

**APPENDIX C –  
WELL INSTALLATION LOGS**

# **APPENDIX C.1**

## **TEMPORARY WELLS**

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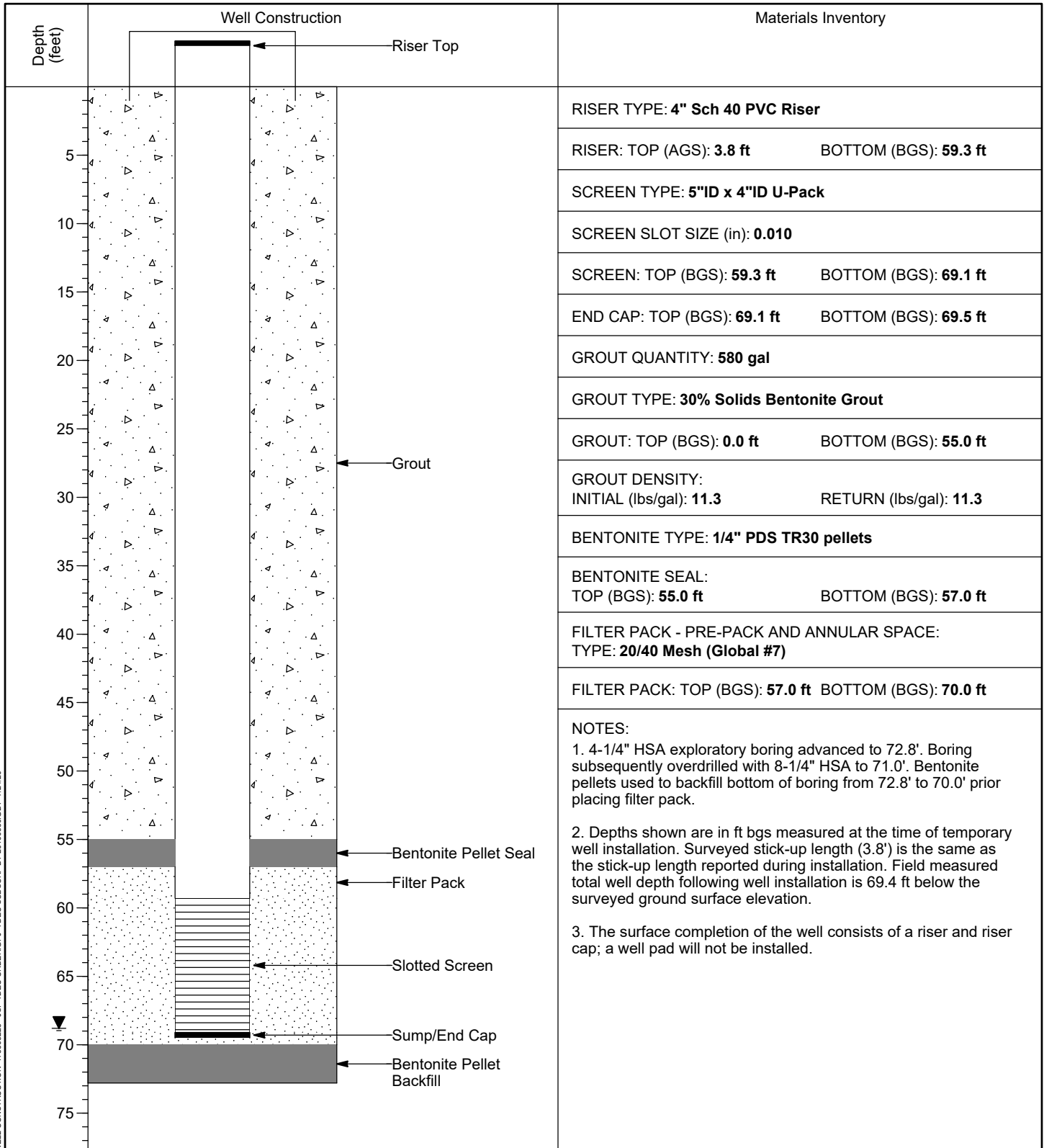


# WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: PAGE 1 OF 1  
**JSF-TW01 (Boring JSF-TW01)**

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 850XR, #953**  
 DRILLING METHOD: **8-1/4" HSA**  
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **K. Carey**  
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **4/17/19** COMPLETED: **4/18/19**  
 LOCATION: **734,480.11 N; 2,890,013.24 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIP: **West end, Dry Fly Ash Stack**  
 LATITUDE: **36° 22' 19.11"** LONGITUDE: **-82° 58' 35.75"**  
 GROUND ELEV (ft): **1154.8** TOC ELEV (ft): **1158.62**  
 ELEVATION DATUM: **NGVD29**  
 BOREHOLE DEPTH (ft): **72.8** WELL DEPTH (ft, bgs): **69.5**  
 DTW AT COMPLETION (ft, bgs): **68.8**  
 BOREHOLE DIA. (in): **13.3** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568225 - JSF TDEC ORDER.GPJ TDEC SUBSURF DT 20190530.GDT 7/24/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

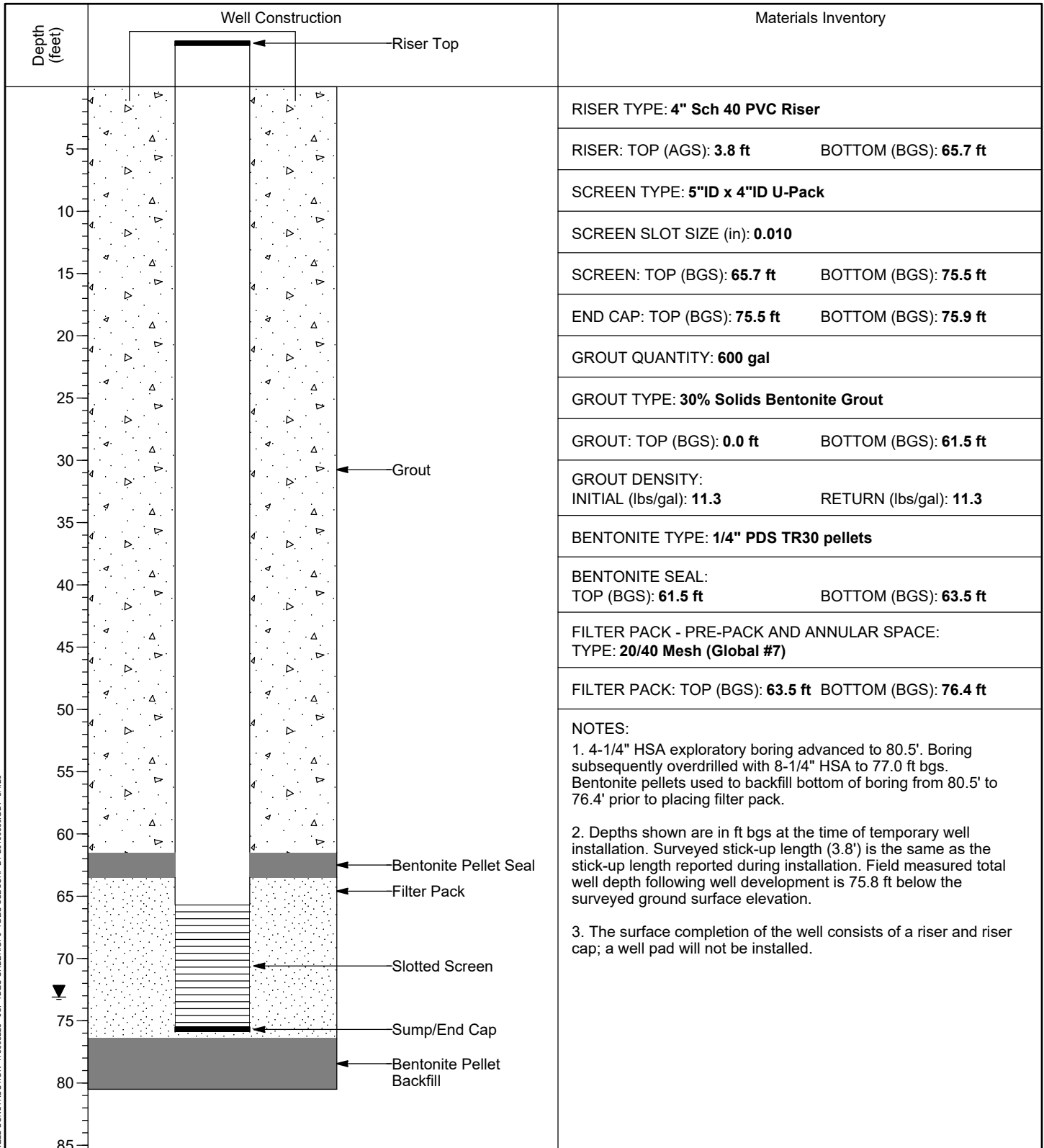


# WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JSF-TW02 (Boring JSF-TW02)** PAGE 1 OF 1

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 850XR, #953**  
 DRILLING METHOD: **8-1/4" HSA**  
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **K. Carey**  
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **4/24/19** COMPLETED: **4/25/19**  
 LOCATION: **734,797.51 N; 2,890,671.16 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIP: **Dry Fly Ash Stack, west end**  
 LATITUDE: **36° 22' 22.05"** LONGITUDE: **-82° 58' 27.59"**  
 GROUND ELEV (ft): **1170.0** TOC ELEV (ft): **1173.81**  
 ELEVATION DATUM: **NGVD29**  
 BOREHOLE DEPTH (ft): **80.5** WELL DEPTH (ft, bgs): **75.9**  
 DTW AT COMPLETION (ft, bgs): **73.1**  
 BOREHOLE DIA. (in): **13.3** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568225 - JSF TDEC ORDER.GPJ TDEC SUBSURF DT 20190530.GDT 8/4/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

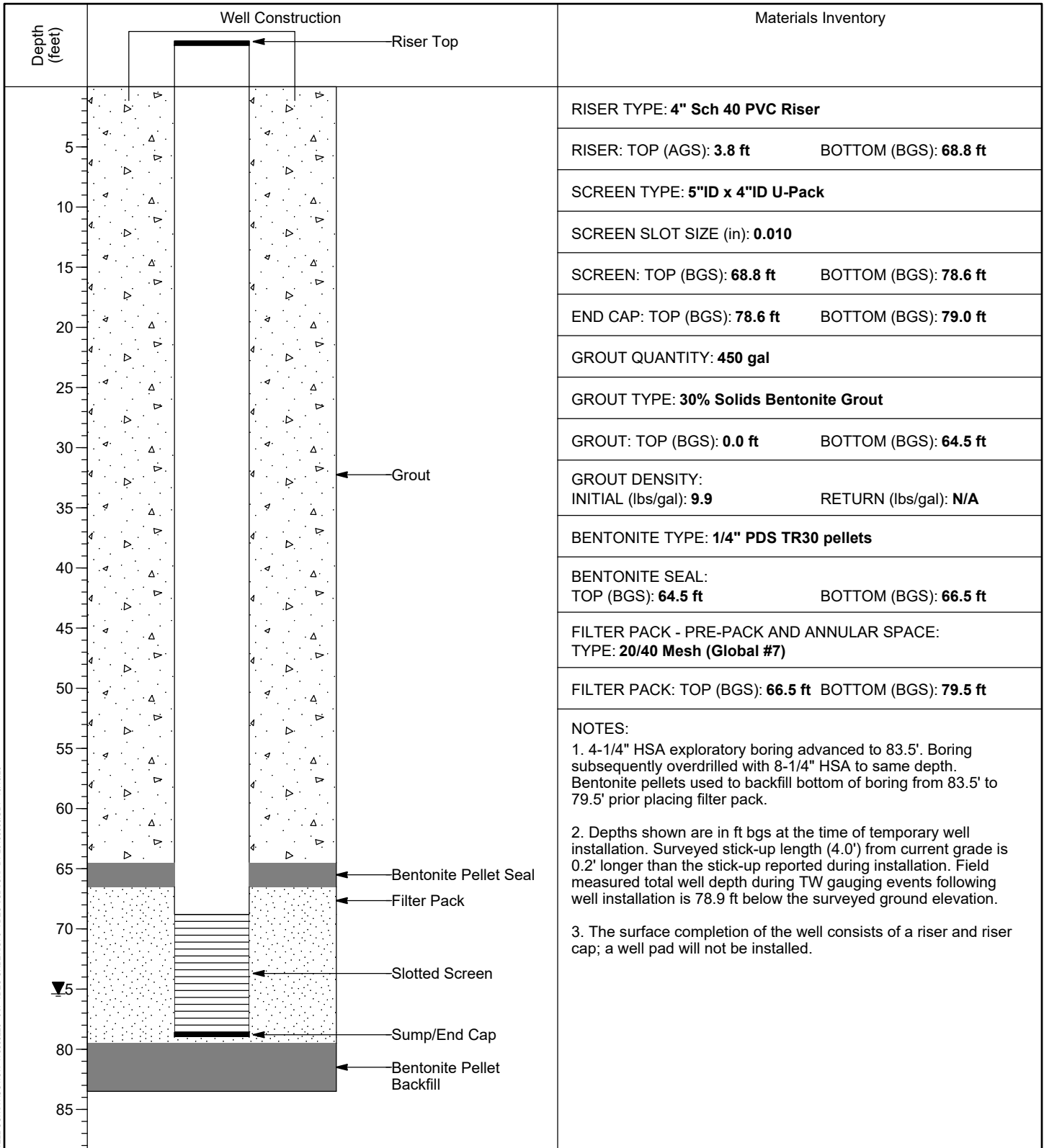


# WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JSF-TW05 (Boring JSF-TW05b)** PAGE 1 OF 1

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 850XR, #953**  
 DRILLING METHOD: **8-1/4" HSA**  
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **K. Carey**  
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **5/1/19** COMPLETED: **5/2/19**  
 LOCATION: **736,522.64 N; 2,892,394.88 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIP: **Dry Fly Ash Stack east**  
 LATITUDE: **36° 22' 38.57"** LONGITUDE: **-82° 58' 5.87"**  
 GROUND ELEV (ft): **1160.1** TOC ELEV (ft): **1164.16**  
 ELEVATION DATUM: **NGVD29**  
 BOREHOLE DEPTH (ft): **83.5** WELL DEPTH (ft, bgs): **79.0**  
 DTW AT COMPLETION (ft, bgs): **75.4**  
 BOREHOLE DIA. (in): **13.3** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568225 - JSF TDEC ORDER.GPJ TDEC SUBSURF.DT 20190530.GDT 10/16/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

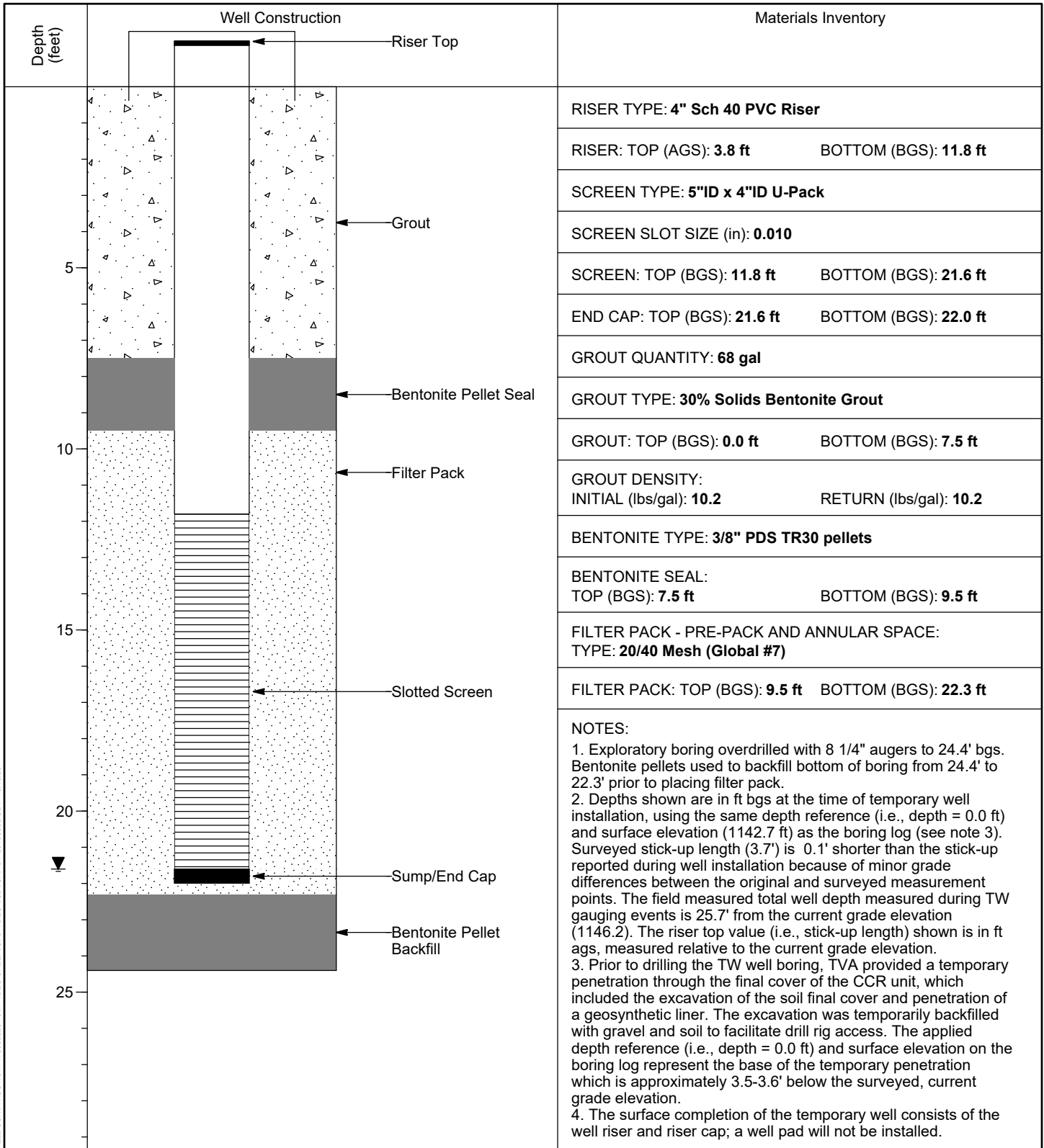


# WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: PAGE 1 OF 1  
**JSF-TW06 (Boring JSF-TW06)**

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#2, #711**  
 DRILLING METHOD: **8-1/4" HSA**  
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **K. Carey**  
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **4/2/19** COMPLETED: **4/3/19**  
 LOCATION: **733,598.05 N; 2,891,811.27 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIP: **Bottom Ash Pond, west end**  
 LATITUDE: **36° 22' 9.85"** LONGITUDE: **-82° 58' 14.11"**  
 GROUND ELEV (ft): **1146.2** TOC ELEV (ft): **1149.96**  
 ELEVATION DATUM: **NGVD29**  
 BOREHOLE DEPTH (ft): **24.4** WELL DEPTH (ft, bgs): **22.0**  
 DTW AT COMPLETION (ft, bgs): **21.6**  
 BOREHOLE DIA. (in): **13.3** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568225 - JSF TDEC ORDER.GPJ TDEC SUBSURF.DT 20190530.GDT 10/13/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

