TETRA TECH INC.

March 5, 2013

Lynn Nakashima
Project Manager
Department of Toxic Substances Control
700 Heinz Avenue
Berkeley, CA 94710

Subject: University of California, Berkeley, Richmond Field Station
Notification of Piezometer Abandonment and Installation, and Scope of Work

Dear Ms. Nakashima:

The University of California, Berkeley (UC Berkeley) plans to abandon and replace two wells (B197 and DH) at Richmond Field Station (RFS) that are no longer functional due to the growth of roots at the water table. Work is planned to take place on March 26 (utility clearance, abandonment, and installation) and March 28 (development). All activities will be conducted in accordance with the Field Sampling Workplan, Phase I Groundwater Sampling Plan, dated June 2, 2010.

Two 2-inch piezometers with a depth of 20 feet below ground surface (bgs) will be abandoned and decommissioned according to Contra Costa County Health and Safety Division "Annular Seal and Well Destruction Materials" specification. The piezometers will be overdrilled, removed, and the entire borehole will be grouted. The piezometer materials removed will be drummed as investigation-derived waste (IDW). The locations of the piezometers to be abandoned are shown on Figure 1.

The replacement piezometers will then be installed adjacent to the previous location of the abandoned wells. To attempt to avoid root growth into the new piezometers, the borehole diameter shall be 10 to 12 inches in diameter. The piezometers shall be fitted with centralizers. The total depth for each piezometer will be to 20 feet bgs. Piezometers are to be completed in the same way as the original wells, with the differences that these wells will include centralizers and a larger borehole diameter. The cuttings and piezometer placement will be logged by a geologist. Boreholes will be drilled with a hollow-stem auger (HSA) drill rig. The screened interval of the piezometers will be 10 feet, positioned so that the screen interval extends 2 feet above the estimated groundwater table (measured during previous water level monitoring events as 2 to 12 feet bgs at B197 and 6 to 16 feet bgs at DH).

Wells will be constructed from 2 inch-diameter schedule 40 polyvinyl chloride (PVC) blank casing with 2 inch diameter schedule 40 PVC screen with 0.01-inch slot size. No soil samples will be collected for analysis during the well installation. The replacement piezometers will be named B197R and DHR. The wells will be developed according to the protocols of the installation of the previous piezometers.

Permits will be obtained prior to abandonment and piezometer installation, and a copy of the Well Driller's Report will be submitted to Contra Costa Environmental Health, UC Berkeley, and the State Department of Water Resources so that UC Berkeley can receive final destruction approval.

1999 Harrison Street, Suite 500, Oakland, CA 94612
Tel 510.302.6300 Fax 510.433.0830
www.tetratech.com

TETRA TECH INC.

Figure 1 identifies the piezometer locations to be abandoned; the proposed new wells will be identified in the field following utility clearance. Exact locations will be marked in the field by Tetra Tech and will be surveyed following installation.

If you have any questions or comments regarding this submittal, please call me at (510) 302-6283.

