

**OPERATIONAL APPROACH**

**PRE-REMEDIAL ACTIVITIES:**

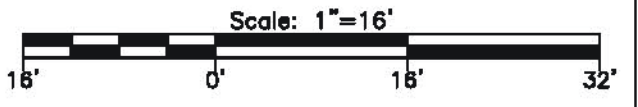
1. Active utilities are present in the proposed remediation area and will be sufficiently marked out.
  - i. Hand digging will be utilized to locate existing underground telephone line passing through remediation area.
2. Contracted surveyors will stake out proposed remediation area and sample location.
3. Praxair controlled zone will be established by Praxair to eliminate pedestrian traffic.
  - i. Praxair controlled zone will include overhead walkway.
4. Operations will delineate construction zone with high visibility fence.
  - i. Radiation zone will be established after concrete sidewalk sections are removed.
5. No CRZ will be used.
  - i. HP technician will control entry and exit of materials, equipment, and personnel in radiation zone.
6. Air monitors will be placed according to SRSRL direction and powered using electricity from nearby buildings.
7. Concrete sidewalk sections to be removed will be saw cut at the joints.
8. Mini-excavator with mini-breaker attachment will break two (2) concrete sidewalk sections into pieces for recycle.
  - i. Water for dust suppression will be supplied from nearby buildings or nearest fire hydrant.
9. Plywood with geotextile fabric will be utilized in the loading area to prevent contamination of existing soils.
10. Trucks will enter and exit on concrete sidewalk from parking lot south of Building 100S.
  - i. No larger than 6 wheel dump truck is permissible on sidewalk.
11. Ground water and dust suppression water will be collected and stored in a portable tank and transferred into a frac tank.

**REMEDIAL ACTIVITIES:**

1. Water for dust suppression will be supplied from nearby buildings or nearest fire hydrant.
2. Excavation will begin after concrete sidewalk sections are removed.
3. Depth of excavation is anticipated to be approximately 2 feet BGS.
  - i. Based on the proposed depth of excavation, benching is not required.
  - ii. Should the depth of excavation increase, requiring benching, benching at 1.5:1 will be utilized.
  - iii. Excavation is not to extend beyond limits shown without approval from Cabrera Site Manager, Project Engineer, and USACE.
4. Trucks will enter and exit on concrete sidewalk from parking lot south of Building 100S.
  - i. No larger than 6 wheel dump truck is permissible on sidewalk.
5. All material under the removed concrete sections will be excavated to the anticipated depth.
6. Prior to backfilling, all areas of interest on the walls and floor of the excavation will be scanned and sampled in accordance with approved plans.
  - i. Samples will be analyzed using on-site gamma spectroscopy and off-site alpha spectroscopy to ensure surface or subsurface ROD criteria is met.
  - ii. GWS will be performed and final status survey samples will be collected.
  - iii. After GWS and sample collection, the walls of the excavation will be covered with fabric and the excavation will be backfilled.
  - iv. When off-site analytical results are received a final status survey unit technical data package will be submitted.
7. Permanent aboveground structures will not be impacted or removed.
8. Below grade structures will only be removed when impacted by contaminated material.
9. Ground water and dust suppression water will be collected and stored in a portable tank and transferred into a frac tank.

**RESTORATION:**

1. Excavation will be backfilled and compacted with approved reuse material.
    - i. Six inch thick 4,000 psi concrete will be poured in place of the removed sidewalk sections.
    - ii. New concrete sidewalk sections will be reinforced with six inch by six inch steel mesh and doveled into existing concrete sidewalk sections.
  3. Any damage to the surrounding area, including the sidewalk used for truck access, will be repaired in coordination with Praxair.
- \* Any change to this approach must be approved by the site manager or project engineer.



**LEGEND**

<span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span>	FSSU 079
<span style="color: green; font-weight: bold;">ST-5"</span>	EXISTING STORM
<span style="color: red; font-weight: bold;">SA-6"</span>	EXISTING SANITARY
<span style="color: blue; font-weight: bold;">W-10"</span>	EXISTING WATER
<span style="color: purple; font-weight: bold;">W-3"</span>	ABANDONED WATER
<span style="color: orange; font-weight: bold;">UT</span>	EXISTING UNDERGROUND TELEPHONE
<span style="color: green; font-weight: bold;">UD</span>	EXISTING UNDERGROUND DUCT
<span style="color: red; font-weight: bold;">Praxair</span>	PRAXAIR CONTROLLED ZONE
<span style="border: 2px solid orange; display: inline-block; width: 10px; height: 10px;"></span>	CONSTRUCTION FENCE
<span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span>	PLYWOOD
<span style="background-color: gray; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span>	CONCRETE SECTION
<span style="color: green; font-size: 12px;">●</span>	SAMPLE
<span style="color: green; font-size: 12px;">●</span>	GEOPROBE

**LINE FUSRAP Site  
Tonawanda, NY  
W912P4-07-D-0002, 0002**

**Building 100S  
Remedial Action Layout**

**CABRERA SERVICES**  
RADIOLOGICAL · ENGINEERING · REMEDIATION

Area/Subtask	Drawing No.	Rev. Date
Building 100S	E	200.1e Linde_01.04_0046_a