GROUNDWATER OBSERVATION WELL G-179

Vertical Scale: 1" = 10'-0"
Horizontal Scale Exaggerated

Key
- BGS: Below Ground Surface
- TOC: Top Of Casing
- ": Feet
- ": Inches

A. TOTAL DEPTH OF BORING: 120' BGS
B. DIAMETER OF BORING: 8'Ø
DRILLING METHOD: ROTARY-WASH
C. TOP OF BOX ELEVATION: NA
D. CASING LENGTH: 70'
MATERIAL: PVC
E. CASING DIAMETER: 2'Ø
F. DEPTH TO TOP OF SCREEN: 20'
G. PERFORATION LENGTH: 50'
PERFORATION SIZE: 0.010" SLOTS
H. SUBSURFACE SEAL: 1' CONCRETE, 6' GROUT
I. SEAL:
   1.5'-18': 72'-120' (BGS)
   MATERIAL: HYDRATED BENTONITE (CHIPS)
   II. 1.5'-18': 12.5' OF BENTONITE CEMENT GROUT OVER 4' OF BENTONITE CHIPS HYDRATED
   III. 72'-120': BENTONITE CHIPS HYDRATED
J. SAND PACK: 18'-72' (BGS)
   MATERIAL: #3 SAND PACK
   w/ TRANSITION SAND AT TOP AND FILTER FABRIC SOCK PLACED OVER SCREEN
   J1. 18'-72'
K. WATER LEVELS ON 01/20/2011 WERE AS FOLLOWS:
DROUGHT

MTA WESTSIDE SUBWAY EXTENSION
Parsons Brinkerhoff

WELL NO.: G-179
DRAWN: L. Morley
INSTALLED: 01/20/2011
CHK'D: Jag

SCALE: 1" = 10' Vertical
DATE: December 2, 2011
TECHNIQUE: Rotary-Wash

DTM: C & L Drilling
TECHNIQUE: Rotary-Wash

FIELD PERSONNEL:
Daniel Wader

PROJECT NAME: MTA Westside Subway Extension

WELL LOCATION: Wilshire and Manning, Los Angeles, CA

FIGURE NO. A-8.8
GROUNDWATER OBSERVATION WELL G-186 / OB-105

A. TOTAL DEPTH OF BORING: 120' BGS

B. DIAMETER OF BORING: 8"Ø, 4½"Ø AT BOTTOM 45'
DRILLING METHOD: ROTARY-WASH

C. TOP OF BOX ELEVATION: 307.0 FT (MSL)

D. CASING LENGTH: 35' (A), 68' (B)
MATERIAL: PVC

E. CASING DIAMETER: 2"Ø (EACH)

F. DEPTH TO TOP OF SCREEN: 25' (A) & 48' (B)

G. PERFORATION LENGTH: 10' (A), 20' (B)
PERFORATION SIZE: 0.020" SLOTS

H. SUBSURFACE SEAL: 1" CONCRETE, 6" GROUT

I. SEAL: 2'-23', 37'-49', 71'-120' (BGS)
MATERIAL: HYDRATED BENTONITE (CHIPS)
Ia. 2'-23': BENTONITE CEMENT GROUT OVER
1' OF BENTONITE CHIPS HYDRATED
Ib. 37'-49': BENTONITE CHIPS HYDRATED
Ic. 71'-120': BENTONITE CHIPS HYDRATED

J. SAND PACK: 23'-37', 45'-71' (BGS)
MATERIAL: #3 SAND PACK
w/ TRANSITION SAND AT TOP AND FILTER FABRIC
SOCK PLACED OVER SCREEN
J1. 23'-37'
J2. 45'-71'