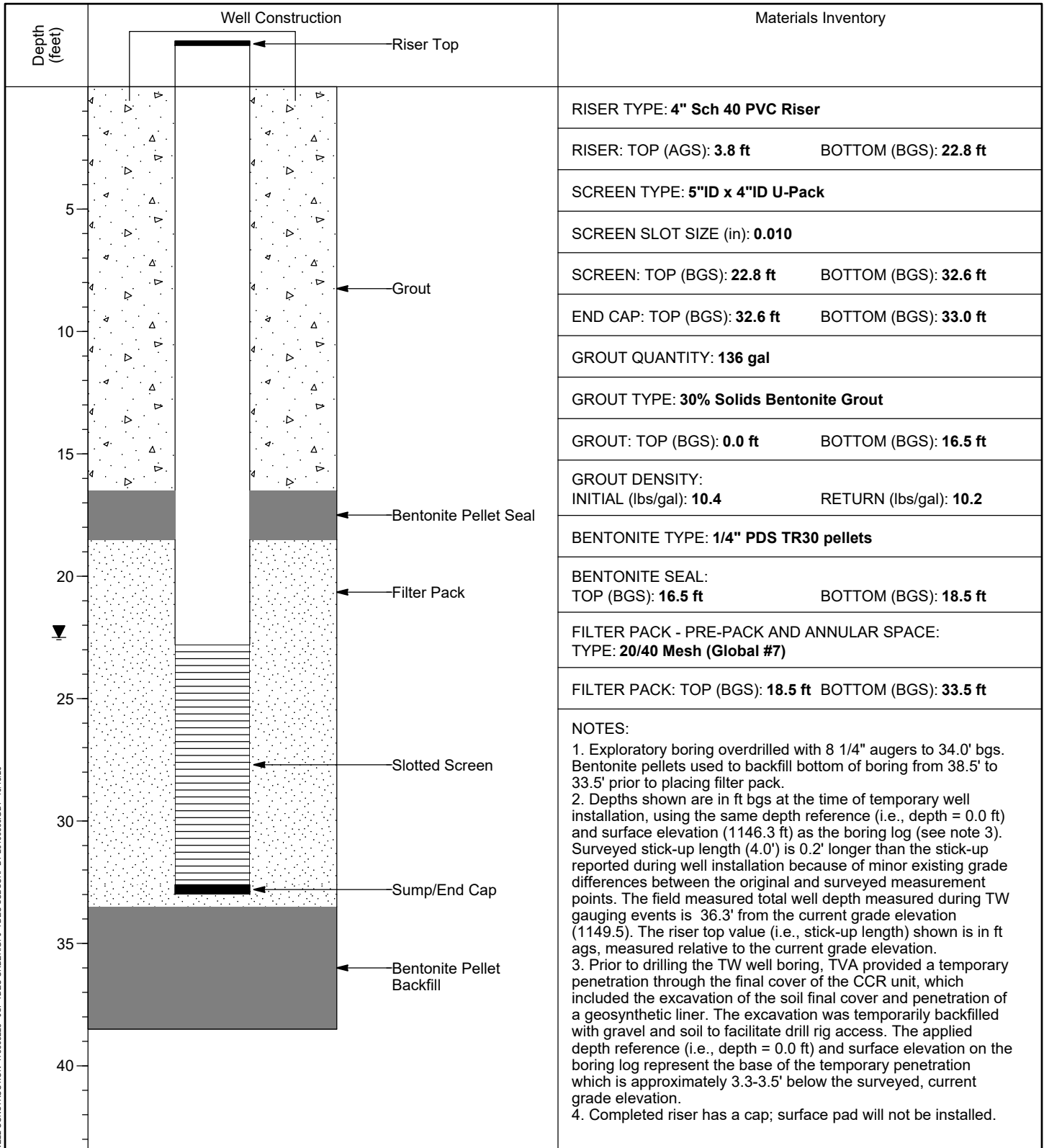


# WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: PAGE 1 OF 1  
**JSF-TW07 (Boring JSF-TW07)**

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#2, #711**  
 DRILLING METHOD: **8-1/4" HSA**  
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **K. Carey**  
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **4/10/19** COMPLETED: **4/10/19**  
 LOCATION: **733,901.54 N; 2,892,829.04 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIP: **Bottom Ash Pond over creek**  
 LATITUDE: **36° 22' 12.53"** LONGITUDE: **-82° 58' 1.55"**  
 GROUND ELEV (ft): **1149.5** TOC ELEV (ft): **1153.56**  
 ELEVATION DATUM: **NGVD29**  
 BOREHOLE DEPTH (ft): **38.5** WELL DEPTH (ft, bgs): **33.0**  
 DTW AT COMPLETION (ft, bgs): **22.5**  
 BOREHOLE DIA. (in): **13.3** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568225 - JSF TDEC ORDER.GPJ TDEC SUBSURF.DT 20190630.GDT 10/13/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)



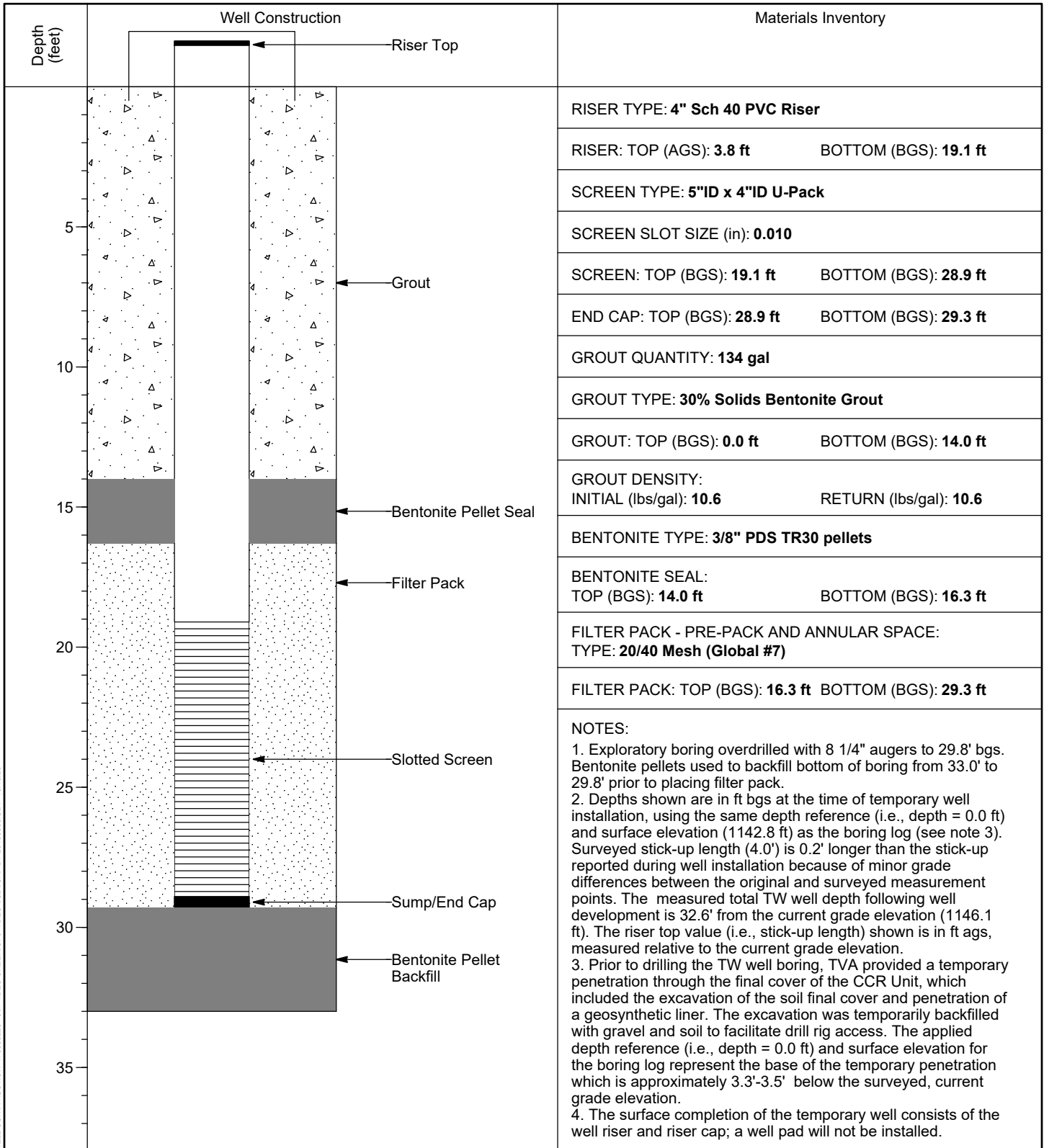


# WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JSF-TW08 (Boring JSF-TW08)** PAGE 1 OF 1

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#2, #711**  
 DRILLING METHOD: **8-1/4" HSA**  
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **K. Carey**  
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **4/4/19** COMPLETED: **4/8/19**  
 LOCATION: **734,209.90 N; 2,893,524.88 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIP: **Bottom Ash Pond east**  
 LATITUDE: **36° 22' 15.37"** LONGITUDE: **-82° 57' 52.93"**  
 GROUND ELEV (ft): **1146.1** TOC ELEV (ft): **1150.13**  
 ELEVATION DATUM: **NGVD29**  
 BOREHOLE DEPTH (ft): **33.0** WELL DEPTH (ft, bgs): **29.3**  
 DTW AT COMPLETION (ft, bgs): **N/A**  
 BOREHOLE DIA. (in): **13.3** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568225 - JSF TDEC ORDER.GPJ TDEC SUBSURF DT 20190530.GDT 10/13/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

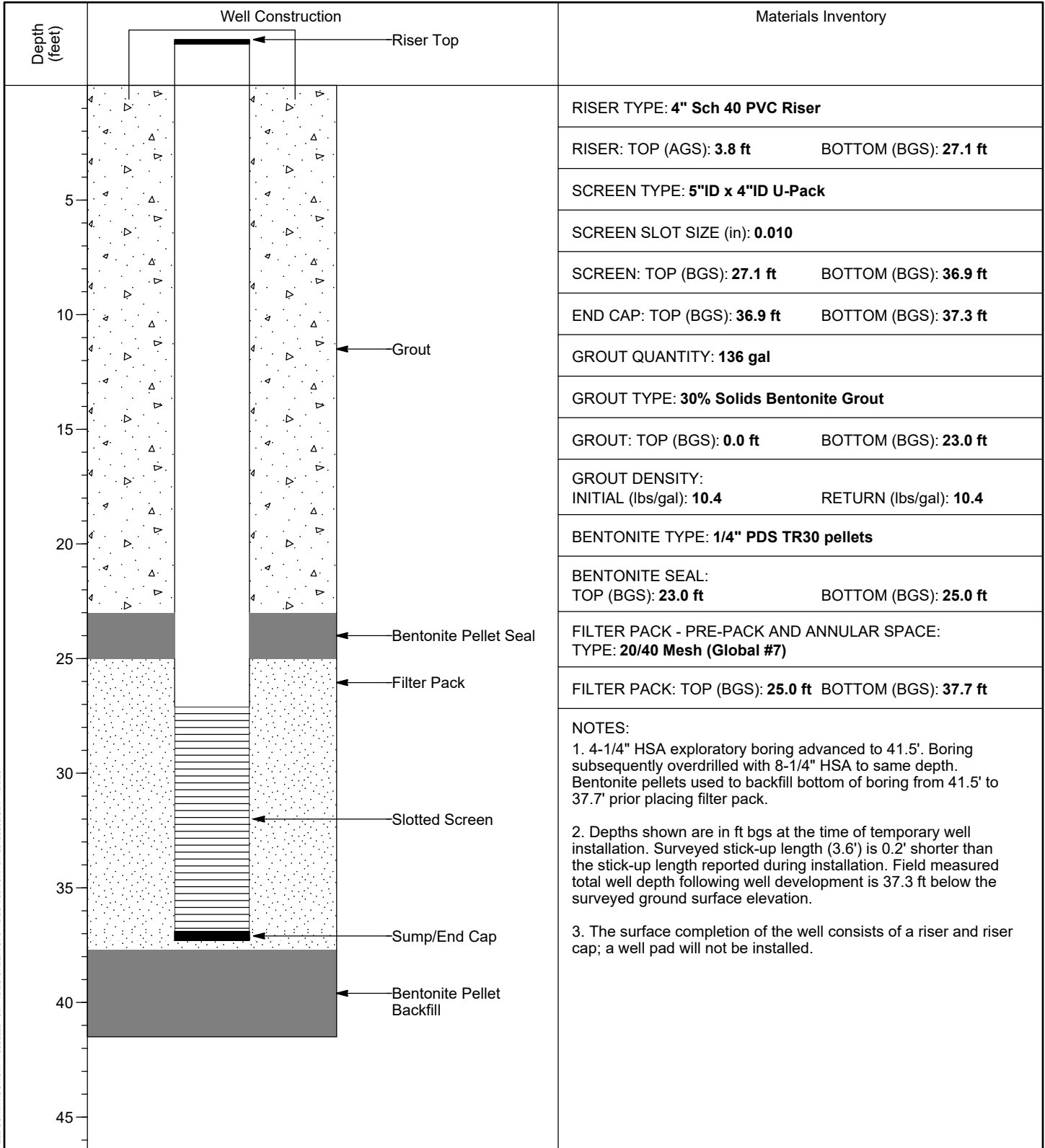


# WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: PAGE 1 OF 1  
**JSF-TW09 (Boring JSF-TW09)**

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#2, #711**  
 DRILLING METHOD: **8-1/4" HSA**  
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **K. Carey**  
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **3/12/19** COMPLETED: **3/14/19**  
 LOCATION: **732,960.02 N; 2,886,153.10 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIP: **Ash Disposal Area J, West**  
 LATITUDE: **36° 22' 5.27"** LONGITUDE: **-82° 59' 23.50"**  
 GROUND ELEV (ft): **1107.9** TOC ELEV (ft): **1111.41**  
 ELEVATION DATUM: **NGVD29**  
 BOREHOLE DEPTH (ft): **41.5** WELL DEPTH (ft, bgs): **37.3**  
 DTW AT COMPLETION (ft, bgs): **N/A**  
 BOREHOLE DIA. (in): **13.3** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568225 - JSF TDEC ORDER.GPJ TDEC SUBSURF DT 20190530.GDT 10/9/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

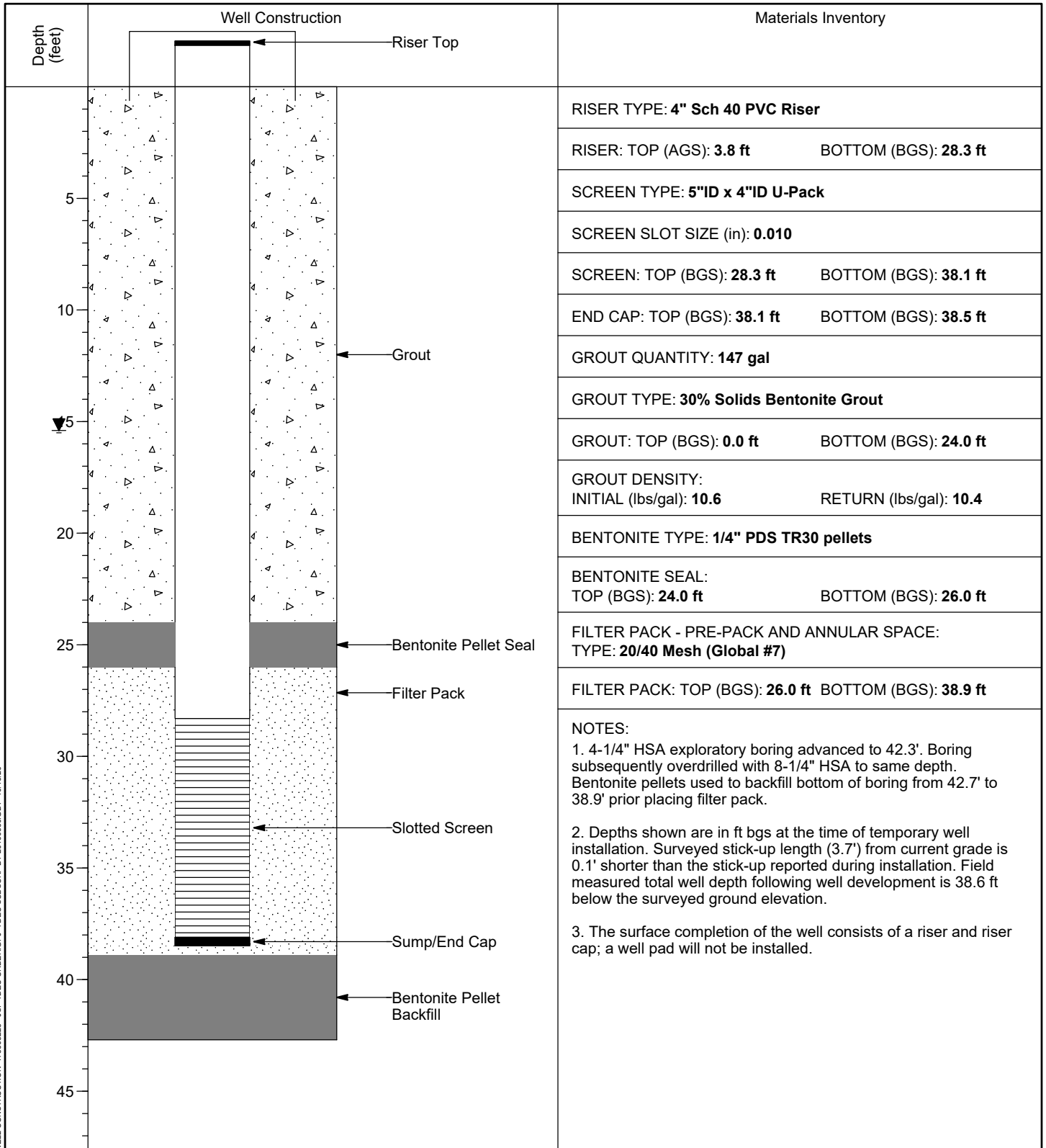


# WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: PAGE 1 OF 1  
**JSF-TW10 (Boring JSF-TW10)**

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#2, #711**  
 DRILLING METHOD: **8-1/4" HSA**  
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **K. Carey**  
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **3/20/19** COMPLETED: **3/21/19**  
 LOCATION: **733,261.50 N; 2,886,886.30 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIP: **Ash Disposal Area J**  
 LATITUDE: **36° 22' 8.02"** LONGITUDE: **-82° 59' 14.42"**  
 GROUND ELEV (ft): **1111.8** TOC ELEV (ft): **1115.52**  
 ELEVATION DATUM: **NGVD29**  
 BOREHOLE DEPTH (ft): **42.7** WELL DEPTH (ft, bgs): **38.5**  
 DTW AT COMPLETION (ft, bgs): **15.4**  
 BOREHOLE DIA. (in): **13.3** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568225 - JSF TDEC ORDER.GPJ TDEC SUBSURF DT 20190530.GDT 10/16/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

