

BACKGROUND

CH2M HILL recently supervised the removal of three underground storage tanks at the Longview Fiber Plant in Seattle, Washington (Figure 1). During the excavation the field crew observed visible hydrocarbons in groundwater at two of the former tank locations. Because of the shallow groundwater table and proximity of the site to the Duwamish Waterway, it is necessary to determine the extent of migration, if any, of the hydrocarbons observed during excavation of the tanks.

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DEPARTMENT OF ECOLOGY
NORTHWEST REGION

PURPOSE

The following proposed scope of work will determine, as best as possible, the lateral extent of hydrocarbons downgradient of the tank excavation locations. It is assumed that the general downgradient hydraulic direction beneath the site is to the west toward the Duwamish Waterway. A maximum of four groundwater monitoring wells will be installed, surveyed, and the groundwater sampled to determine the extent of potential hydrocarbon migration.

SCOPE

This investigation is preliminary in scope. Results of chemical analyses or observations during the field investigation may necessitate that additional tasks be undertaken. Our proposed scope of work includes the following tasks:

- o Monitor Well Installation. Three groundwater monitoring wells will be drilled with a hollow-stem auger at predetermined locations (shown on Figure 2). A fourth well may be drilled based on field conditions and observations made during installation of the first three wells. Drilling will not exceed a 15-foot depth, and wells will be completed with 2-inch diameter PVC that is appropriately screened to incorporate water level fluctuations. All wells will be completed below grade (ground surface) with steel-encased, locked caps for security and protection from vandalism and routine site activities. Figure 2 details the monitor well specifications. Please note that the specifications shown are not standard due to the shallow well depths. Prior to drilling, CH2M HILL will obtain a variance for the proposed non-standard design from the Department of Ecology.
- Drill cuttings will be monitored with an HNU during drilling and contained in 55 gallon drums, if

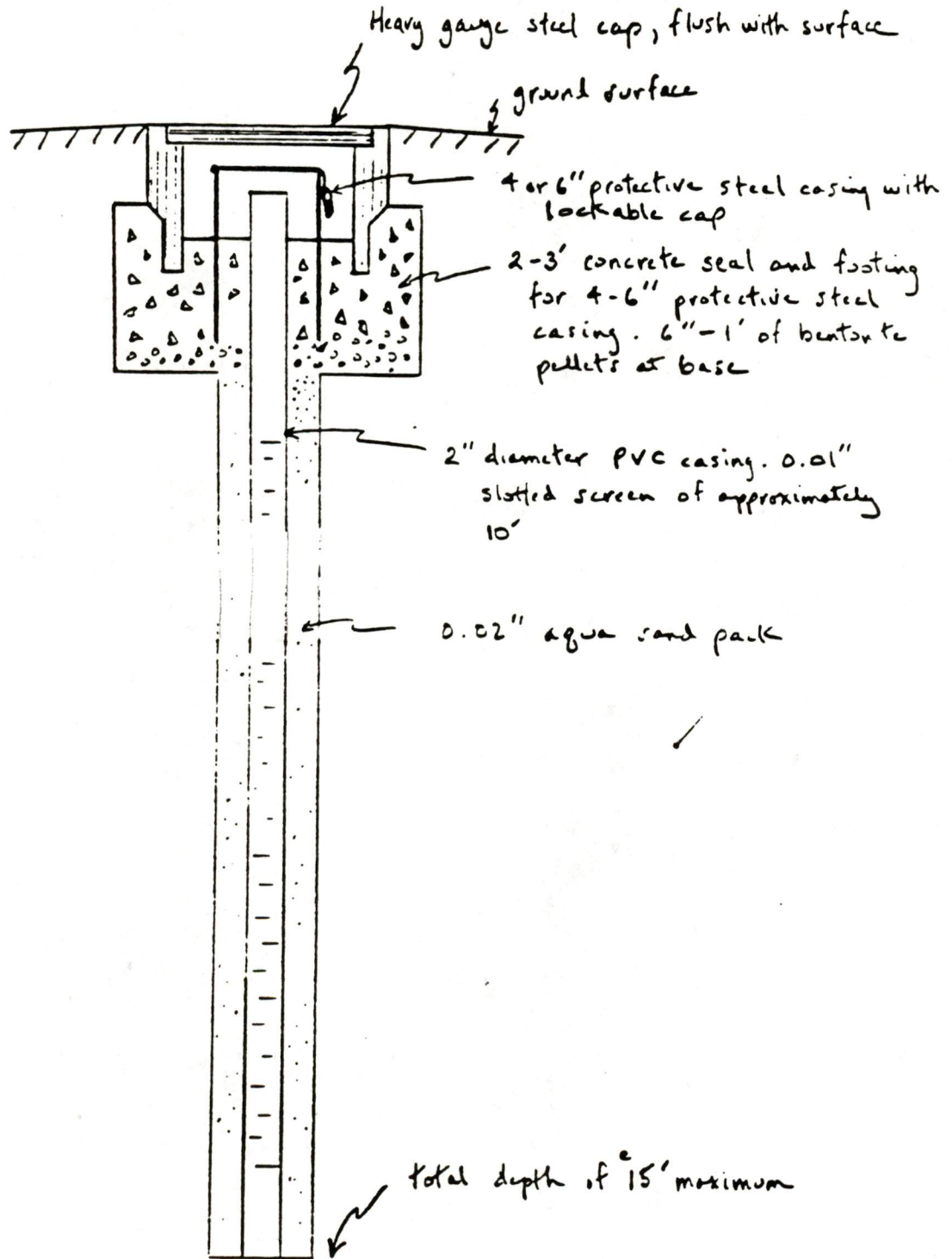
necessary based upon HNU screening, and disposal of by Longview Fiber.