K. WATER LEVELS ON 05/28/2011 WERE AS FOLLOWS:
A. DRY
B. 47.91 FEET BELOW TOC

Vertical Scale: 1" = 10'-0"*  
Horizontal Scale Exaggerated

Key

- BGS  Below Ground Surface
- TOC  Top Of Casing
  "  Feet
  "  Inches

MTA WESTSIDE SUBWAY EXTENSION
Parsons Brinckerhoff

WELL CONSTRUCTION DETAIL
Groundwater Observation Well

FIGURE NO. A-8.9

WELL NO.: G-186 / OB-105  DRAWN: L. Morley
INSTALLED: 05/22/2011  CHECK: Jag
SCALE: 1" = 10' Vertical  DATE: December 2, 2011
DRILL CO.: C & L Drilling  TECHNIQUE: Rotary-Wash
FIELD PERSONNEL: Mary Holland-Ford
PROJECT NAME: MTA Westside Subway Extension
WELL LOCATION: Westwood, UCLA, Los Angeles, CA

AMEC Environment & Infrastructure
5638 E. Sullivan Avenue, Los Angeles, California 90040
Phone (323) 893-5000  Fax (323) 893-6098
GROUNDWATER OBSERVATION WELL G-203

CAST IRON TRAFFIC COVER
GROUND SURFACE (ASPHALT CONCRETE)

A. TOTAL DEPTH OF BORING: 120' BGS
B. DIAMETER OF BORING: 6'3", 4'/0' AT BOTTOM 35'
   DRILLING METHOD: ROTARY-WASH
C. TOP OF BOX ELEVATION: NA
D. CASING LENGTH: 30' (A), 80' (B)
   MATERIAL: PVC
E. CASING DIAMETER: 2'0" (EACH)
F. DEPTH TO TOP OF SCREEN: 20' (A) & 60' (B)
G. PERFORATION LENGTH: 10' (A), 20' (B)
   PERFORATION SIZE: 0.020" SLOTS
H. SUBSURFACE SEAL: 1' CONCRETE, 6' GROUT
I. SEAL: 1'-16', 32-58', 82'-120' (BGS)
   MATERIAL: HYDRATED BENTONITE (CHIPS)
   I1. 1'-16': BENTONITE CEMENT GROUT OVER
   1' OF BENTONITE CHIPS HYDRATED
   I2. 32-58': BENTONITE CHIPS HYDRATED
   I3. 82'-120': BENTONITE CHIPS HYDRATED
J. SAND PACK: 18'-32', 58'-82' (BGS)
   MATERIAL: #3 SAND PACK
   w/ TRANSITION SAND AT TOP AND FILTER FABRIC
   SOCK PLACED OVER SCREEN
   J1. 18'-32'
   J2. 58'-82'
K. WATER LEVELS ON 06/10/2011 WERE AS FOLLOWS:
   A. DRY
   B. 71 FEET BELOW TOC

Vertical Scale: 1" = 10'-0"
Horizontal Scale Exaggerated

Key
- BGS  Below Ground Surface
- TOC  Top Of Casing
- " Feet
- " Inches

WELL NO.: G-203  DRAWN: L. Morley  MTA WESTSIDE SUBWAY EXTENSION
INSTALLED: 05/04/2011  CHECK: Jag  Parsons Brinckerhoff
SCALE: 1" = 10' Vertical  DATE: December 2, 2011
DRILL CO.: C & L Drilling  TECHNIQUE: Rotary-Wash
FIELD PERSONNEL: Angel Recio
PROJECT NAME: MTA Westside Subway Extension
WELL LOCATION: VA Hospital, Los Angeles, CA