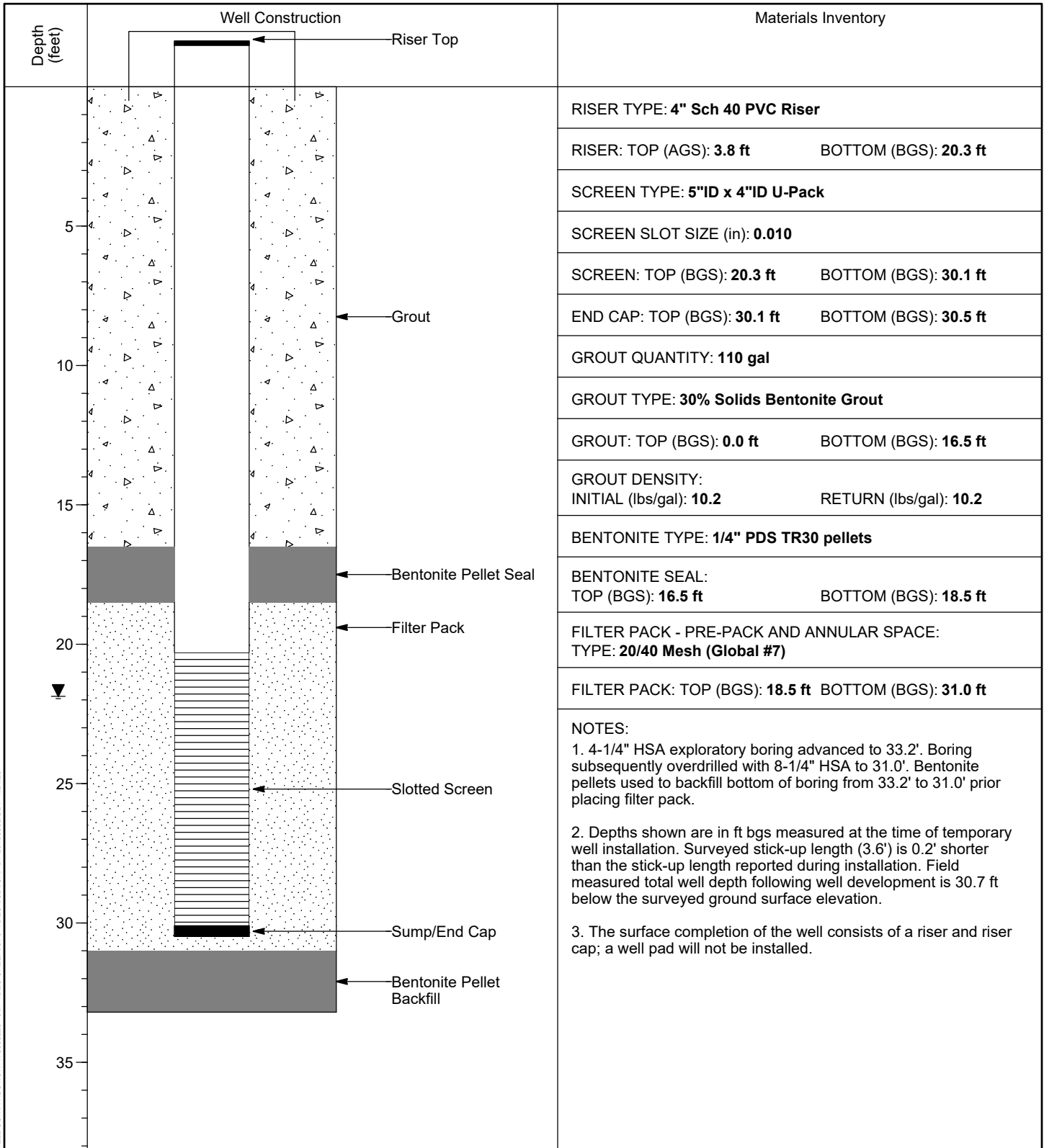


# WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: PAGE 1 OF 1  
**JSF-TW11 (Boring JSF-TW11)**

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#2, #711**  
 DRILLING METHOD: **8-1/4" HSA**  
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**  
 OBSERVED BY: **M. Edmunds**  
 REVIEWED BY: **K. Carey**  
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **3/26/19** COMPLETED: **3/26/19**  
 LOCATION: **733,552.46 N; 2,887,639.90 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIP: **Ash Disposal Area J, East**  
 LATITUDE: **36° 22' 10.67"** LONGITUDE: **-82° 59' 5.10"**  
 GROUND ELEV (ft): **1108.7** TOC ELEV (ft): **1112.29**  
 ELEVATION DATUM: **NGVD29**  
 BOREHOLE DEPTH (ft): **33.2** WELL DEPTH (ft, bgs): **30.5**  
 DTW AT COMPLETION (ft, bgs): **21.9**  
 BOREHOLE DIA. (in): **13.3** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568225 - JSF TDEC ORDER.GPJ TDEC SUBSURF DT 20190530.GDT 7/24/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

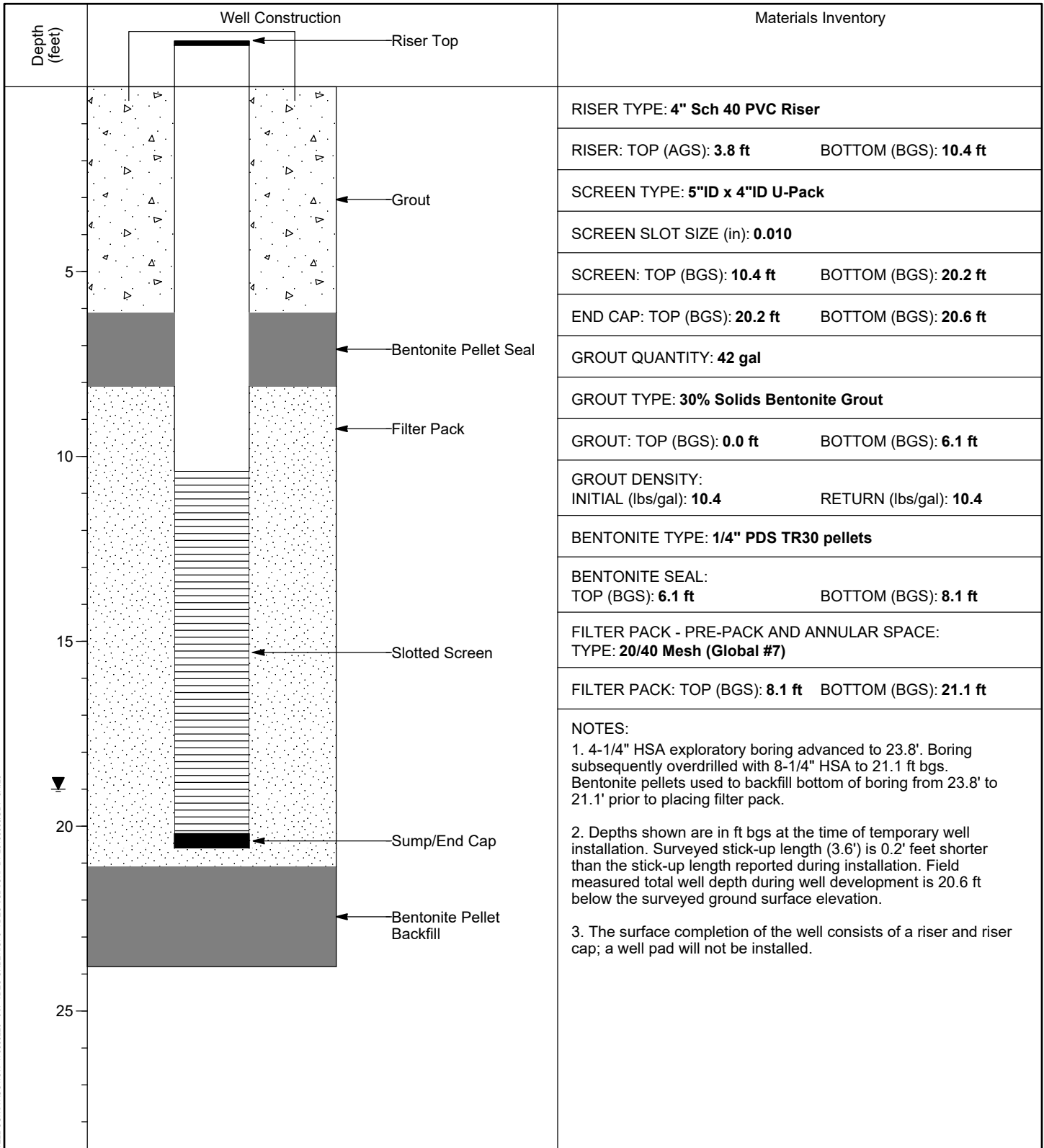


# WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: PAGE 1 OF 1  
**JSF-TW12 (Boring JSF-TW12)**

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#2, #711**  
 DRILLING METHOD: **8-1/4" HSA**  
 SAMPLING METHOD: **4-1/4" HSA, 3" SS w/o liners, 3" Shelby Tubes**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **K. Carey**  
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **3/29/19** COMPLETED: **4/1/19**  
 LOCATION: **732,773.07 N; 2,889,531.81 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIP: **Highway 70 Borrow Area**  
 LATITUDE: **36° 22' 2.39"** LONGITUDE: **-82° 58' 42.28"**  
 GROUND ELEV (ft): **1141.9** TOC ELEV (ft): **1145.46**  
 ELEVATION DATUM: **NGVD29**  
 BOREHOLE DEPTH (ft): **23.8** WELL DEPTH (ft, bgs): **20.6**  
 DTW AT COMPLETION (ft, bgs): **19.0**  
 BOREHOLE DIA. (in): **13.3** WELL DIA. (in): **4.0**



WELL CONSTRUCTION 175568225 - JSF TDEC ORDER.GPJ TDEC SUBSURF DT 20190530.GDT 8/4/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

# **APPENDIX C.2**

## **PIEZOMETERS**

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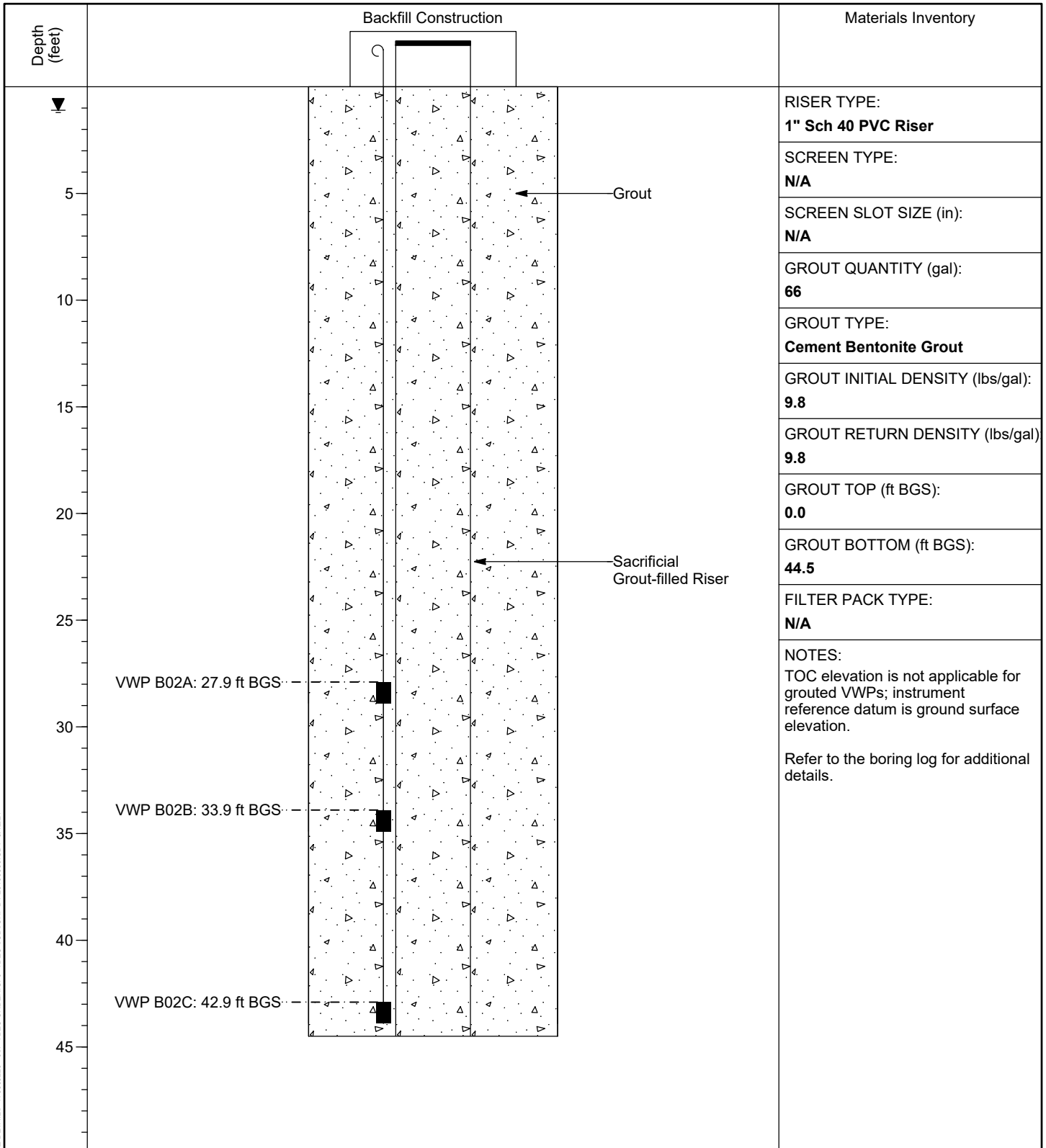
# PIEZOMETER INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO:  
**JSF-B02**

PAGE 1 OF 1

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#1, #709**  
 DRILLING METHOD: **5-7/8" Updraft Bit, 2" SS w/o liners, 3" ST**  
 SAMPLING METHOD: **5-7/8" Updraft Bit, 2" SS w/o liners, 3" ST**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **B. Halada**  
 APPROVED BY: **A. Welshans**

INSTALLATION: STARTED: **10/27/20** COMPLETED: **10/27/20**  
 LOCATION: **735,189.22 N; 2,890,418.92 E DATUM: NAD27 Plant Local**  
 LOC. DESCRIPTION: **DFAS middle bench, river side**  
 LATITUDE: **36° 22' 26.00"** LONGITUDE: **-82° 58' 30.52"**  
 GROUND ELEV (ft): **1104.4** TOC ELEV (ft): **N/A**  
 ELEVATION DATUM: **NGVD29**  
 BOREHOLE DEPTH (ft): **44.9** RISER DEPTH (ft): **44.5**  
 DTW AT COMPLETION (ft, bgs): **1.1**  
 BOREHOLE DIA. (in): **6.0** RISER DIA. (in): **1.0**



PZ DETAILS 175568225 - JSF TDEC ORDER.GPJ TDEC SUBSURF.DT 20190930.GDT 8/1/2021

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)



