

December 16, 2018

NOTE TO BIDDER'S

ADDENDA #4 to RFP # 19/19/P

Groundwater Monitoring, Soil Vapor Monitoring and Other Environmental and Engineering Services for Landfill Sites

Paseo de Vista Landfill Questions

- 1. Is Appendix A – Subsurface Investigation Report in the *City of Santa Fe Closure and Post Closure Plan, August 1995* available?**

No. This question was previously answered in a prior addendum. The "Closure and Post-Closure Plan" included as an attachment to the RFP was all that was made available by the New Mexico Environment Department.

- 2. Is there any information regarding groundwater well construction including total depth, screen interval, well diameter, and depth to water?**

See attachment #4.

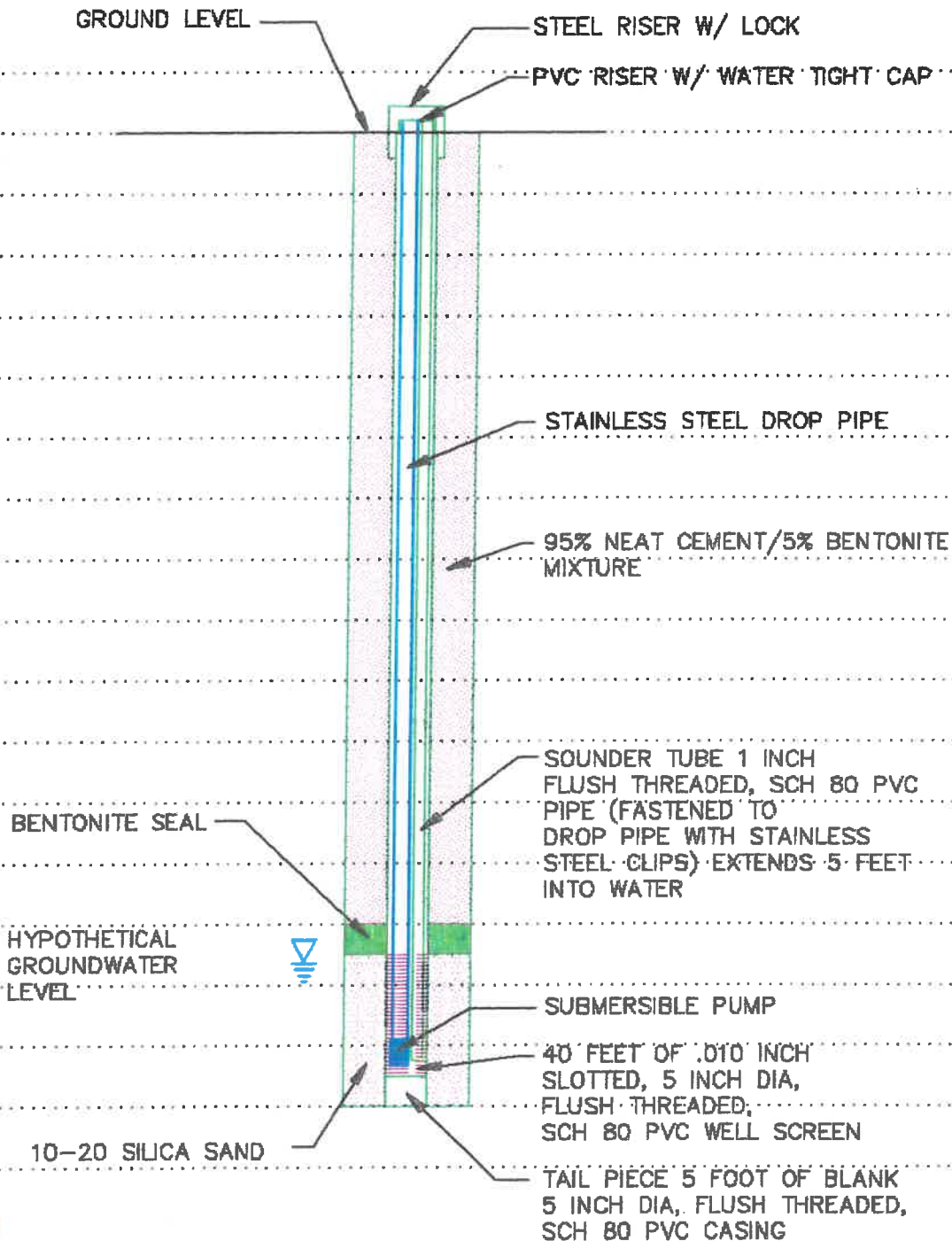
- 3. Is there any information regarding soil vapor well construction including screen intervals, well diameter, and total depth?**

See Attachment #4.