WELL CONSTRUCTION DETAIL
Groundwater Observation Well

FIGURE NO. A-8.10  PROJECT NO. 4903-11-1421
GROUNDWATER OBSERVATION WELL S-106

A. TOTAL DEPTH OF BORING: 122' BGS

B. DIAMETER OF BORING: 8"Ø FROM 0-27', 6"Ø FROM 27'-37', 4"Ø FROM 37' TO BOTTOM 122' BGS
   DRILLING METHOD: SONIC-CORE

C. TOP OF BOX ELEVATION: NA

D. CASING LENGTH: 27'(A), 60'(B)
   MATERIAL: PVC

E. CASING DIAMETER: 2"Ø (EACH)

F. DEPTH TO TOP OF SCREEN: 17" (A) & 50" (B)

G. PERFORATION LENGTH: 10"(A), 10"(B)
   PERFORATION SIZE: 0.030" SLOTS

H. SUBSURFACE SEAL: 1' CONCRETE, 6' GROUT

I. SEAL:
   1'-14": 30'-47': 65'-122' (BGS)
   MATERIAL: HYDRATED BENTONITE (CHIPS)
   i: 1'-14": BENTONITE CEMENT GROUT OVER
   1' OF BENTONITE CHIPS HYDRATED
   ii: 30'-47": BENTONITE CHIPS HYDRATED
   iii: 65'-122": BENTONITE CHIPS HYDRATED

J. SAND PACK: 14'-30'; 47-65' (BGS)
   MATERIAL: #3 SAND PACK
   w/ TRANSITION SAND AT TOP AND FILTER FABRIC
   SOCK PLACED OVER SCREEN
   Jt: 14'-30'
   Jt: 47-65'

K. WATER LEVELS ON 06/10/2011 WERE AS FOLLOWS:
   A. 17.48 FEET BELOW TOC
   B. 47.72 FEET BELOW TOC

Vertical Scale: 1" = 10'-0"
Horizontal Scale Exaggerated

Key
BGS Below Ground Surface
TOC Top Of Casing
" Feet
" Inches

WELL NO.: S-106
DRAWN: L. Morley
INSTALLED: 4/29/2011
CHECK: Jag

MTA WESTSIDE SUBWAY EXTENSION
Parsons Brinckerhoff

WELL CONSTRUCTION
DETAIL
Groundwater Observation Well

MTA Westside Subway Extension
Wilshire west of Fairfax, Los Angeles, CA

FIGURE NO. A-8.11
PROJECT NO. 493-1-1421
FIGURES A-9.1 THROUGH A-9.101
SONIC CORE PHOTOGRAPHIC LOGS (PE PHASE)
S-101 [6 – 7 feet]

S-101 [7.2 – 17 feet]

Figure A-9.1
S-101 [17 – 27 feet]

S-101 [27 – 37 feet]

Figure A-9.2
S-101 [37 – 47 feet]

S-101 [47– 57 feet]

Figure A-9.3
S-101 [57–67 feet]

S-101 [67–77 feet]

Figure A-9.4
S-101 [77 – 87 feet]

S-101 [87– 92 feet]

Figure A-9.5

Westside Subway Extension, Project No. 4953-10-1561
By: Y.N. 6/15/11, Checked By: APR 6/30/2011
S-102 [9 – 17 feet]

S-102 [17 – 27 feet]

Figure A-9.6

Westside Subway Extension, Project No. 4953-10-1561
By: Y.N. 6/15/11,  Checked By: APR 6/30/2011
S-102 [27 – 37 feet]

S-102 [37 – 47 feet]

Figure A-9.7

Westside Subway Extension, Project No. 4953-10-1561
By: Y.N. 6/15/11, Checked By: APR 6/30/2011
S-102 [47 – 57 feet]

Figure A-9.8
S-102 [67 – 77 feet]

Figure A-9.9

Westside Subway Extension, Project No. 4953-10-1561
By: Y.N. 6/15/11, Checked By: APR 6/30/2011
S-102 [87 – 90 feet]

Figure A-9.10
S-103A [7 – 17 feet]

Figure A-9.11
Figure A-9.12

S-103A [27 – 37 feet]

S-103A [37 – 47 feet]
S-103A [47 – 57 feet]

S-103A [57– 67 feet]

Figure A-9.13
S-103A [67–77 feet]

S-103A [77–87 feet]

Figure A-9.14

Westside Subway Extension, Project No. 4953-10-1561
By: Y.N. 6/15/11, Checked By: APR 6/30/2011
S-103A [87 - 97 feet]

S-103A [97 - 107 feet]

Figure A-9.15