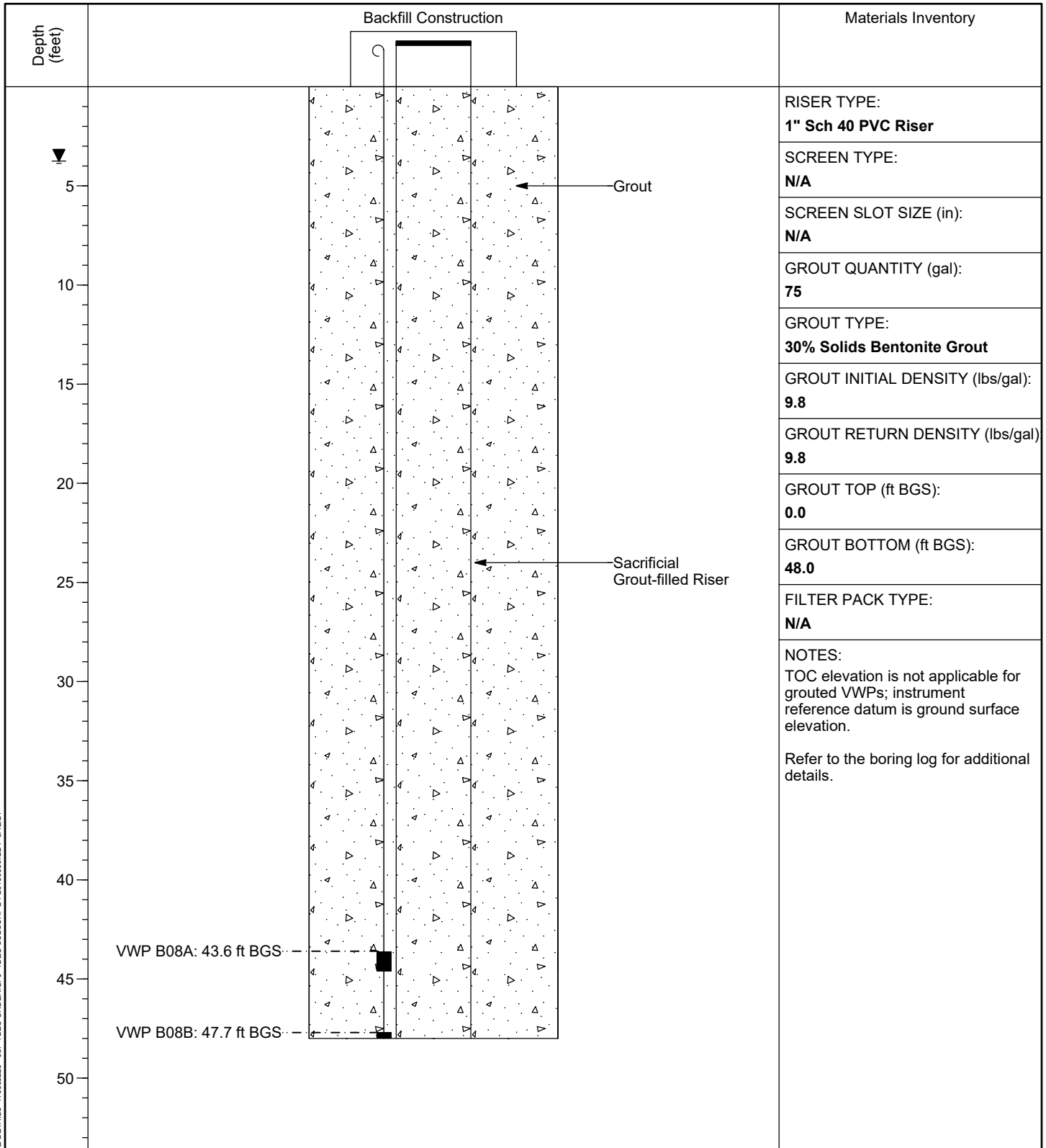
# PIEZOMETER INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO:  
**JSF-B08**

PAGE 1 OF 1

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#1, #709**  
 DRILLING METHOD: **5-7/8" Updraft Bit, 2" SS w/o liners, 3" ST**  
 SAMPLING METHOD: **5-7/8" Updraft Bit, 2" SS w/o liners, 3" ST**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **B. Halada**  
 APPROVED BY: **A. Welshans**

INSTALLATION: STARTED: **10/13/20** COMPLETED: **10/13/20**  
 LOCATION: **733,316.63 N; 2,886,400.96 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIPTION: **ADAJ**  
 LATITUDE: **36° 22' 8.71"** LONGITUDE: **-82° 59' 20.33"**  
 GROUND ELEV (ft): **1104.9** TOC ELEV (ft): **N/A**  
 ELEVATION DATUM: **NGVD29**  
 BOREHOLE DEPTH (ft): **48.7** RISER DEPTH (ft): **48.0**  
 DTW AT COMPLETION (ft, bgs): **3.8**  
 BOREHOLE DIA. (in): **6.0** RISER DIA. (in): **1.0**



PZ DETAILS 175568225 - JSF TDEC ORDER.GPJ TDEC SUBSURF.DT 20190930.GDT 8/12/21

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)



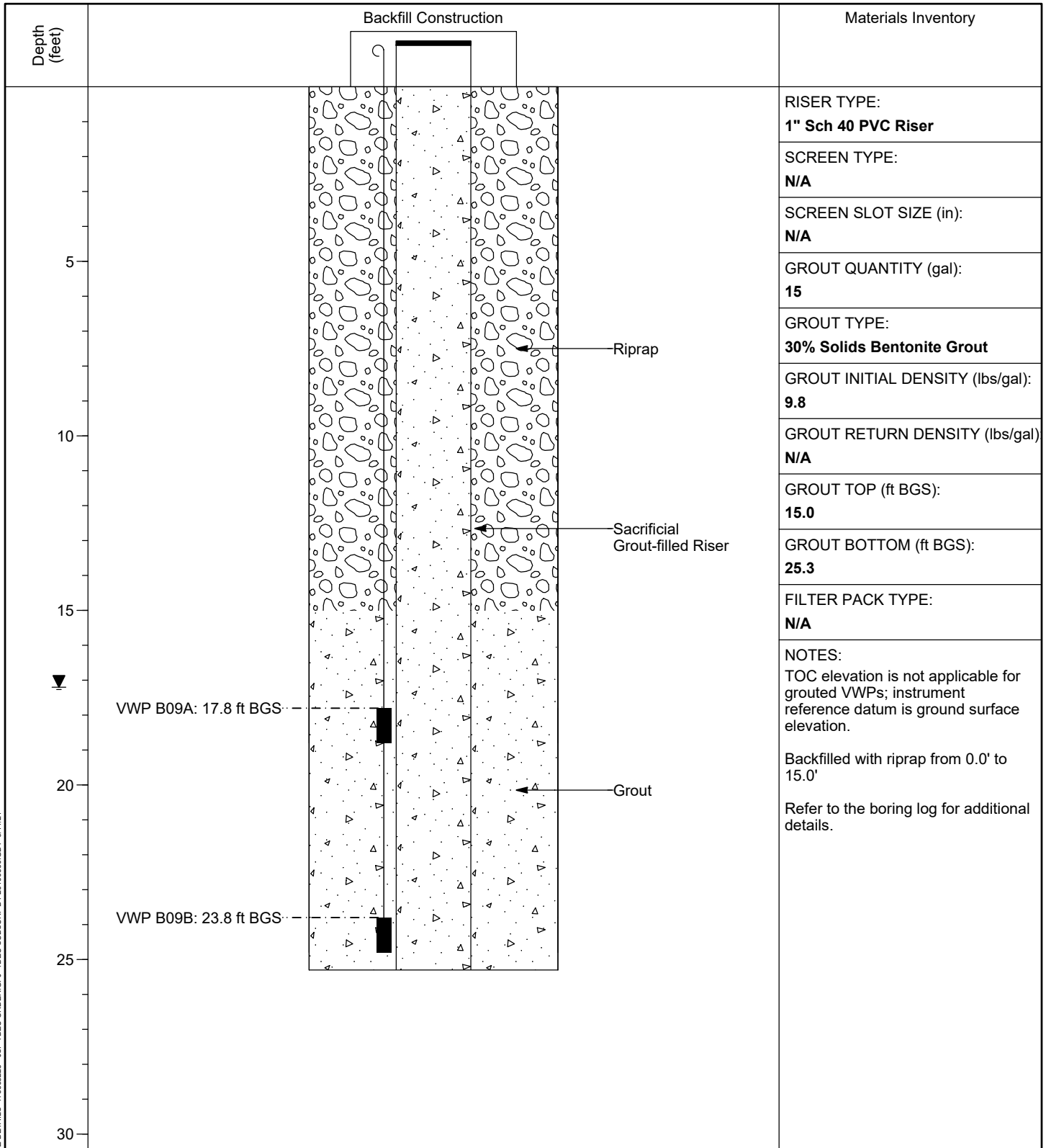
# PIEZOMETER INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO:  
**JSF-B09**

PAGE 1 OF 1

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#1, #709**  
 DRILLING METHOD: **4-1/4" HSA, 2" & 3" SS w/o liners, 3" ST**  
 SAMPLING METHOD: **4-1/4" HSA, 2" & 3" SS w/o liners, 3" ST**  
 OBSERVED BY: **M. Edmunds**  
 REVIEWED BY: **B. Halada**  
 APPROVED BY: **A. Welshans**

INSTALLATION: STARTED: **10/3/20** COMPLETED: **10/3/20**  
 LOCATION: **733,399.83 N; 2,886,363.23 E DATUM: NAD27 Plant Local**  
 LOC. DESCRIPTION: **ADAJ**  
 LATITUDE: **36° 22' 9.55"** LONGITUDE: **-82° 59' 20.76"**  
 GROUND ELEV (ft): **1081.5** TOC ELEV (ft): **N/A**  
 ELEVATION DATUM: **NGVD29**  
 BOREHOLE DEPTH (ft): **25.5** RISER DEPTH (ft): **25.3**  
 DTW AT COMPLETION (ft, bgs): **17.2**  
 BOREHOLE DIA. (in): **9.0** RISER DIA. (in): **1.0**



PZ DETAILS: 175568225 - JSF TDEC ORDER.GPJ TDEC SUBSURF.DT 20190930.GDT 6/1/21

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)



# PIEZOMETER INSTALLATION DETAIL

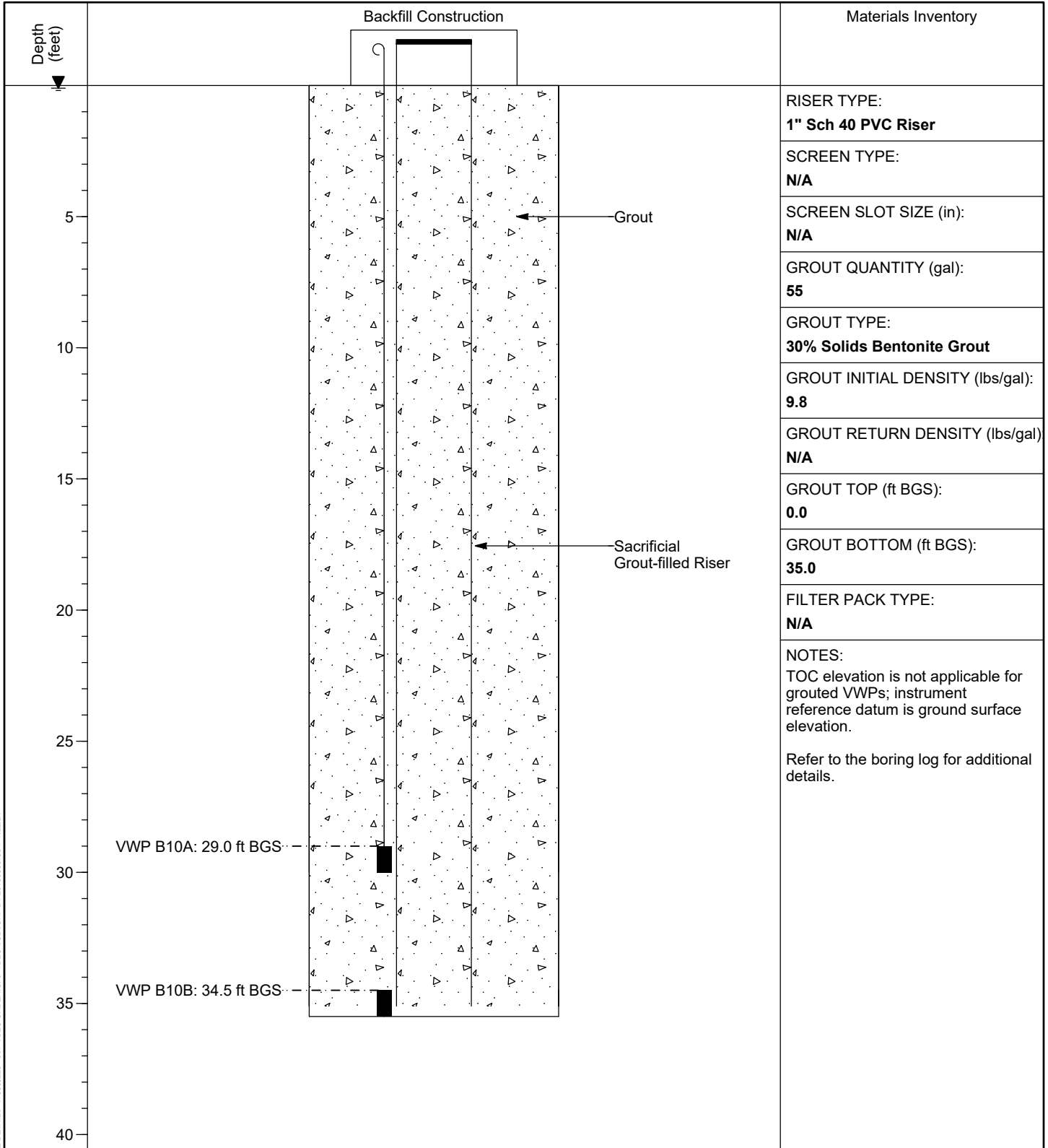
WELL / PROBEHOLE / BOREHOLE NO:

PAGE 1 OF 1

## JSF-B10

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#1, #709**  
 DRILLING METHOD: **5-7/8" Updraft Bit, 2" SS w/o liners, 3" ST**  
 SAMPLING METHOD: **5-7/8" Updraft Bit, 2" SS w/o liners, 3" ST**  
 OBSERVED BY: **M. Edmunds**  
 REVIEWED BY: **B. Halada**  
 APPROVED BY: **A. Welshans**

INSTALLATION: STARTED: **10/5/20** COMPLETED: **10/5/20**  
 LOCATION: **733,704.45 N; 2,887,642.17 E DATUM: NAD27 Plant Local**  
 LOC. DESCRIPTION: **ADAJ**  
 LATITUDE: **36° 22' 12.17"** LONGITUDE: **-82° 59' 5.02"**  
 GROUND ELEV (ft): **1105.5** TOC ELEV (ft): **N/A**  
 ELEVATION DATUM: **NGVD29**  
 BOREHOLE DEPTH (ft): **35.7** RISER DEPTH (ft): **35.0**  
 DTW AT COMPLETION (ft, bgs): **0.1**  
 BOREHOLE DIA. (in): **6.0** RISER DIA. (in): **1.0**



PZ DETAILS: 175568225 - JSF TDEC ORDER.GPJ TDEC SUBSURF.DT 20190630.GDT 7/22/21

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)





# PIEZOMETER INSTALLATION DETAIL

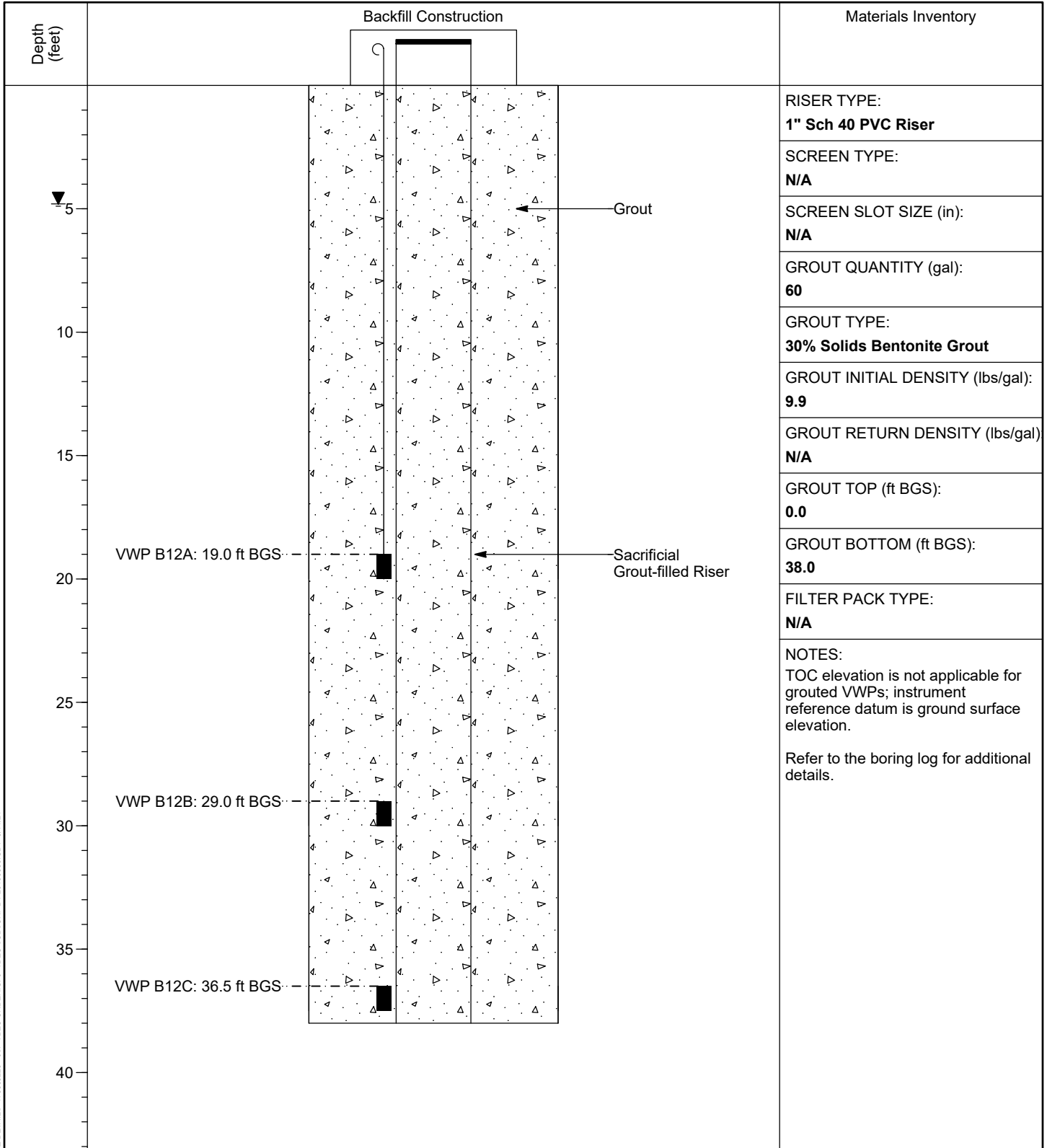
WELL / PROBEHOLE / BOREHOLE NO:

PAGE 1 OF 1

## JSF-B12

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#1, #709**  
 DRILLING METHOD: **5-7/8" Updraft Bit, 2" SS w/o liners, 3" ST**  
 SAMPLING METHOD: **5-7/8" Updraft Bit, 2" SS w/o liners, 3" ST**  
 OBSERVED BY: **M. Edmunds**  
 REVIEWED BY: **B. Halada**  
 APPROVED BY: **A. Welshans**

INSTALLATION: STARTED: **10/6/20** COMPLETED: **10/6/20**  
 LOCATION: **733,584.67 N; 2,887,683.87 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIPTION: **ADAJ interior**  
 LATITUDE: **36° 22' 10.97"** LONGITUDE: **-82° 59' 4.55"**  
 GROUND ELEV (ft): **1108.6** TOC ELEV (ft): **N/A**  
 ELEVATION DATUM: **NGVD29**  
 BOREHOLE DEPTH (ft): **38.2** RISER DEPTH (ft): **38.0**  
 DTW AT COMPLETION (ft, bgs): **4.8**  
 BOREHOLE DIA. (in): **6.0** RISER DIA. (in): **1.0**



PZ DETAILS 175568225 - JSF TDEC ORDER.GPJ TDEC SUBSURF.DT 20190930.GDT 6/1/21

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)



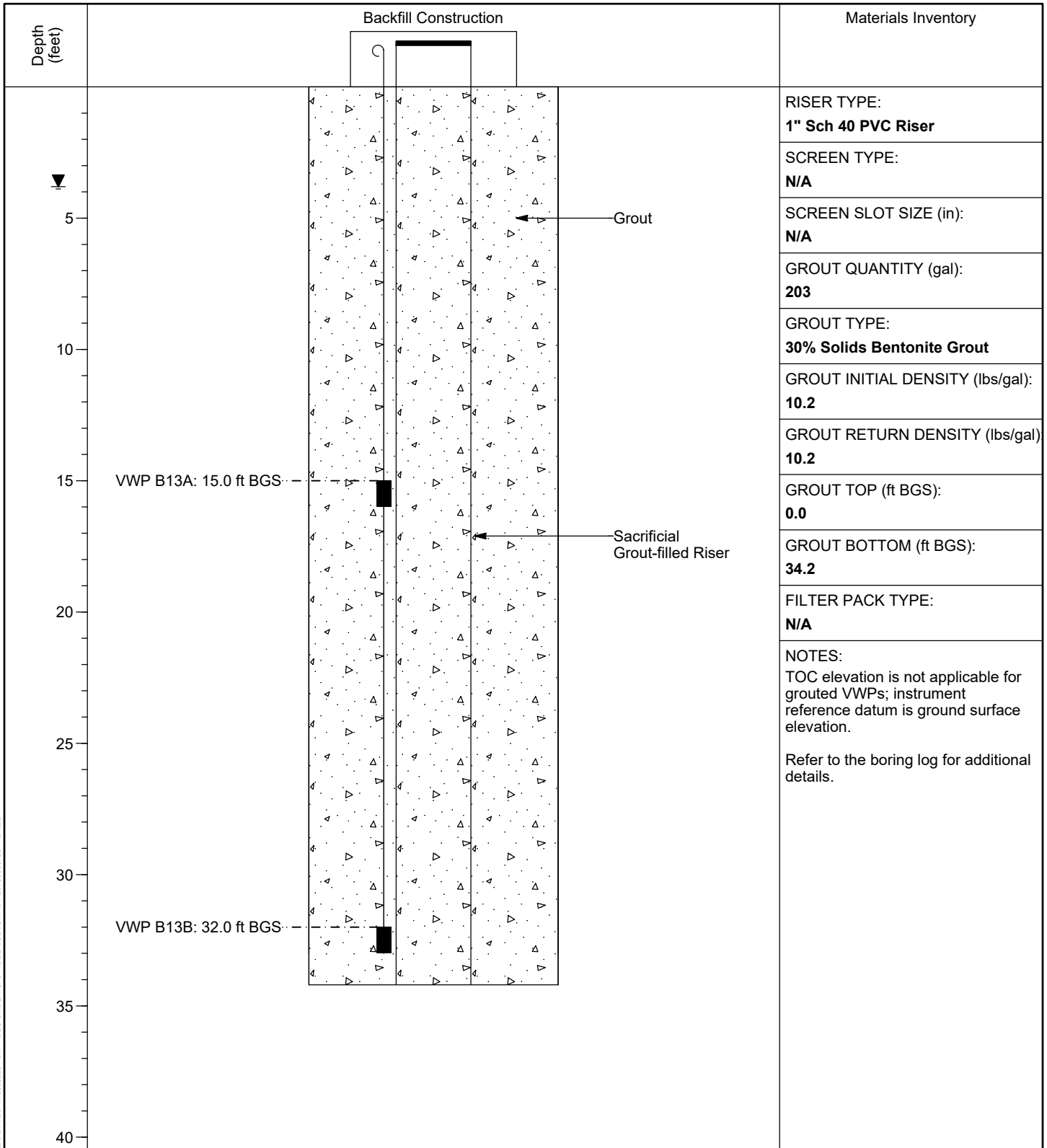
# PIEZOMETER INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO:  
**JSF-B13**

PAGE 1 OF 1

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#1, #709**  
 DRILLING METHOD: **5-7/8" Updraft Bit, 2" SS w/o liners, 3" ST**  
 SAMPLING METHOD: **5-7/8" Updraft Bit, 2" SS w/o liners, 3" ST**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **B. Halada**  
 APPROVED BY: **A. Welshans**

INSTALLATION: STARTED: **9/22/20** COMPLETED: **9/22/20**  
 LOCATION: **732,667.18 N; 2,889,512.21 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIPTION: **HWY 70 Borrow Area**  
 LATITUDE: **36° 22' 1.35"** LONGITUDE: **-82° 58' 42.55"**  
 GROUND ELEV (ft): **1139.3** TOC ELEV (ft): **N/A**  
 ELEVATION DATUM: **NGVD29**  
 BOREHOLE DEPTH (ft): **35.6** RISER DEPTH (ft): **34.2**  
 DTW AT COMPLETION (ft, bgs): **3.8**  
 BOREHOLE DIA. (in): **6.0** RISER DIA. (in): **1.0**



PZ DETAILS 175568225 - JSF TDEC ORDER.GPJ TDEC SUBSURF.DT 20190930.GDT 8/12/21

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)



# PIEZOMETER INSTALLATION DETAIL

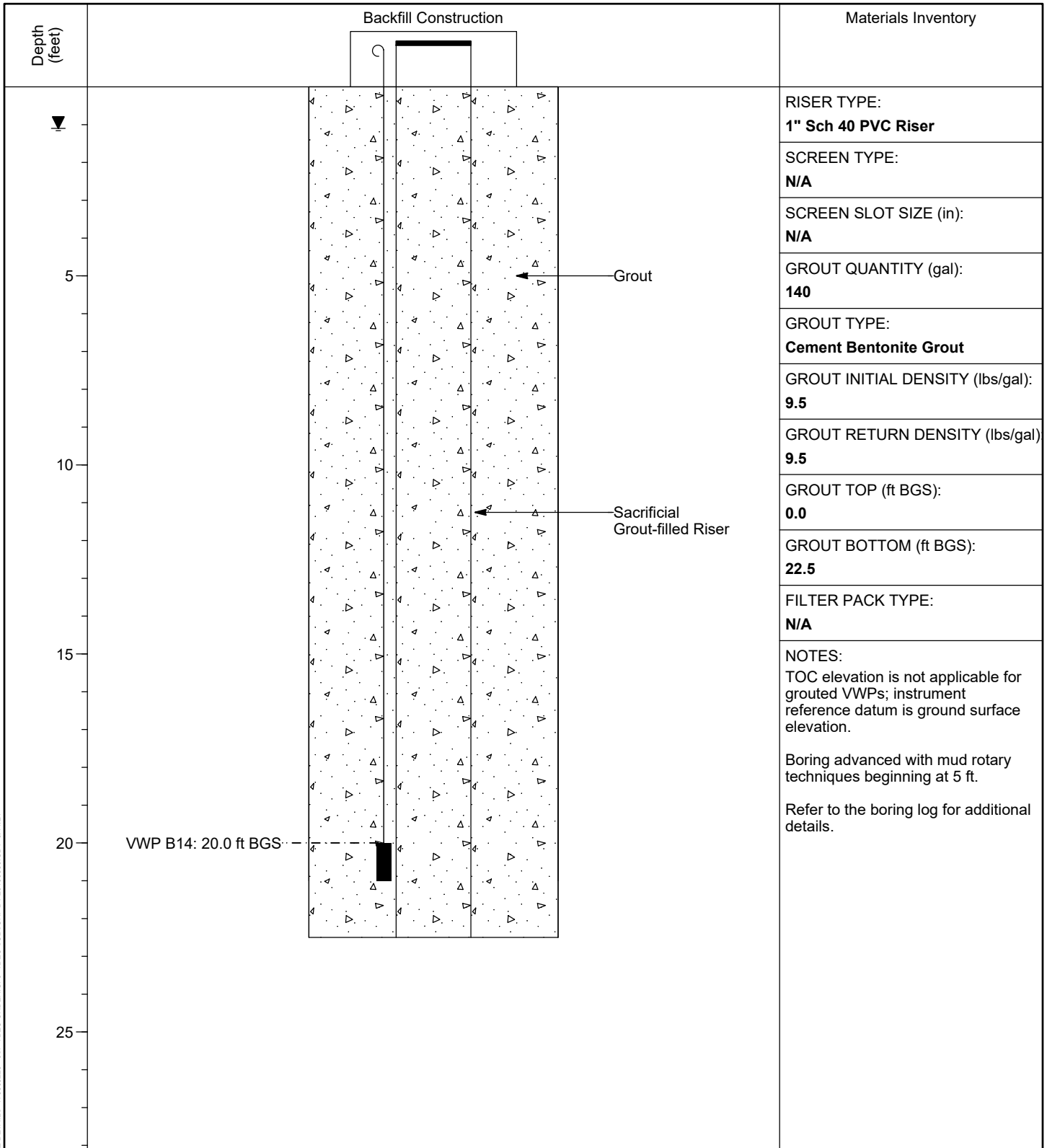
WELL / PROBEHOLE / BOREHOLE NO:

PAGE 1 OF 1

## JSF-B14

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#1, #709**  
 DRILLING METHOD: **5-7/8" Updraft Bit, 2" SS w/o liners, 3" ST**  
 SAMPLING METHOD: **5-7/8" Updraft Bit, 2" SS w/o liners, 3" ST**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **B. Halada**  
 APPROVED BY: **A. Welshans**

INSTALLATION: STARTED: **9/23/20** COMPLETED: **9/23/20**  
 LOCATION: **732,769.60 N; 2,889,517.53 E DATUM: NAD27 Plant Local**  
 LOC. DESCRIPTION: **HWY 70 Borrow Area**  
 LATITUDE: **36° 22' 2.36"** LONGITUDE: **-82° 58' 42.45"**  
 GROUND ELEV (ft): **1141.1** TOC ELEV (ft): **N/A**  
 ELEVATION DATUM: **NGVD29**  
 BOREHOLE DEPTH (ft): **23.2** RISER DEPTH (ft): **22.5**  
 DTW AT COMPLETION (ft, bgs): **1.1**  
 BOREHOLE DIA. (in): **6.0** RISER DIA. (in): **1.0**



PZ DETAILS 175568225 - JSF TDEC ORDER.GPJ TDEC SUBSURF.DT 20190930.GDT 6/1/21

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)





# PIEZOMETER INSTALLATION DETAIL

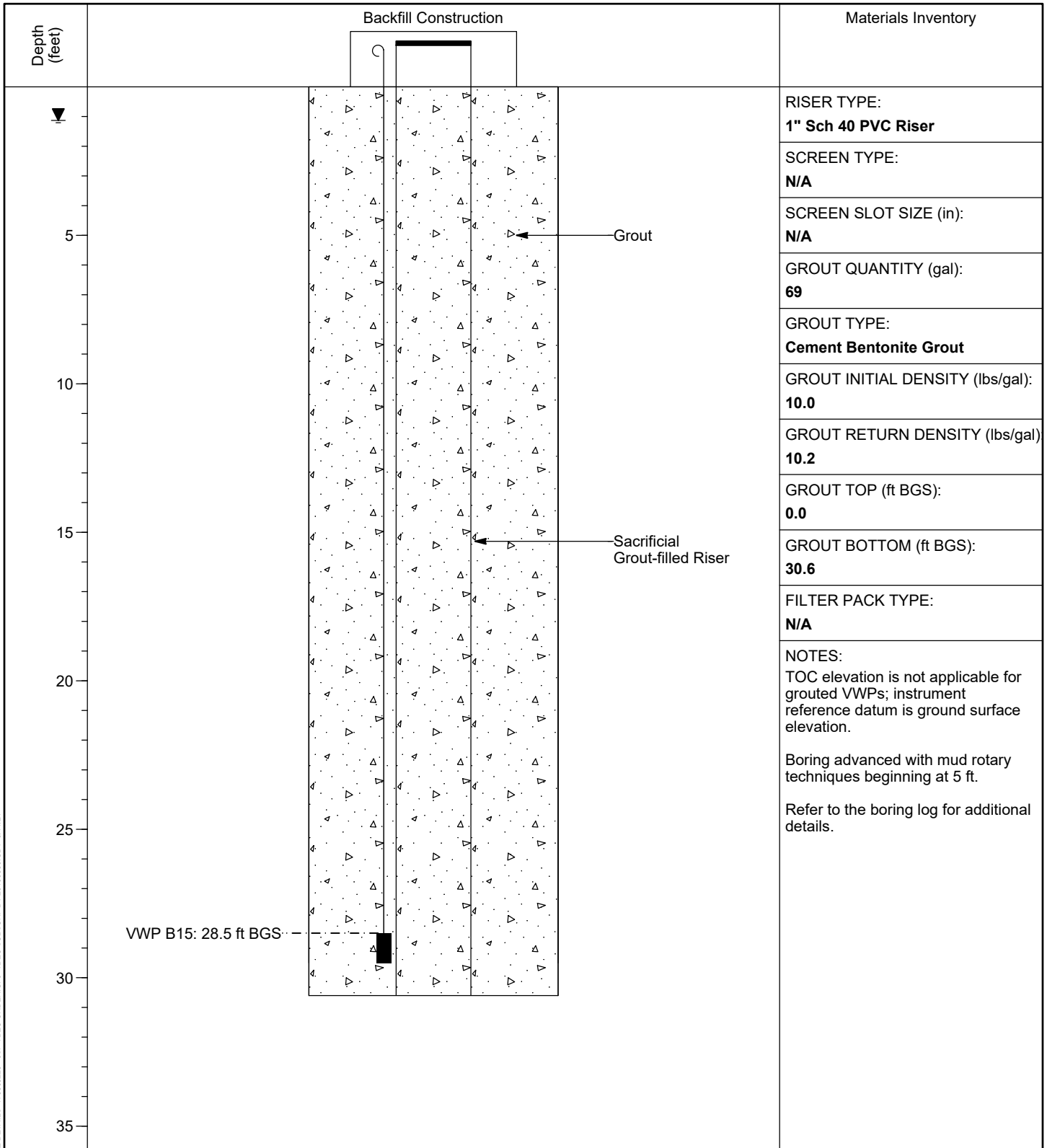
WELL / PROBEHOLE / BOREHOLE NO:

PAGE 1 OF 1

## JSF-B15

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#1, #709**  
 DRILLING METHOD: **5-7/8" Updraft Bit, 2" SS w/o liners, 3" ST**  
 SAMPLING METHOD: **5-7/8" Updraft Bit, 2" SS w/o liners, 3" ST**  
 OBSERVED BY: **M. Edmunds**  
 REVIEWED BY: **B. Halada**  
 APPROVED BY: **A. Welshans**

INSTALLATION: STARTED: **9/28/20** COMPLETED: **9/28/20**  
 LOCATION: **732,865.11 N; 2,889,562.01 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIPTION: **HWY 70 Borrow Area**  
 LATITUDE: **36° 22' 3.29"** LONGITUDE: **-82° 58' 41.87"**  
 GROUND ELEV (ft): **1143.2** TOC ELEV (ft): **N/A**  
 ELEVATION DATUM: **NGVD29**  
 BOREHOLE DEPTH (ft): **30.9** RISER DEPTH (ft): **30.6**  
 DTW AT COMPLETION (ft, bgs): **1.1**  
 BOREHOLE DIA. (in): **6.0** RISER DIA. (in): **1.0**



PZ DETAILS 175568225 - JSF TDEC ORDER.GPJ TDEC SUBSURF.DT 20190930.GDT 6/1/21

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)



