



CASE STUDY

Sensitive Receptor Excavation

DESCRIPTION

Implementing a permanent solution for ongoing and unresolved contaminations at a Southern California gas station. After prolonged remediation efforts prior to engaging E&E, this site still had a significant hot spot of petroleum hydrocarbon impacts. This project involved excavating to a depth of 18 ft (7ft below the groundwater level) in a busy gas station to remove the source of the hot spots. Then, it was backfilled with crushed rock to the top of the groundwater level and ORC pellets were mixed in to support continued bioremediation activities. The final stage included loading, transporting, and disposing of excavated soil; back-filling with clean soil; and resurfacing.

MAIN TASKS

- A Geo Physical Survey to locate conflicting utilities or obstructions.
- Erecting a temporary chain link fence to secure the work site.
- Saw-cutting & removal of existing pavement within a few feet of a busy pedestrian way & bus stop.
- Excavate using a slide rail shoring system to approximately (-17) BGS with GW at (-10) BGS.
- Ongoing PID and 1166 monitoring to ensure the site and work zone stayed within AQMD parameters.
- Backfill the first 7ft with ¾" crushed rock and mix in ORC pellets throughout the crushed rock using the excavator bucket.
- Place geo textile fabric on top of the crushed rock layer prior to backfilling the remaining space with clean fill – under the direction of the geo technical technician.
- Compaction Testing.
- Resurface the area.
- Replace curbs, planters, and sprinklers.
- Slurry seal and re-stripe parking lot.

CHALLENGES

Limited Space – The site offered limited space for the scope of the soil excavations, so we implemented a 3-phase approach to allow sufficient room for staging equipment, shoring, soil piles, and truck loading.

Community Safety – The site was adjacent to the city sidewalk and an active bus stop, and one of the excavations was near the property line. A temporary fencing system ensured the public and gas station employees wouldn't access the work zone accidentally.

Impact to Surrounding Areas – Immediately adjacent to the site were residential housing units, and the excavated soil had a significant odor. We used a combination of odor suppressants and continuous plastic covering to minimize impact.



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