- 4. Does the City of Santa Fe have a place where the well development water and well purge water can be taken for disposal if laboratory results indicate (NMAC 20.6.2.3101) that it cannot be discharged to the ground?**

No. This question was previously answered with respect to Ortiz Landfill. The contractor shall be prepared to handle any drilling waste or purge water if it is found to contain concentrations of contaminants above levels which preclude it from disposal onto the ground.

MONITOR WELL COMPLETION DIAGRAM



CDM

environmental engineers, scientists,
planners, & management consultants

In addition, CDM proposes to utilize one dimensional analytical models to predict transport in the unsaturated zone and analytical or numeric models to predict contaminant transport in the groundwater. One dimensional models CDM typically utilizes are: SUMTRA1, CHEMFLOW, and UNSAT/UNSAT1. Analytical or numerical models CDM utilizes are CAPZONE, WHPA, DREAM, and MODFLOW. How many of which models that will be utilized will be based upon the results of the nine borings discussed in Task 5 and how this relates to previous soil investigations at the site.

CDM has successfully modeled unsaturated zone transport of contaminants to the groundwater at a contaminant site resulting in the NMED issuing site closure. The model was based upon established site material data, soundly based assumptions and modeling expertise. It is CDM's intent that such an effort will also be utilized for minimizing leachate efforts at the City's landfill.

TASK 7 - GROUNDWATER MONITOR WELLS

CDM proposes to install an additional four (4) monitor wells in the vicinity of the landfill to more accurately define the groundwater flow direction and possible contaminants. Through past experience at the site CDM recognizes groundwater to be between 310 to 335 feet below ground surface and the most economical drilling program would be the mud rotary method and geophysically logging the well to accurately locate the water table.

Each well will be equipped with 40 feet of slotted PVC screen with a 5 foot sump installed below. The screen will be situated to straddle the regional water table. Gravel pack will be Colorado Silica 10-20 sand. A 5-foot bentonite seal will be placed on top of the gravel pack and a cement/bentonite slurry pumped in place through tremmie pipe to ground level. Above-ground completion will consist of an 8-5/8 inch x 60 inch steel locking monument, a 3 foot square pad (6 inches thick, sloping away from the monument), and 3 bollards, 4 inches x 5 feet long placed 3 feet into concrete.

The permanent pumps are anticipated to be rated at 4 gpm at 300 feet total dynamic head, suspended on 1-inch stainless steel column pipe to a depth of approximately 325 feet. A 3/4-inch flush joint thread gauge line will be suspended to approximately 5 feet above the pump discharge. The well seal will be a cast iron double hole sanitary well seal. A stainless steel discharge assembly will be provided with the installation, as well as a control box with plugs for use with a generator.

Following well drilling and pump installation, the wells will be gauged to collect static water level data then purged of a minimum of three wellbore volumes until field measured parameters stabilize indicating "fresh" formation water. Following well gauging and purging pursuant to industry-standard protocol, water quality samples will be collected pursuant to the parameters provided in NMSWMR, Appendix A, Table 1. CDM will sample the four (4) wells during each quarter of the first year for parameters listed in Table 1 of the NMSWMR, (total of 16 samples), and one time for parameters listed in Table 2 of the NMSWMR. In addition, CDM will sample the existing three groundwater monitoring wells on an annual basis for a three-year period and these samples will be analyzed in accordance with parameters listed in Table 2 of NMSWMR. CDM will prepare a quarterly sampling report outlining the results of the groundwater analysis.

TASK 8 - SHALLOW SEISMIC SURVEY

CDM will perform a shallow seismic reflection survey at the site. CDM will locate, record, analyze, interpret and report the results from approximately 12,500 feet of seismic lines (see Figure 1-1 for proposed seismic line locations). The seismic lines will run through the proposed borings within the landfill to more accurately determine the subsurface. The purpose of the survey is to more accurately define the waste/soil contact over the entire site and determine the waste boundaries.

The seismic lines will consist of two northeast-southwest lines paralleling the length of the landfill and five lines perpendicular to the NE-SW lines to facilitate seismic