APPENDIX B

Groundwater Monitoring Data

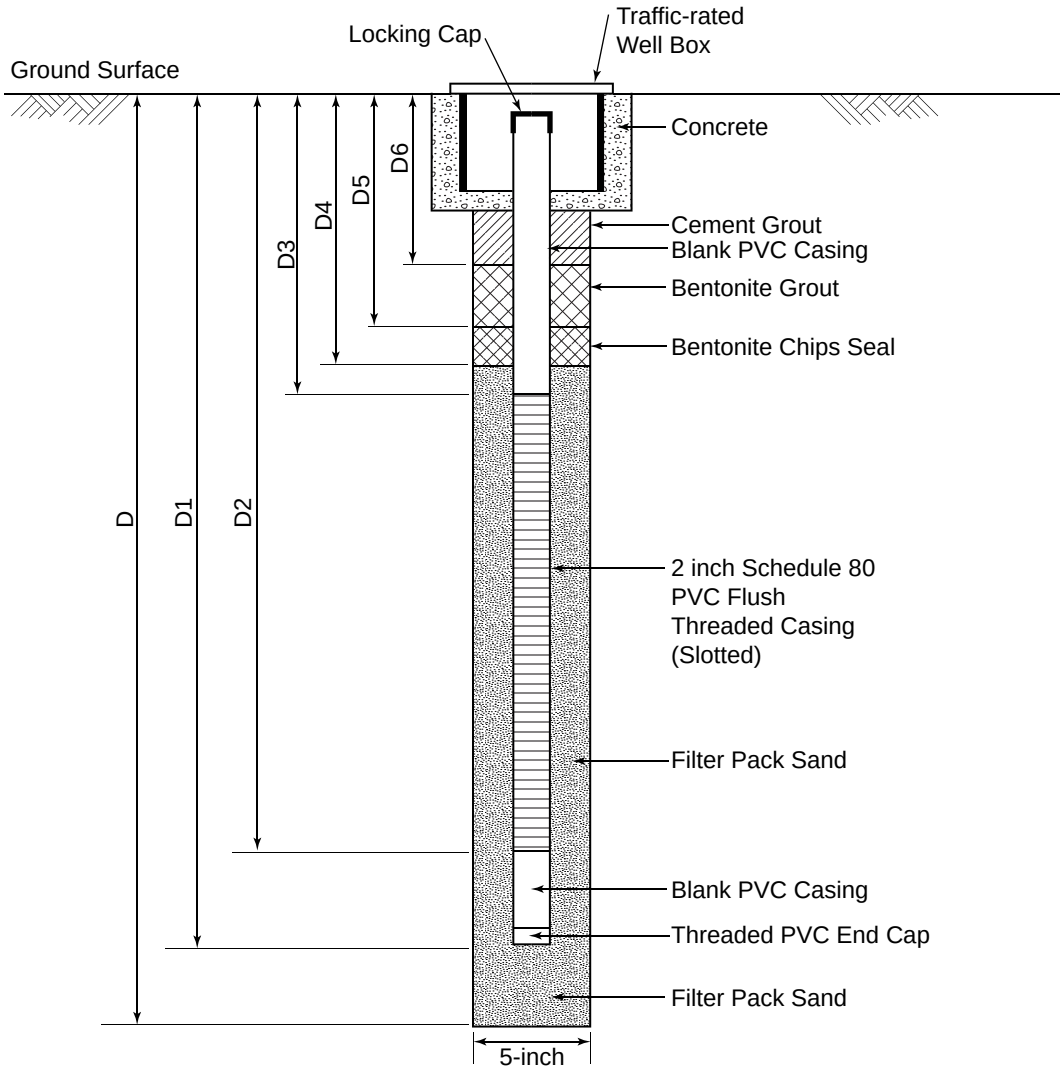
Groundwater Monitoring

Details of typical piezometer installation are shown in Figure B-1. The piezometers were constructed using 2-inch-diameter polyvinyl chloride (PVC) Schedule 80 pipe set in the borehole. The bottom of the pipe was slotted and capped, and the annular space around the slotted pipe was backfilled with Monterey No. 3 clean sand. Approximately 100 feet of screen interval were used in each piezometer, 25 feet below invert and 25 feet above crown of the anticipated tunnel. The area above the sand was sealed with bentonite chips, the remaining annulus was filled with bentonite grout, and the annulus within upper 8 feet was filled with cement grout. Each piezometer was completed with a locking cap and traffic-rated well box, except at boring locations R-09-Z1B8 and R-09-Z3B2 which had locking caps but no well boxes where standpipes were used because of grassland at the surface.

TABLE B-1
Summary of Piezometers Installation

Boring/ Piezometer Designation	Ground Surface Elevation (feet)	Depth of Piezometer (feet)	Depth to top of Screen (feet)	Depth to Bottom of Screen (feet)	Date Measured	Groundwater Elevation[1] (feet)
R-09-Z1B3	343.2	300	190	290	7/1/09	313.3
R-09-Z1B4	388.6	325	215	315	7/1/09	353.2
R-09-Z1B5	442.2	500	390	490	7/1/09	419.5
R-09-Z1B6	447.2	390	280	380	7/1/09	425.7
R-09-Z1B7	480.5	285	175	275	7/1/09	440.5
R-09-Z1B8	419.6	200	90	190	7/1/09	394.6
R-09-Z2B1	451	150	40	140	7/1/09	440.8
R-09-Z2B3	546.9	350	240	340	7/1/09	498.9
R-09-Z2B4	558.1	371	261	361	7/1/09	548.1
R-09-Z2B5	452.4	277	167	267	7/1/09	441.6
R-09-Z3B1	885.1	285	175	275	7/1/09	861.2
R-09-Z3B2	781.4	275	165	265	7/1/09	637.0
R-09-Z3B3	802	276	80	180	7/1/09	666.0
R-09-Z3B5	698.2	400	290	390	7/1/09	675.7
R-09-Z3B6	750	324	214	314	7/1/09	698.8
R-09-Z3B7	596.7	320	210	310	7/9/09	582.2
R-09-Z3B8	594.3	275	165	265	-	**
R-09-Z3B9	624.3	300	190	290	7/1/09	550.4
R-09-Z3B10	626.8	375	265	365	7/1/09	578.3
R-09-Z3B11	533.1	275	165	265	7/1/09	375.1
R-09-Z3B12	501	240	130	230	7/1/09	488.2
R-09-Z4B4	454.4	275	155	265	7/1/09	408.1

** – Well cap stuck, could not access piezometer.
1 – Because some of the piezometers were not developed, groundwater may not be stabilized at the time of reading.



Total Depth (D)	200 - 525 ft
Total Depth of Casing (D1)	185 - 510 ft
Depth to Bottom of Well Screen (D2)	175 - 500 ft
Depth to Top of Well Screen (D3)	75 - 400 ft
Depth to Bottom of Top Seal (D4)	70 - 395 ft
Depth to Top of Top Seal (D5)	65 - 390 ft
Depth to Bottom of Cement Grout (D6)	8 ft
Well Casing Diameter	2-inch
Well Screen Slot Size	0.020-inch
Filter Pack Sand Type	Monterey No. 3
Bentonite Seal Type	Medium Chips

NOT TO SCALE

FIGURE B-1
TYPICAL PIEZOMETER CONSTRUCTION DETAILS
SR-710 TUNNEL TECHNICAL STUDY

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