Vasu 2-20-90

This is a proposed work plan for the Clark site (734048) in region 7. It is possible that you will be asked to review this work plan therefore I'm sending you a copy now.

I realize you may not be familiar with the site, but I may be sending you more information later in the week. For now would you please keep this copy. I will be calling you in the future.

Thank you

Richard Blazell

2-16-90

APPROVED INTERIM REMEDIATION PLAN

Introduction

This Interim Remediation Plan for Site #734048 has been prepared for the New York State Department of Environmental Conservation (the "Department") to detail the procedures to be followed in implementing the proposed plan, covering in detail the excavation protocols and procedures, the transportation of VOC contaminated soils to the storage/treatment area, and the design and construction of such storage/treatment area and the measures to collect and treat VOC-contaminated groundwater ("the Approved Interim Remediation Plan").

The Approved Interim Remedial Plan is comprised of two distinct phases.

Phase 1 will consist of excavation of VOC-contaminated soils in the impacted area followed by transport and storage of such soils in a containment/treatment structure located in the northwestern corner of the site.

Phase 2 will consist of the collection and treatment of groundwater remaining below the building foundation to remove contaminants prior to discharge.

Phase 1 and Phase 2 are described below in Sections A through D of the Approved Interim Remediation Plan.

A. Excavation of Soils

Soil will be excavated from the impacted area to a minimum depth of 13 feet which is the requirement for the installation of the foundation. Additional vertical excavation will be completed until sampling and analysis of remaining unexcavated soils, utilizing portable field gas chronatograph, demonstrate that the total volatile organic constituent concentration in the soil analyzed does not exceed 5 ppm.

Based on available analytical results, excavation in most of the impacted area will not be necessary beyond ± 18-20 feet below grade. However, in some areas, excavation may be as deep as ± 23 feet below grade.

1. Dewatering

Dunn anticipates that it will be necessary to further dewater the proposed excavation area if excavation is necessary below ± 15-20 feet below grade. The natural water table has been lowered to that depth during the Pilot Study. This has been

achieved by the installation of sheetpile and/or a slurry wall around the impacted area. Excavation below this depth will require localized dewatering via a trenching system. In the event that groundwater is encountered during the excavation, the water will be pumped and treated through the existing carbon filtration system and discharged using the system approved by the Department during the vacuum extraction pilot test (see letter dated January 16, 1990 from the Department to Dunn Geoscience Corporation).

2. Health/Safety

Excavation will proceed in accordance with the requirements outlined in the Health and Safety Plan prepared by Dunn Geoscience Corporation included in this Plan.

In accordance with Section 6 of the Supplemental Feasibility Study, monitoring of air emissions will be conducted.

As outlined in the Department's approval of modifications to the Pilot Study dated October 4, 1989, appropriate control measures will be implemented to ensure that air emissions are minimized and any potential threat to workers or the public are minimized or eliminated.

B. Transportation of Excavated Soil

If the VOC concentrations in the excavated soil exceed the established criteria, the material will be transferred into dump trucks and transported to the containment/treatment structure. The roadway will be constructed and lined such that any spillage can be contained and collected.

To ensure that there is no risk of contaminating the area outside the excavation or treatment areas, certain procedures and steps will be followed in designing the roadway corridor and for loading and unloading the soil.

Movement of these trucks will be limited to only between the area of excavation and the containment/treatment structure. These two areas will be connected by a roadway wide enough for the safe and efficient passage of two trucks side by side simultaneously (± 25-30 feet). Additionally, measures will be taken to prevent soils from spilling or leaking from the trucks travelling to and from the structure. To protect against the potential impacts of a spill or leak, the roadway will be designed to isolate and contain any soil which may spill or leak.

1. Roadway Design

A two-lane roadway corridor will be constructed between the excavation area and the containment/treatment structure. At each end of the roadway there will be a single lane loop to allow

trucks to safely enter the loading and unloading zones and maneuver through the roadway corridor. The road itself will consist of a packed site soils/gravel pad underlain by an impermeable liner. The liner will be laid beneath the roadway and will extend a sufficient number of feet in each direction beyond the roadway edge to prevent potential contamination of adjacent soils. Additionally, an earth berm or silt fence will be constructed to prevent the lateral movement of any soils. Liners will be laid above the berms.

Trucks transporting the soil from the excavation area will be covered to prevent dispersal of the soil and to minimize air emissions while en route to the containment/treatment structure. Truck movements will be limited to the roadway and areas of loading and unloading.

Prior to leaving the work area the trucks and heavy equipment will be decontaminated in accordance with the procedures established by the Department in its October 4, 1989 letter approving modifications to the pilot study.

Upon completion of excavation activities, all soils located on the roadway above the liner will be removed and placed in the containment/treatment structure to the extent they are contaminated with VOCs.

This procedure will ensure that there is no spreading of contamination and that there is no contamination left on previously uncontaminated areas.

C. Containment/Treatment Structure

Soil excavated from the impacted area will be transported using previously described methods to a containment/treatment structure. The structure will be located on the Carousel Center Site and is expected to be located in the northwest corner of the site. It will be designed as described below or as otherwise determined appropriate.

1. Design

Construction of the structure will consist of large, earthen berms (approximately 20' in height) which will be consolidated and compacted to maximize their structural integrity and impermeability. The bottom of the structure will be compacted and stabilized with stone and a geotechnical stabilization fabric. To ensure the impermeability of the structure, the floor and the sides will be lined with a high density polyethylene liner. Concrete and steel reinforcing may be used to further enhance structural integrity. The containment structure will be capped using either an additional high density polyethylene liner or an impervious clay cap.

2. Water Collection

Soil placed in the structure will be allowed to drain off any excess moisture through an underdrain or water collection system. Furthermore, the structure will be designed to accommodate a soil gas extraction system which will minimize and/or eliminate the possibility of vapor releases.

The use of the earthen berms as containment structure sidewalls, together with a flexible impervious liner, is an ideal complement to current site conditions. The berms act to spread the load of sidewall over a larger square footage (decreasing the likelihood of settlement), and the flexible impermeable line will accommodate shifts or settling of the subgrade. The design (wide earthen beams, together with a solid working surface topped with an impervious flexible liner) will forgive and accommodate subgrade movement and will simultaneously meet the requirements of an effective containment/treatment structure.

D. Phase II

Once the excavated soils are isolated and contained, a detailed study will be undertaken to evaluate available treatment technologies and to select a preferred treatment technology to be implemented. To the extent determined necessary, a soil gas extraction system can be incorporated into the storage area as part of the Interim Remedial Plan. Upon selection of a permanent remedy, this study will be submitted to the Department for its review.

Prior to construction of the building foundation, plans will be submitted to the Department for its review, providing details of the groundwater collection and treatment system to be incorporated into the foundation design. Conceptual details are included in the Supplemental Feasibility Study prepared by Dunn Geoscience Corporation dated February, 1990 at Sections 2.0-Foundation Construction and 4.0-Groundwater Controls and Treatment.

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