- Well Development and Groundwater Sampling. Monitor wells will be developed until they are free of silt and sand. After development, the groundwater in each well will be purged of 3-5 well volumes and sampled and analyzed for BTX and total petroleum hydrocarbons at an approved laboratory. The collection, handling, and transportation of samples will be in accordance with standard practices outlined in EPA Guidance Manual SW-846.

Well development and purge water will be contained in 55 gallon drums and temporarily stored on site. Drums will be disposed of by Longview Fiber based upon results of water quality analyses.

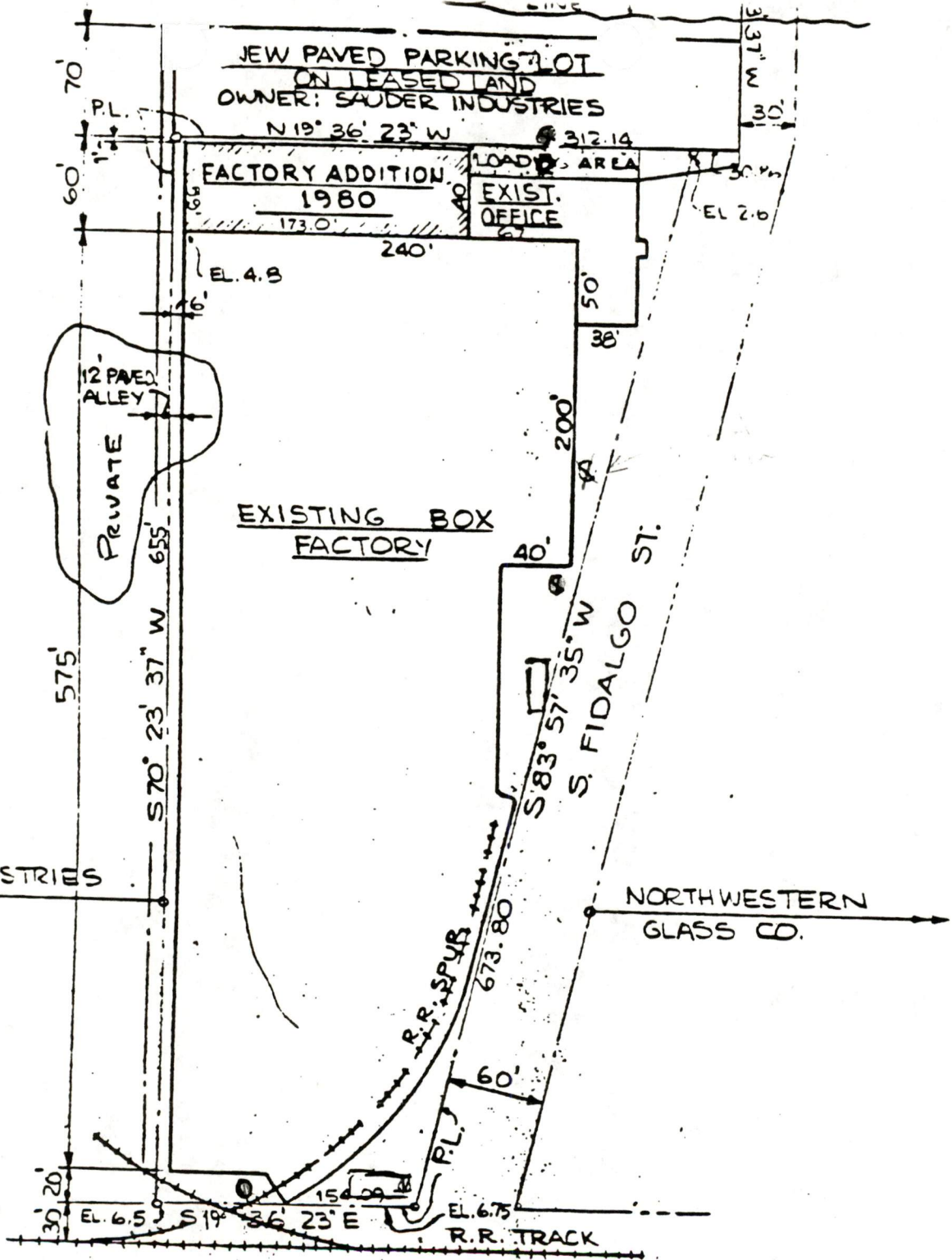
- Well Survey and Groundwater Level Monitoring. Elevations to the top of the PVC casing in each well will be measured. The elevations surveyed will provide a datum for the determination of groundwater levels in each well. Groundwater levels will be measured twice per day for approximately 3 days to incorporate daily vertical fluctuations anticipated from local tidal influences. Groundwater levels will also be measured when the groundwater is sampled in each well.
- Health and Safety Plan. The existing CH2M HILL health and safety plan for the Longview Fiber site will be revised to account for additional tasks outlined in this scope of work.
- Final Report. Data collected during this investigation will be summarized in a final report. This report will include recommendations for any future site investigations, if necessary, and it will be submitted in a timely manner once field activities are complete.
- S.O.W. revisions. This scope of work may be revised as conditions warrant and, at any time, under terms mutually agreed to by Longview Fiber and CH2M HILL representatives.

FIGURE 1. Sketch of Groundwater Monitoring Well Detail



LONGVIEW Fiber Corp
WELL DIAGRAM

FIGURE 1



E. MARGINAL WAY S.
SITE PLAN SCALE: 1" = 100'

DUWAMISH WATERWAY (TIDAL)
 M.H.W. EL. -11 } CITY
 MLLW. EL. -12.4 } DATUM



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 A
 IS:
 E

LONGVIEW FIBER COMPANY
 SEATTLE WASHINGTON
 @ WELL LOCATION

| | |
|------|---------|
| | 3-11-80 |
| | 7-27-80 |
| | 2-4-80 |
| | 1-23-80 |
| DATE | |

Figure 2

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