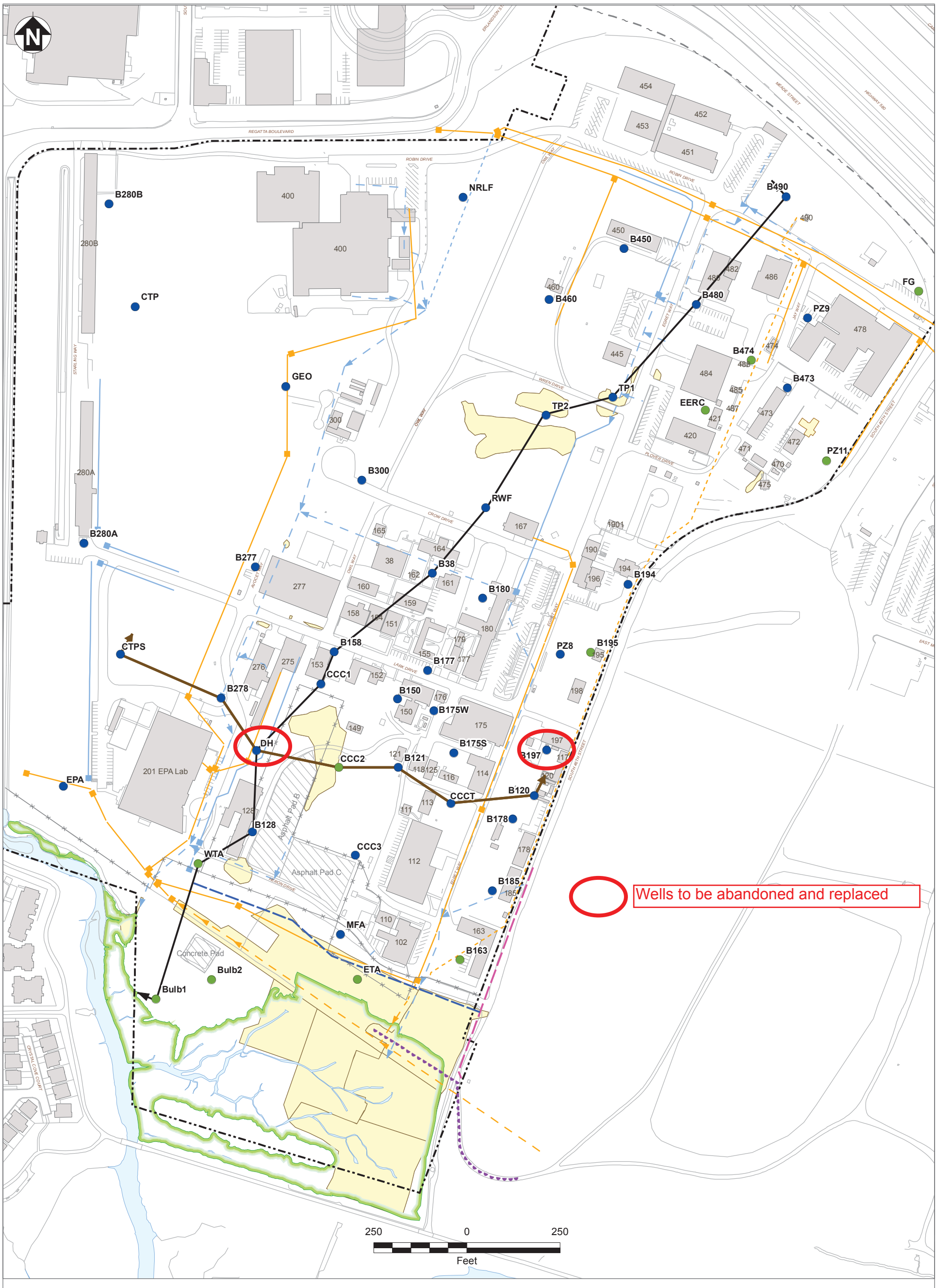
Sincerely,

Jason Brodersen, P.G.
Project Manager

Enclosures

cc: Greg Haet, Office of EH&S, University of California, Berkeley
Bill Marsh, Edgcomb Law Group

1999 Harrison Street, Suite 500, Oakland, CA 94612
Tel 510.302.6300 Fax 510.433.0830
www.tetratech.com



Existing Buildings
Asphalt/Concrete Pads
Remediated Areas
Surface Water
Marsh Boundary
Property Boundary
Approximate Property Boundary
Roads and Other Landscape Features
Fenceline
A-A' Cross-Section, see Figure 8
B-B' Cross-Section, see Figure 9

Biologically Active Permeable Barrier Wall
Former Seawall (Approximate)
Slurry Wall
Storm Drain Lines:
Open Swale
Underground Culvert
Underground Culvert, Abandoned (Grouted at Manholes)
Sanitary Sewer Lines:
Existing Sewer Line
Removed Sewer Line
Abandoned Sewer Line

Sampling Location (including total metals)
Sampling Location

TETRA TECH EM INC.

Richmond Field Station
University of California, Berkeley

FIGURE 1
ABANDONED PIEZOMETER LOCATIONS

2012-11-19 V:\Misc_GIS\Richmond_Field_Station\Projects\Field_Sampling_Workplan\Phase_I\GW_Sampling\Layouts\Groundwater Sampling Locations.mxd TtEMI-OAK YE