# PIEZOMETER INSTALLATION DETAIL

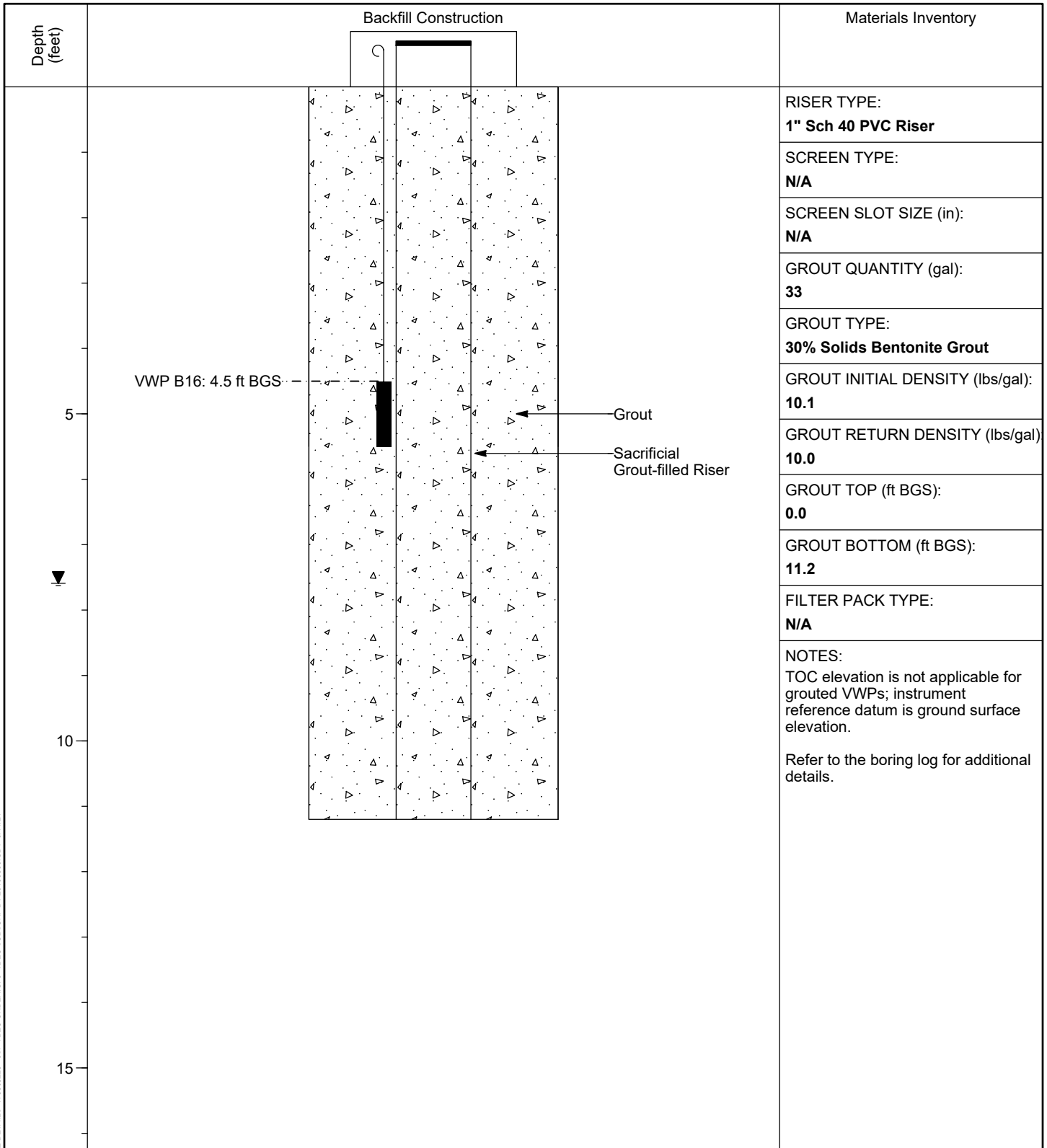
WELL / PROBEHOLE / BOREHOLE NO:

PAGE 1 OF 1

## JSF-B16

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#1, #709**  
 DRILLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" ST**  
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" ST**  
 OBSERVED BY: **M. Edmunds**  
 REVIEWED BY: **B. Halada**  
 APPROVED BY: **A. Welshans**

INSTALLATION: STARTED: **9/29/20** COMPLETED: **9/29/20**  
 LOCATION: **732,955.85 N; 2,889,621.99 E DATUM: NAD27 Plant Local**  
 LOC. DESCRIPTION: **HWY 70 Borrow Area**  
 LATITUDE: **36° 22' 4.17"** LONGITUDE: **-82° 58' 41.10"**  
 GROUND ELEV (ft): **1115.8** TOC ELEV (ft): **N/A**  
 ELEVATION DATUM: **NGVD29**  
 BOREHOLE DEPTH (ft): **11.3** RISER DEPTH (ft): **11.2**  
 DTW AT COMPLETION (ft, bgs): **7.6**  
 BOREHOLE DIA. (in): **9.0** RISER DIA. (in): **1.0**



PZ DETAILS 175568225 - JSF TDEC ORDER.GPJ TDEC SUBSURF.DT 20190930.GDT 6/1/21

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)



# PIEZOMETER INSTALLATION DETAIL

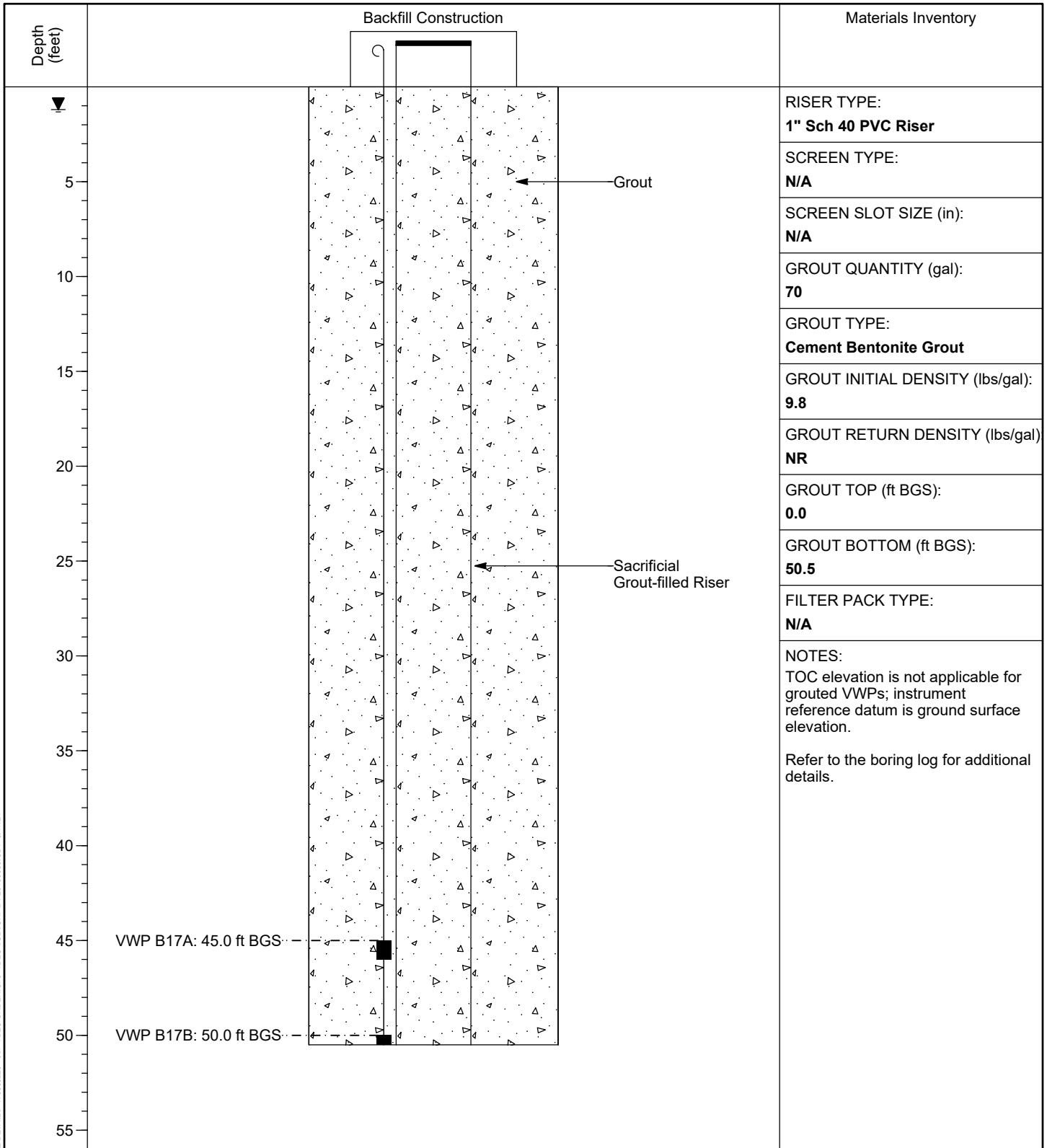
WELL / PROBEHOLE / BOREHOLE NO:

PAGE 1 OF 1

## JSF-B17

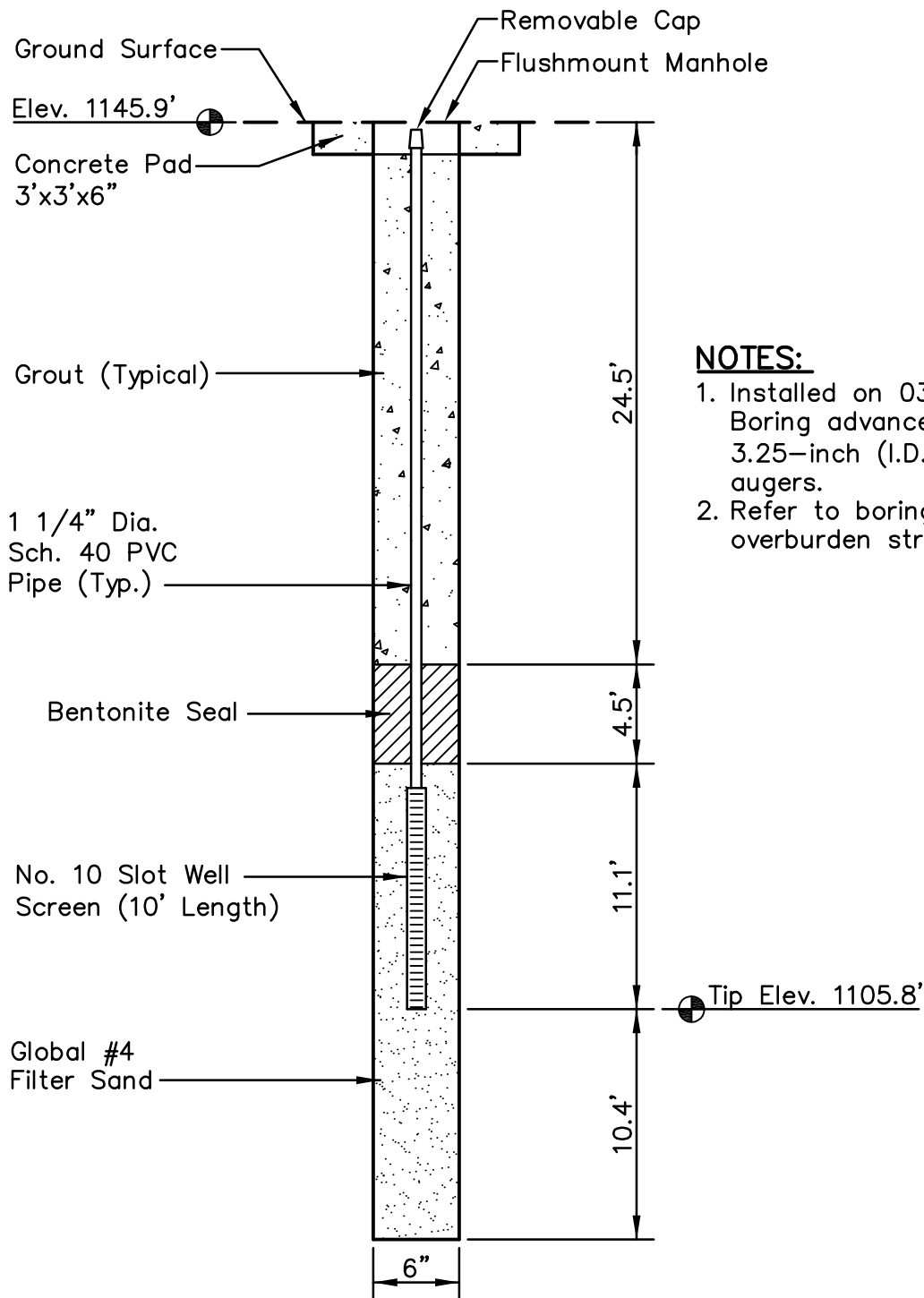
PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#1, #709**  
 DRILLING METHOD: **5-7/8" Updraft Bit, 2" & 3" SS w/o liners, 3" ST**  
 SAMPLING METHOD: **5-7/8" Updraft Bit, 2" & 3" SS w/o liners, 3" ST**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **B. Halada**  
 APPROVED BY: **A. Welshans**

INSTALLATION: STARTED: **10/20/20** COMPLETED: **10/20/20**  
 LOCATION: **735,647.11 N; 2,891,033.53 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIPTION: **DFAS mid-bench, riverside**  
 LATITUDE: **36° 22' 30.34"** LONGITUDE: **-82° 58' 22.84"**  
 GROUND ELEV (ft): **1111.9** TOC ELEV (ft): **N/A**  
 ELEVATION DATUM: **NGVD29**  
 BOREHOLE DEPTH (ft): **51.2** RISER DEPTH (ft): **50.5**  
 DTW AT COMPLETION (ft, bgs): **1.2**  
 BOREHOLE DIA. (in): **6.0** RISER DIA. (in): **1.0**



PZ DETAILS 175568225 - JSF TDEC ORDER.GPJ TDEC SUBSURF.DT 20190930.GDT 8/17/21

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)



**NOTES:**

1. Installed on 03/26/2009. Boring advanced with 3.25-inch (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-FZBA2.DWG

**LOCATION:**

Northing: 734,229.93  
 Easting: 2,893,695.53  
 Ground Elevation: 1145.9 feet

Locations provided by TVA,  
 Power Systems Operations,  
 Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER BA-2**  
**JOHN SEVIER FOSSIL PLANT**  
**BOTTOM ASH-POND**

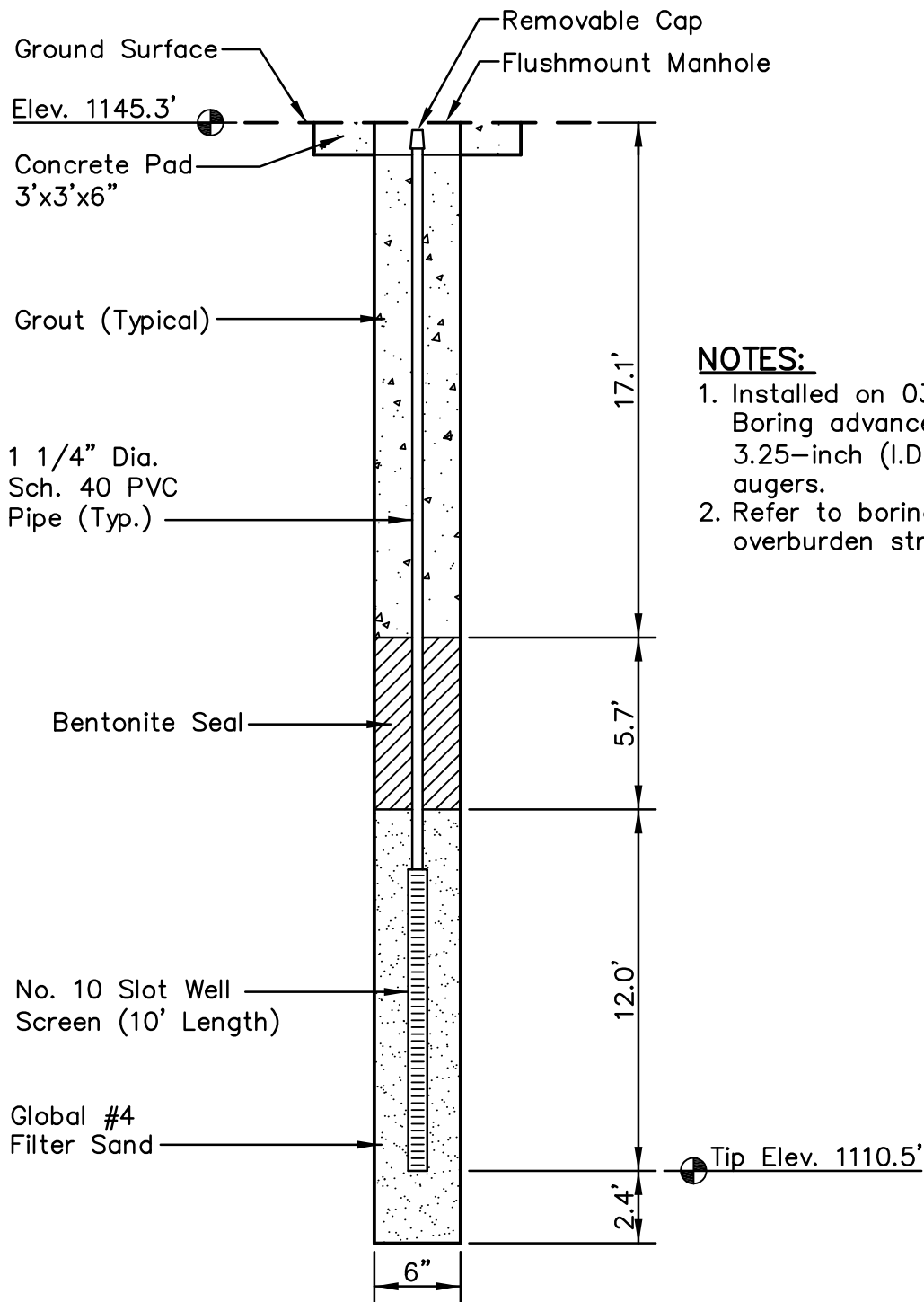


**Stantec**

Stantec Consulting  
 Services Inc.  
 1409 N. Forbes Rd.  
 Lexington, Kentucky  
 40511-2050  
 859-422-3000

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|            |     |           |            |         |    |        |
|------------|-----|-----------|------------|---------|----|--------|
| DRAWN BY   | RWE | DATE      | NOV., 2009 | REVISED |    | SHEET  |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. | 1 OF 1 |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |        |



**NOTES:**

1. Installed on 03/31/2009. Boring advanced with 3.25-inch (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-PZBA3.DWG

**LOCATION:**

Northing: 733,939.03  
 Easting: 2,893,286.73  
 Ground Elevation: 1145.3 feet

Locations provided by TVA,  
 Power Systems Operations,  
 Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER BA-3**  
**JOHN SEVIER FOSSIL PLANT**  
**BOTTOM ASH-POND**

