – Mitigation through capping and institutional controls
 - Alternative 3a – Limited excavation and off-site treatment of soil
 - Alternative 3b – Excavation and off-site treatment of soil
 - Alternative 3c – Prioritized excavation and off-site treatment of soil
- 30-day public comment period followed release of draft ABCA
- YRITWC & DEC held community meeting during the comment period to discuss ABCA
- ABCA was finalized after all public comments had been resolved

CAP – Corrective Action Plan

a specific workplan for the project describing:

- **How cleanup will be done**
- **The number of samples to be taken**
- **Where the contaminated soil will go to be managed**

Alternative 3c – Prioritized excavation and off-site treatment of soil

Cleanup priority based on available funding was set to be:

1. The Abandoned Generator building due to the installation of the new water tank scheduled for 2012;
2. The footprint of the Former Generator Building due to its proximity to the community drinking water well;
3. The former fuel dispensing island; and
4. The above-ground portion of pipeline connecting the former generator buildings to the school tank farm.

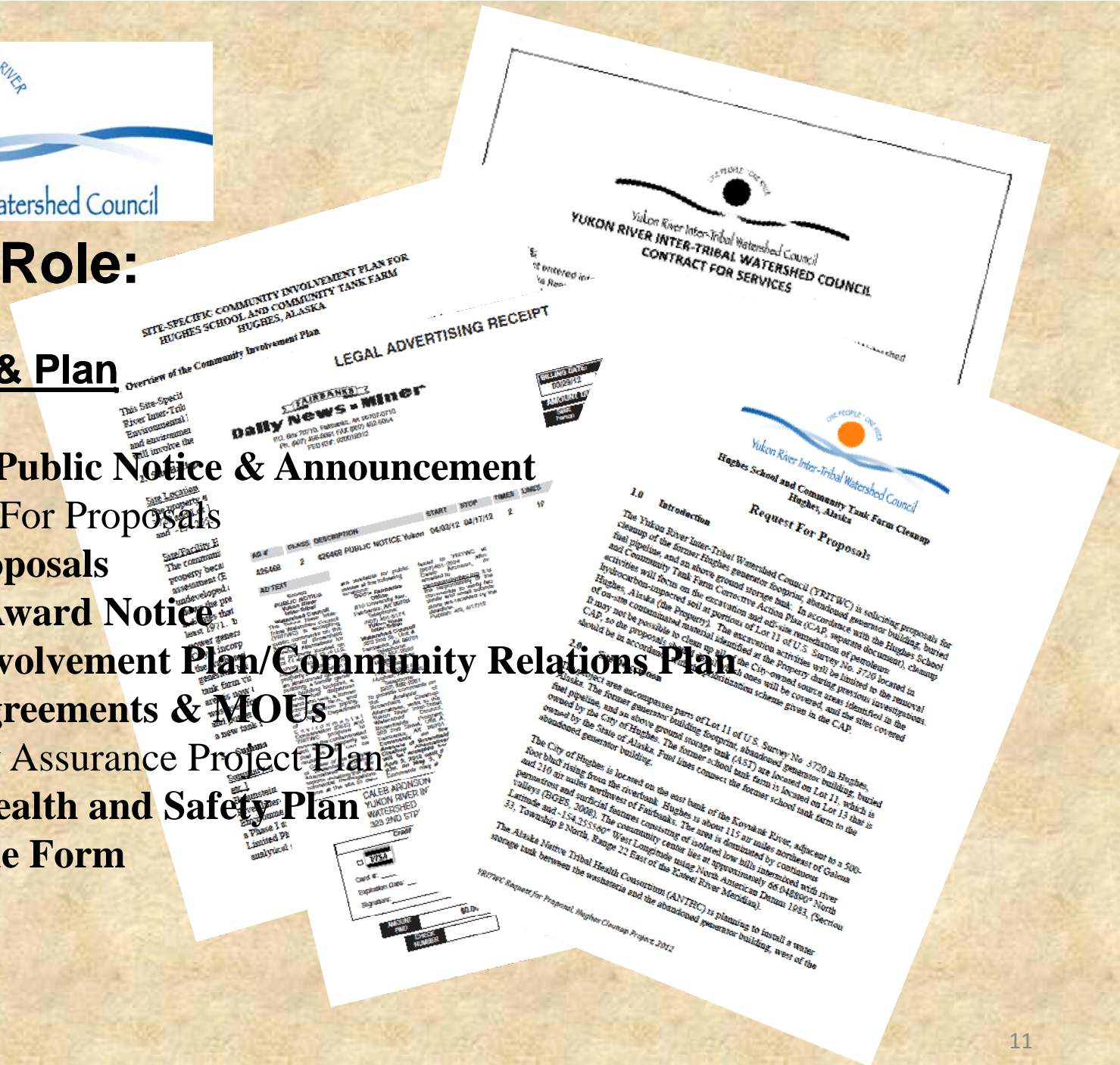


YRITWC's Role:

Draft, Review

Communicate & Plan

- ABCA, ABCA Public Notice & Announcement
- RFP – Request For Proposals
- Contractor Proposals
- Contract and Award Notice
- Community Involvement Plan/Community Relations Plan
- Community Agreements & MOUs
- QAPP - Quality Assurance Project Plan
- Site-Specific Health and Safety Plan
- Property Profile Form
- Final Report

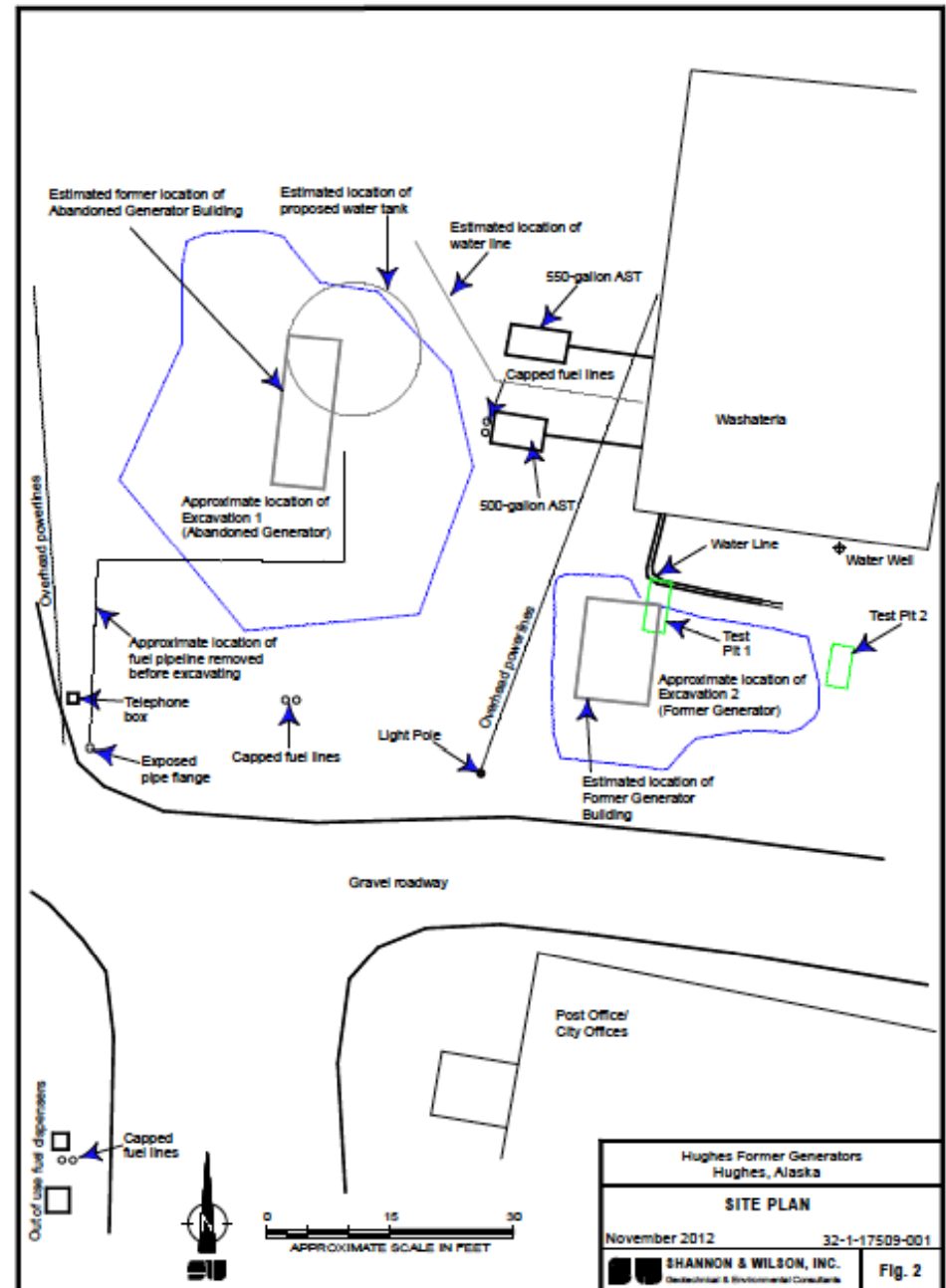




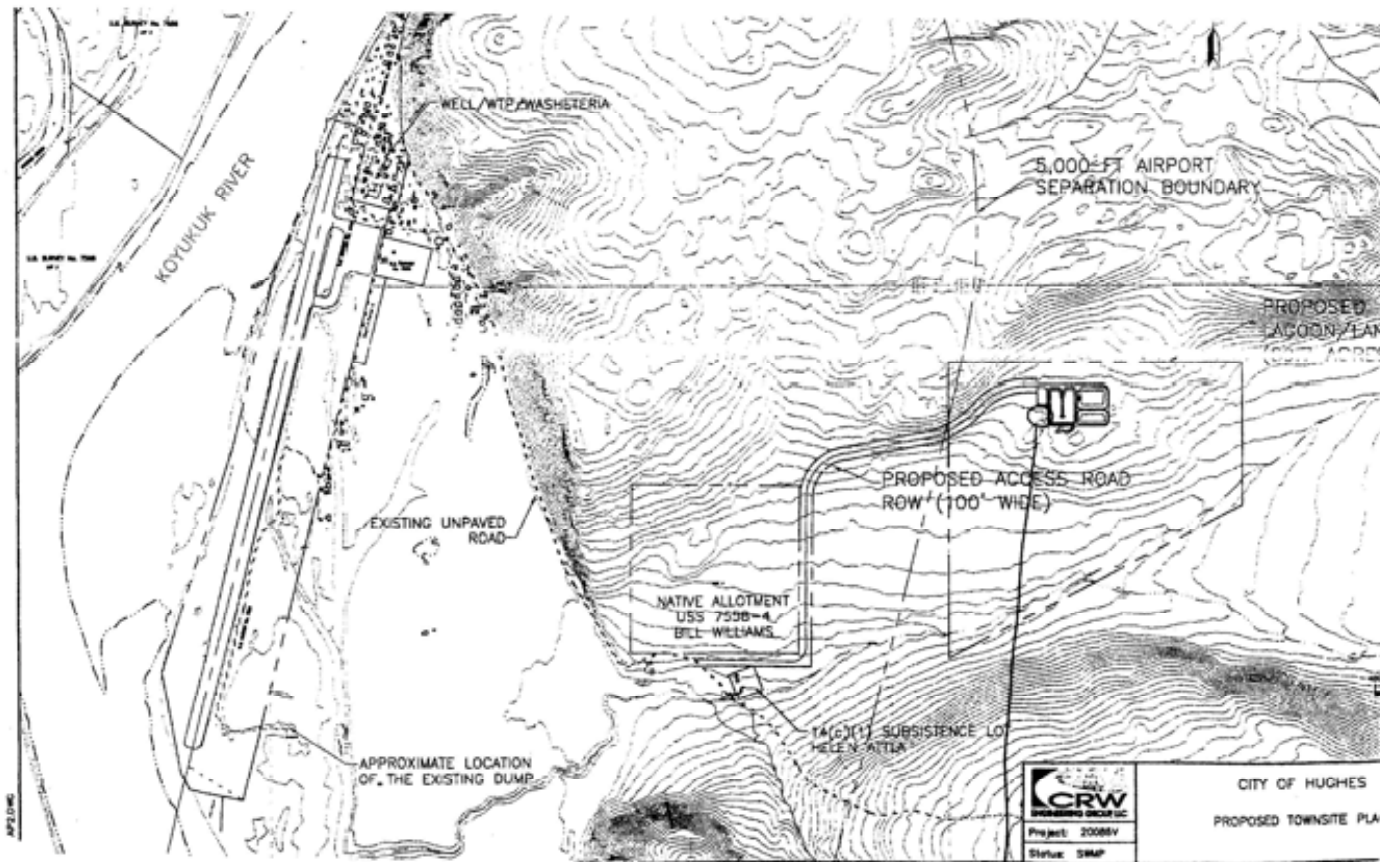
**Now The Field Work
Can Begin...**



- **Excavation 1: Abandoned Generator Building**
- **Excavation 2: Former Generator Footprint**

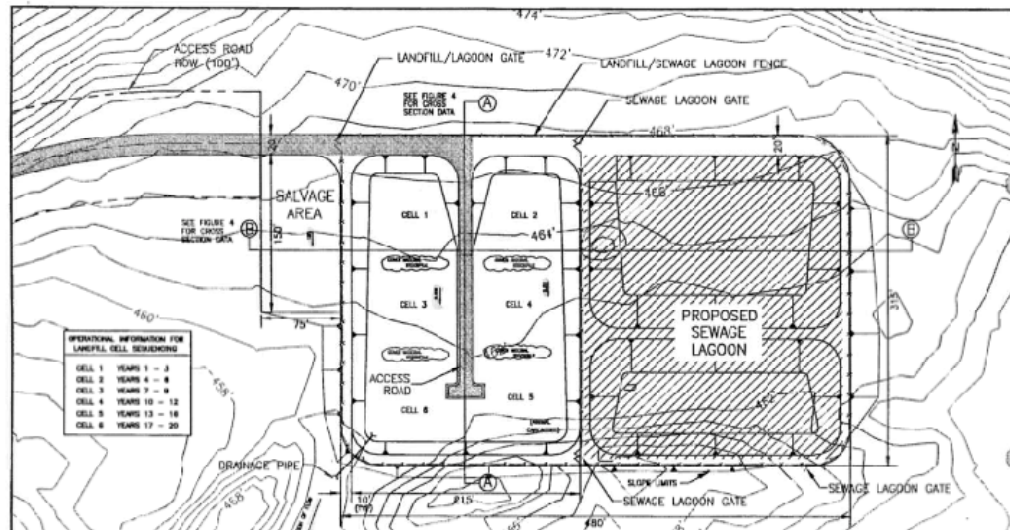


Site Surveying – Containment Cell



Circled spot for gravel storage
8.1.12.

Site Surveying – Containment Cell



Site Surveying – Fill Material

**Hughes Village Council has a material sale contract with Department of Natural Resources
Approximately 300 cubic yards were removed for stockpiling before potential flooding**



Containment Cell Construction





**Dimensions are approx:
100ft X 50ft = 5,000 sq. ft.**



Sampling Prior to Stockpiling Soil

**10 random screening
samples collected
within cell and to 1 ft.
deep**



**First, protective non-woven
geotextile fabric**



**Then, 20-mil thick
petroleum resistant liner**



Utility Location



Excavation 1: Abandoned Generator Building

Approximately 270 cubic yards removed









Excavation 2: Former Generator Footprint

Approximately 70 cubic yards removed







Summary of Results

Approximately 340 cubic yards of potentially contaminated soils were removed from the center of the community and placed in a landfarming cell on the east side of the landfill

Landfarm soil thickness is estimated at 3.5-4 ft. Hughes is recommended to till the landfarm soil at least twice every summer to enhance degradation and to also cover the soil with 6-mil polyethylene sheeting in winter – reduces amount of water from entering cell and increases solar heating

Contractor estimated 90% of funds stayed in the community: operators, laborers, accounting, equipment – loaders, CAT, excavator, dump trucks, pickup truck, etc.

Although a lot of potentially contaminated soil wasn't removed due to funding constraints, something got cleaned up! A little goes a long way...

First ever STRP funded cleanup for YRITWC - builds capacity, knowledge for future cleanups

Thank You

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