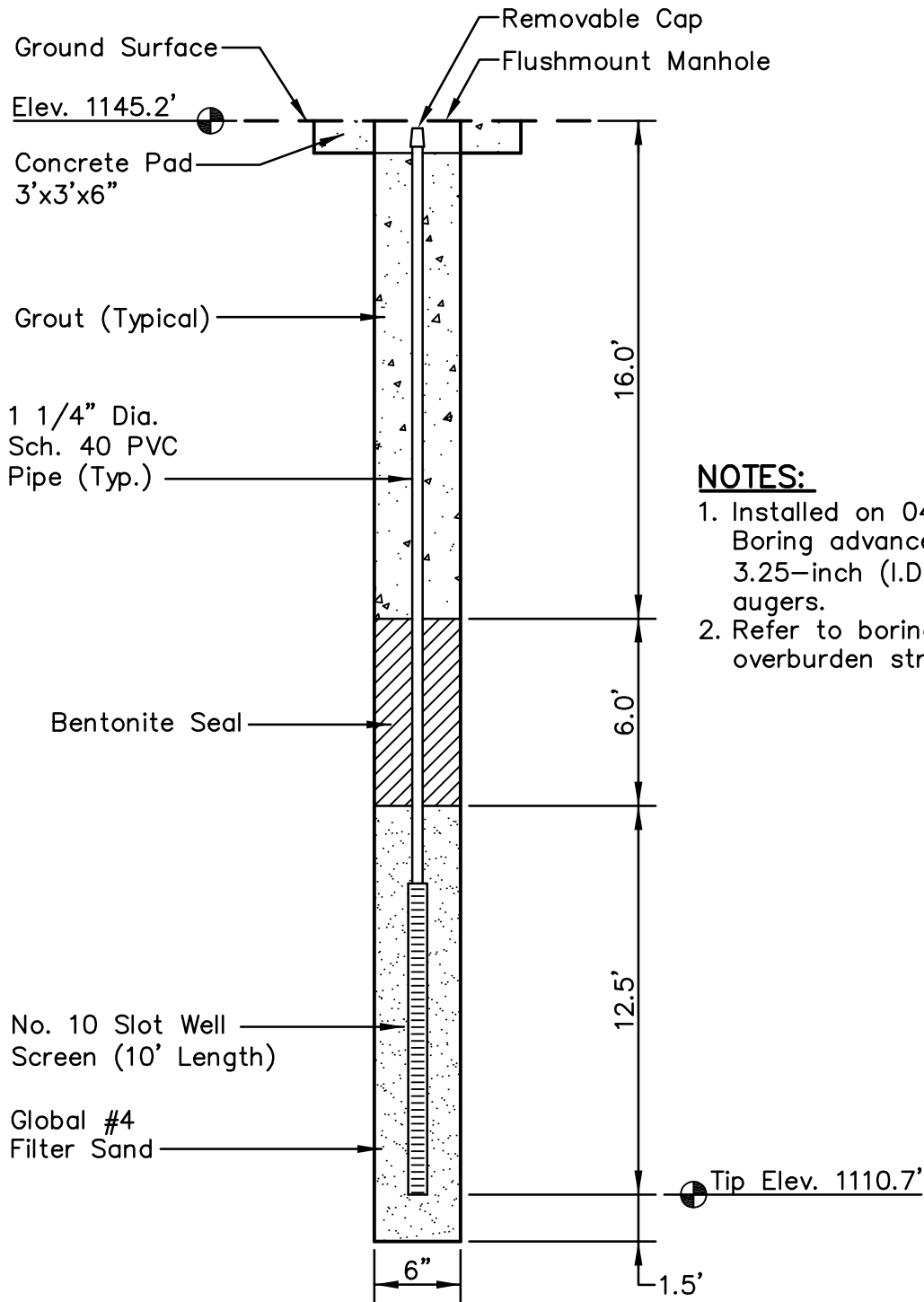


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|            |     |           |            |         |    |        |
|------------|-----|-----------|------------|---------|----|--------|
| DRAWN BY   | RWE | DATE      | NOV., 2009 | REVISED |    | SHEET  |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. | 1 OF 1 |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |        |



**NOTES:**

1. Installed on 04/03/2009. Boring advanced with 3.25-inch (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-FZBA8.DWG

**LOCATION:**

Northing: 733,946.71  
 Easting: 2,891,566.83  
 Ground Elevation: 1145.2 feet

Locations provided by TVA,  
 Power Systems Operations,  
 Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER BA-8**  
**JOHN SEVIER FOSSIL PLANT**  
**BOTTOM ASH-POND**

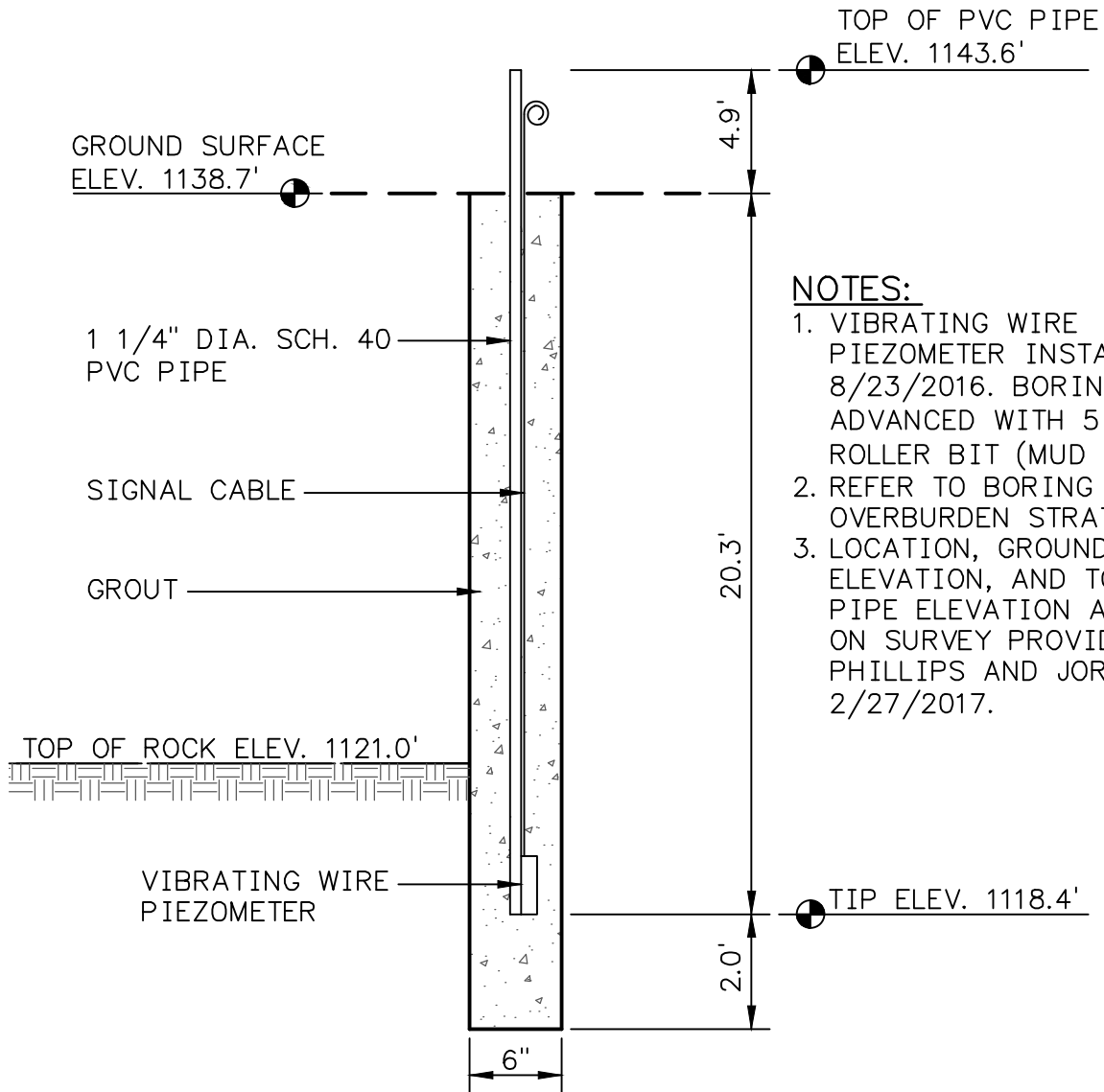


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|            |     |           |            |         |    |        |
|------------|-----|-----------|------------|---------|----|--------|
| DRAWN BY   | RWE | DATE      | NOV., 2009 | REVISED |    | SHEET  |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. | 1 OF 1 |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |        |



**NOTES:**

1. VIBRATING WIRE PIEZOMETER INSTALLED ON 8/23/2016. BORING ADVANCED WITH 5 7/8" ROLLER BIT (MUD ROTARY).
2. REFER TO BORING LOG FOR OVERBURDEN STRATIGRAPHY.
3. LOCATION, GROUND SURFACE ELEVATION, AND TOP OF PVC PIPE ELEVATION ARE BASED ON SURVEY PROVIDED BY PHILLIPS AND JORDAN ON 2/27/2017.

**LOCATION:**

NORTHING: 755,376.70  
 EASTING: 2,860,567.46

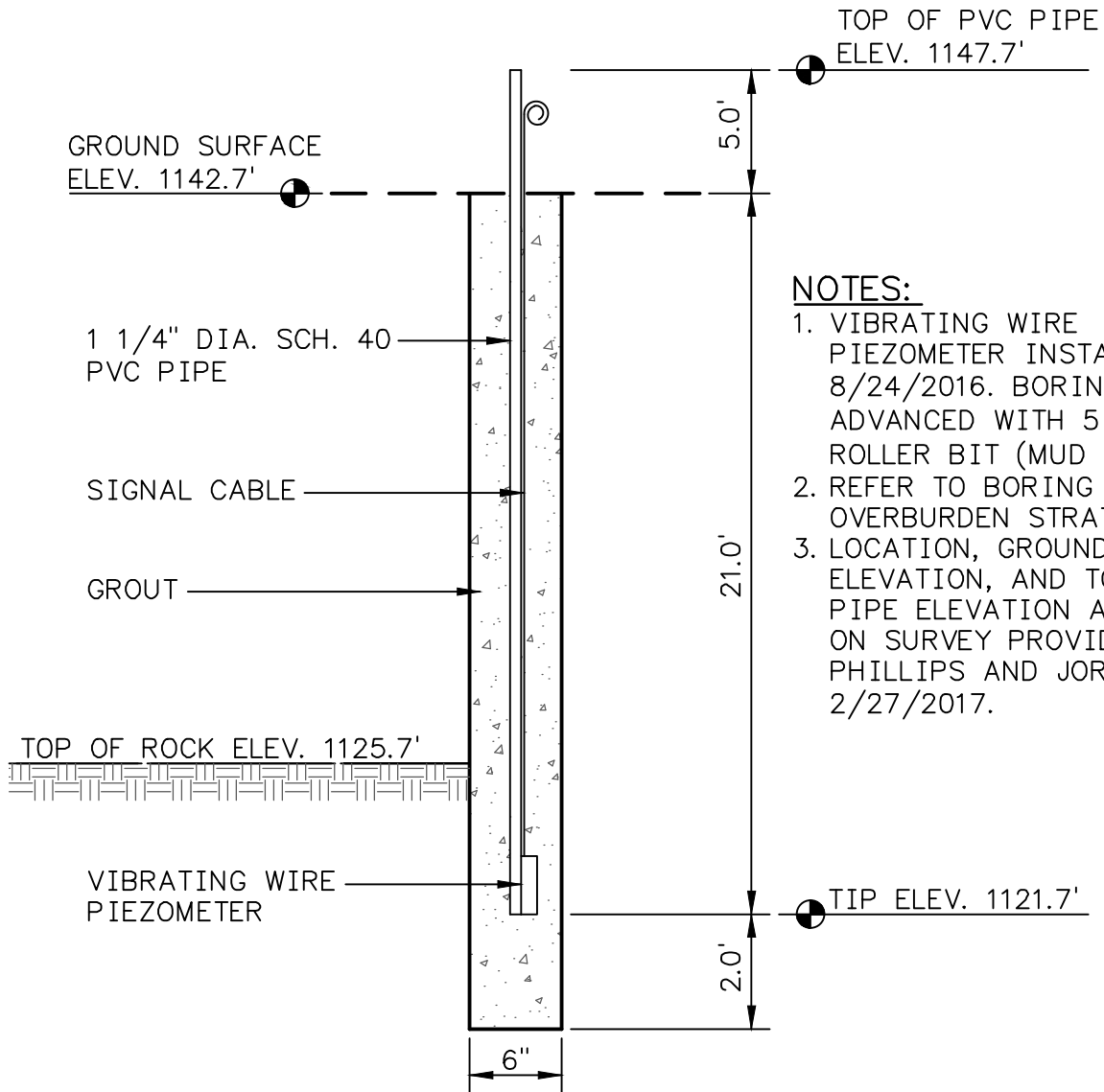
HORIZONTAL DATUM: NAD 83  
 VERTICAL DATUM: NGVD 29

|  |     |                  |               |
|--|-----|------------------|---------------|
| <b>VIBRATING PIEZOMETER - BA-11<br/>BOTTOM ASH POND<br/>JOHN SEVIER FOSSIL PLANT</b> |     |                  |               |
| <b>DRAWN BY</b>  | MRB | <b>DATE</b>      | MAR. 2017     |
| <b>CHECKED BY</b>  | PSS | <b>PROJ. NO.</b> | 175655042     |
| <b>CHECKED BY</b>  | RDF | <b>SCALE</b>     | N.T.S.        |
| <b>REVISED</b>   |     |                  | <b>SHEET</b>  |
| 1.   | -   | 3.               | -             |
| 2.   | -   | 4.               | -             |
|  |     |                  | <b>1 OF 1</b> |

**Stantec**

10509 Timberwood Circle, Suite 100  
 Louisville, Kentucky 40223-5301  
[www.stantec.com](http://www.stantec.com)

PLOT DATE: 03/28/2017 USER: BROADBUSH, MATTHEW  
 V:\1756\ACTIVE\175655042\ENVIRONMENTAL\DRAWING\SHEET\_FILES\INST\_MON\_PRGM\_INSTRUMENTATION\_DETAILS\REV\_1\55042C-USF-301-PZBA-11.DWG



**NOTES:**

1. VIBRATING WIRE PIEZOMETER INSTALLED ON 8/24/2016. BORING ADVANCED WITH 5 7/8" ROLLER BIT (MUD ROTARY).
2. REFER TO BORING LOG FOR OVERBURDEN STRATIGRAPHY.
3. LOCATION, GROUND SURFACE ELEVATION, AND TOP OF PVC PIPE ELEVATION ARE BASED ON SURVEY PROVIDED BY PHILLIPS AND JORDAN ON 2/27/2017.

**LOCATION:**

NORTHING: 754,707.47  
EASTING: 2,860,651.42

HORIZONTAL DATUM: NAD 83  
VERTICAL DATUM: NGVD 29

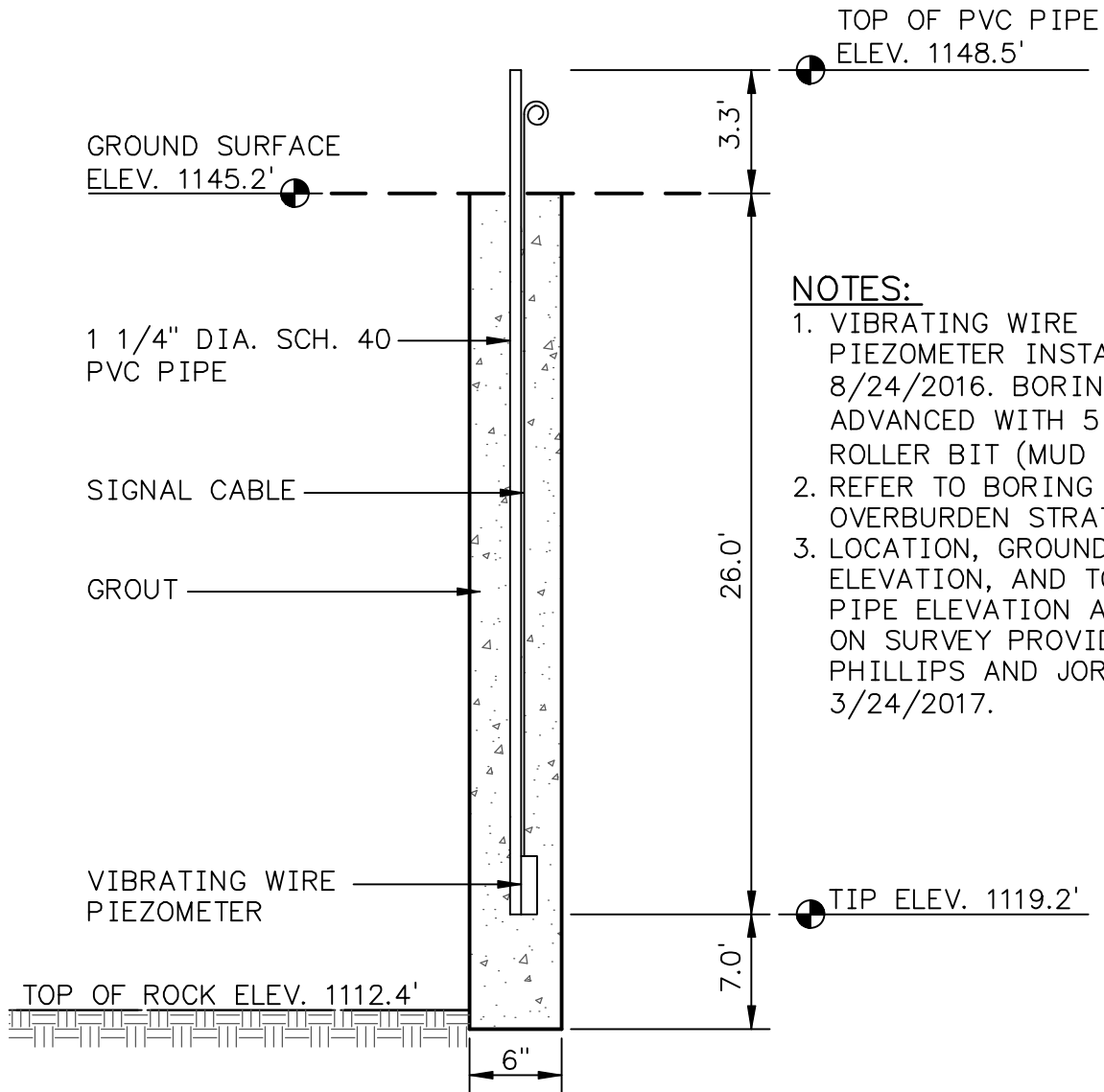
|  |     |                  |               |
|--|-----|------------------|---------------|
| <b>VIBRATING PIEZOMETER - BA-15<br/>BOTTOM ASH POND<br/>JOHN SEVIER FOSSIL PLANT</b> |     |                  |               |
| <b>DRAWN BY</b>  | MRB | <b>DATE</b>      | MAR. 2017     |
| <b>CHECKED BY</b>  | PSS | <b>PROJ. NO.</b> | 175655042     |
| <b>CHECKED BY</b>  | RDF | <b>SCALE</b>     | NTS           |
| <b>REVISED</b>   |     |                  | <b>SHEET</b>  |
| 1.   | -   | 3.               | -             |
| 2.   | -   | 4.               | -             |
|  |     |                  | <b>1 OF 1</b> |

**Stantec**

10509 Timberwood Circle, Suite 100  
Louisville, Kentucky 40223-5301  
www.stantec.com

PLOT DATE: 03/28/2017 USER: BROADBUSH, MATTHEW  
V: \1756\ACTIVE\175655042\ENVIRONMENTAL\DRAWING\SHEET\_FILES\INST\_MON\_PRGM\INSTRUMENTATION\_DETAILS\REV\_1\55042C-USF-301-PZBA-15.DWG





**NOTES:**

1. VIBRATING WIRE PIEZOMETER INSTALLED ON 8/24/2016. BORING ADVANCED WITH 5 7/8" ROLLER BIT (MUD ROTARY).
2. REFER TO BORING LOG FOR OVERBURDEN STRATIGRAPHY.
3. LOCATION, GROUND SURFACE ELEVATION, AND TOP OF PVC PIPE ELEVATION ARE BASED ON SURVEY PROVIDED BY PHILLIPS AND JORDAN ON 3/24/2017.

**LOCATION:**

NORTHING: 755,236.45  
EASTING: 2,860,584.82

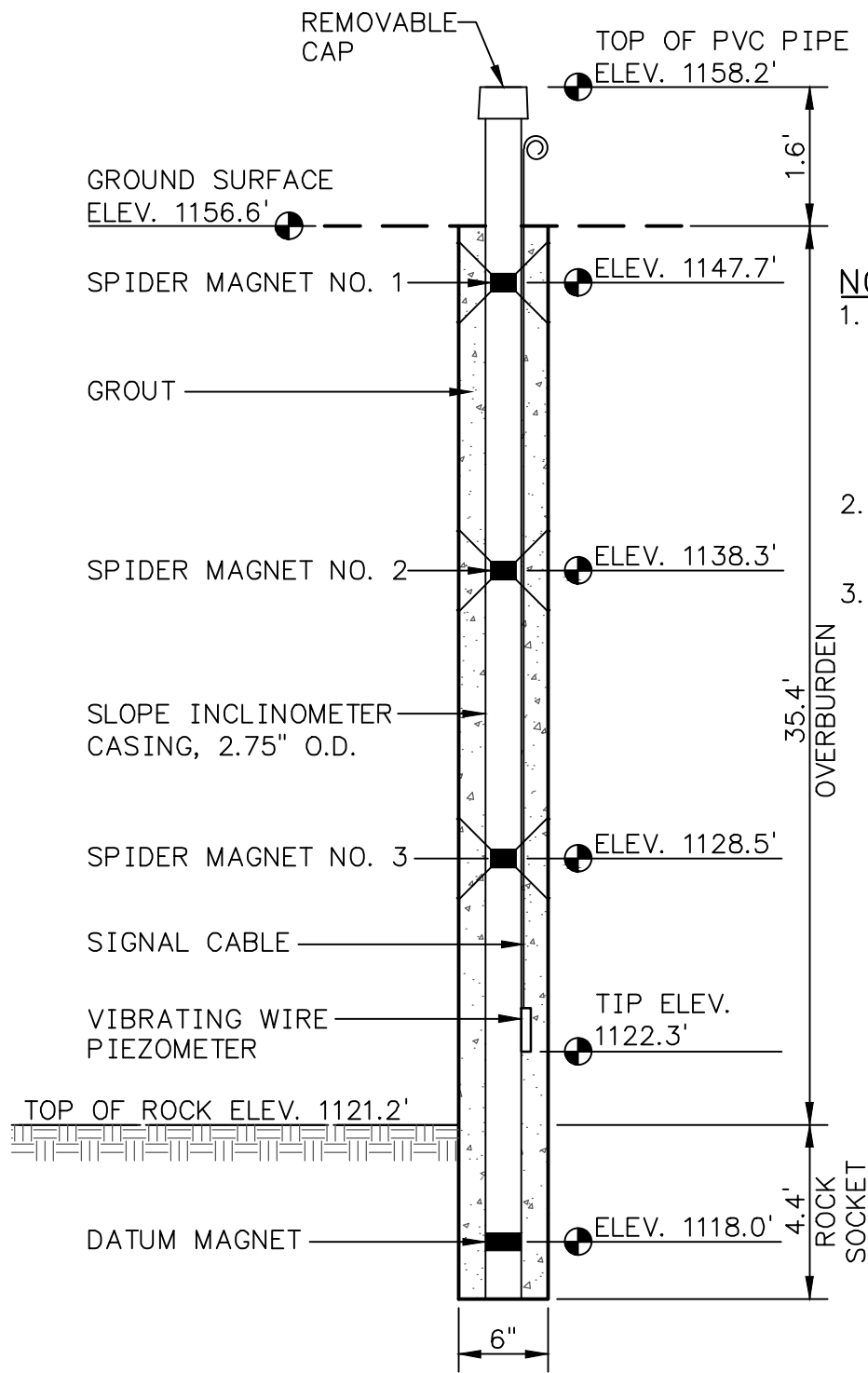
HORIZONTAL DATUM: NAD 83  
VERTICAL DATUM: NGVD 29

|  |     |           |               |
|--|-----|-----------|---------------|
| <b>VIBRATING PIEZOMETER - BA-16<br/>BOTTOM ASH POND<br/>JOHN SEVIER FOSSIL PLANT</b> |     |           |               |
| DRAWN BY   | MRB | DATE      | MAR. 2017     |
| CHECKED BY   | PSS | PROJ. NO. | 175655042     |
| CHECKED BY   | RDF | SCALE     | N.T.S.        |
| REVISED  |     |           | SHEET         |
| 1.   | -   | 3.        | -             |
| 2.   | -   | 4.        | -             |
|  |     |           | <b>1 OF 1</b> |

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PLOT DATE: 09/08/2017 USER: BROADJUS, MATTHEW  
V: \1756\ACTIVE\175655042\ENVIRONMENTAL\DRAWING\SHEET\_FILES\INST\_MON\_PRGM\INSTRUMENTATION\_DETAILS\REV\_1\55042C-USF-301-PZBA-16.DWG



**NOTES:**

1. MAGNETIC EXTENSOMETERS AND VIBRATING WIRE PIEZOMETER INSTALLED ON 8/25/2016. BORING ADVANCED WITH 5 7/8" ROLLER BIT (MUD ROTARY).
2. REFER TO BORING LOG FOR OVERBURDEN AND ROCK STRATIGRAPHY.
3. LOCATION, GROUND SURFACE ELEVATION, AND TOP OF PVC PIPE ELEVATION ARE BASED ON SURVEY PROVIDED BY PHILLIPS AND JORDAN ON 3/24/2017.

**LOCATION:**

NORTHING: 755,007.09  
 EASTING: 2,860,613.06

HORIZONTAL DATUM: NAD 83  
 VERTICAL DATUM: NGVD 29

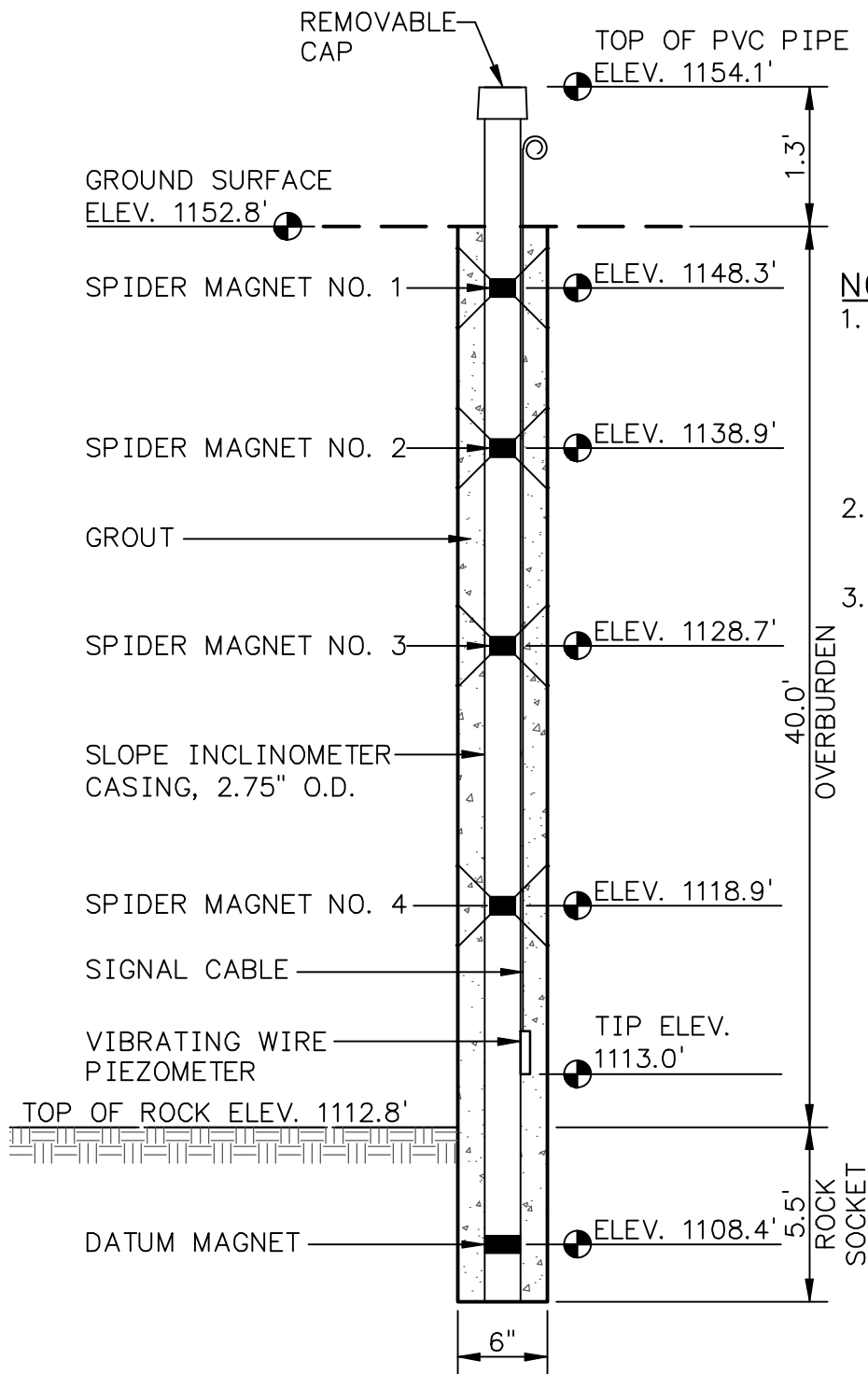
**MAGNETIC EXTENSOMETER AND PIEZOMETER - BA-17  
 BOTTOM ASH POND  
 JOHN SEVIER FOSSIL PLANT**



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|------------|-----|-----------|---------------|
| DRAWN BY   | MRB | DATE      | MAR. 2017     |
| CHECKED BY | PSS | PROJ. NO. | 175655042     |
| CHECKED BY | RDF | SCALE     | N.T.S.        |
| REVISED    |     |           | SHEET         |
| 1.         | -   | 3.        | -             |
| 2.         | -   | 4.        | -             |
|            |     |           | <b>1 OF 1</b> |

PLOT DATE: 03/28/2017 USER: BROADBENT, MATTHEW  
 V:\1756\ACTIVE\175655042\ENVIRONMENTAL\DRAWING\SHEET\_FILES\INST\_MON\_PRGM\INSTRUMENTATION\_DETAILS\REV\_1\55042C-USF-301-PZBA-17.DWG



**NOTES:**

1. MAGNETIC EXTENSOMETERS AND VIBRATING WIRE PIEZOMETER INSTALLED ON 8/25/2016. BORING ADVANCED WITH 5 7/8" ROLLER BIT (MUD ROTARY).
2. REFER TO BORING LOG FOR OVERBURDEN AND ROCK STRATIGRAPHY.
3. LOCATION, GROUND SURFACE ELEVATION, AND TOP OF PVC PIPE ELEVATION ARE BASED ON SURVEY PROVIDED BY PHILLIPS AND JORDAN ON 3/24/2017.

**LOCATION:**

NORTHING: 755,188.35  
 EASTING: 2,861,084.62

HORIZONTAL DATUM: NAD 83  
 VERTICAL DATUM: NGVD 29

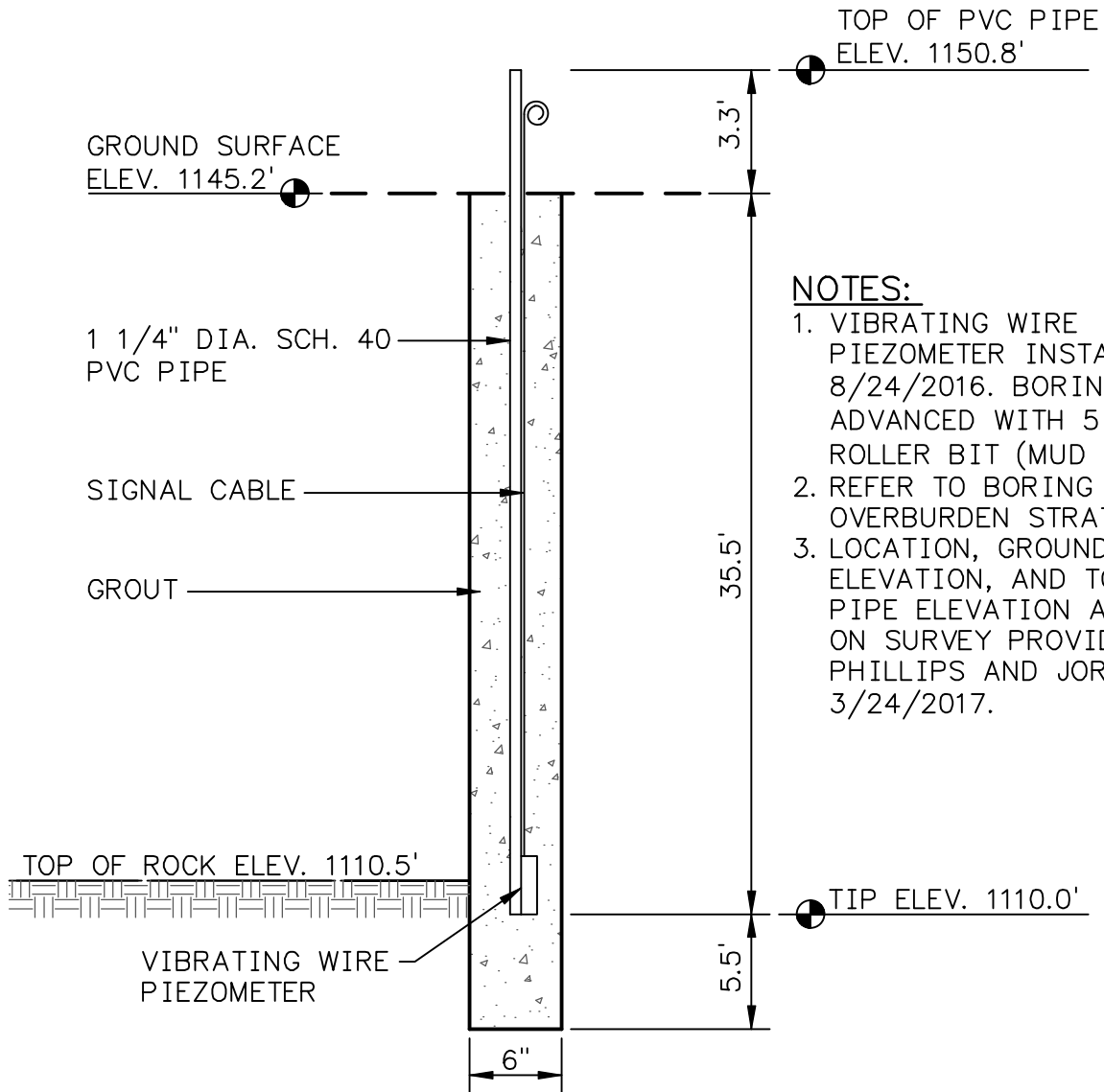
**MAGNETIC EXTENSOMETER AND PIEZOMETER - BA-18  
 BOTTOM ASH POND  
 JOHN SEVIER FOSSIL PLANT**



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|------------|-----|-----------|---------------|
| DRAWN BY   | MRB | DATE      | MAR. 2017     |
| CHECKED BY | PSS | PROJ. NO. | 175655042     |
| CHECKED BY | RDF | SCALE     | N.T.S.        |
| REVISED    |     |           | SHEET         |
| 1.         | -   | 3.        | -             |
| 2.         | -   | 4.        | -             |
|            |     |           | <b>1 OF 1</b> |

PLOT DATE: 09/08/2017 USER: LAWRENCE, THOMAS \\US1269-F01\WORKGROUP\1756\ACTIVE\175655042\ENVIRONMENTAL\DRAWING\SHEET\_FILES\INST\_MON\_PRGM\INSTRUMENTATION\_DETAILS\REV\_1\55042C-USF-301-PZBA-18.DWG



**NOTES:**

1. VIBRATING WIRE PIEZOMETER INSTALLED ON 8/24/2016. BORING ADVANCED WITH 5 7/8" ROLLER BIT (MUD ROTARY).
2. REFER TO BORING LOG FOR OVERBURDEN STRATIGRAPHY.
3. LOCATION, GROUND SURFACE ELEVATION, AND TOP OF PVC PIPE ELEVATION ARE BASED ON SURVEY PROVIDED BY PHILLIPS AND JORDAN ON 3/24/2017.

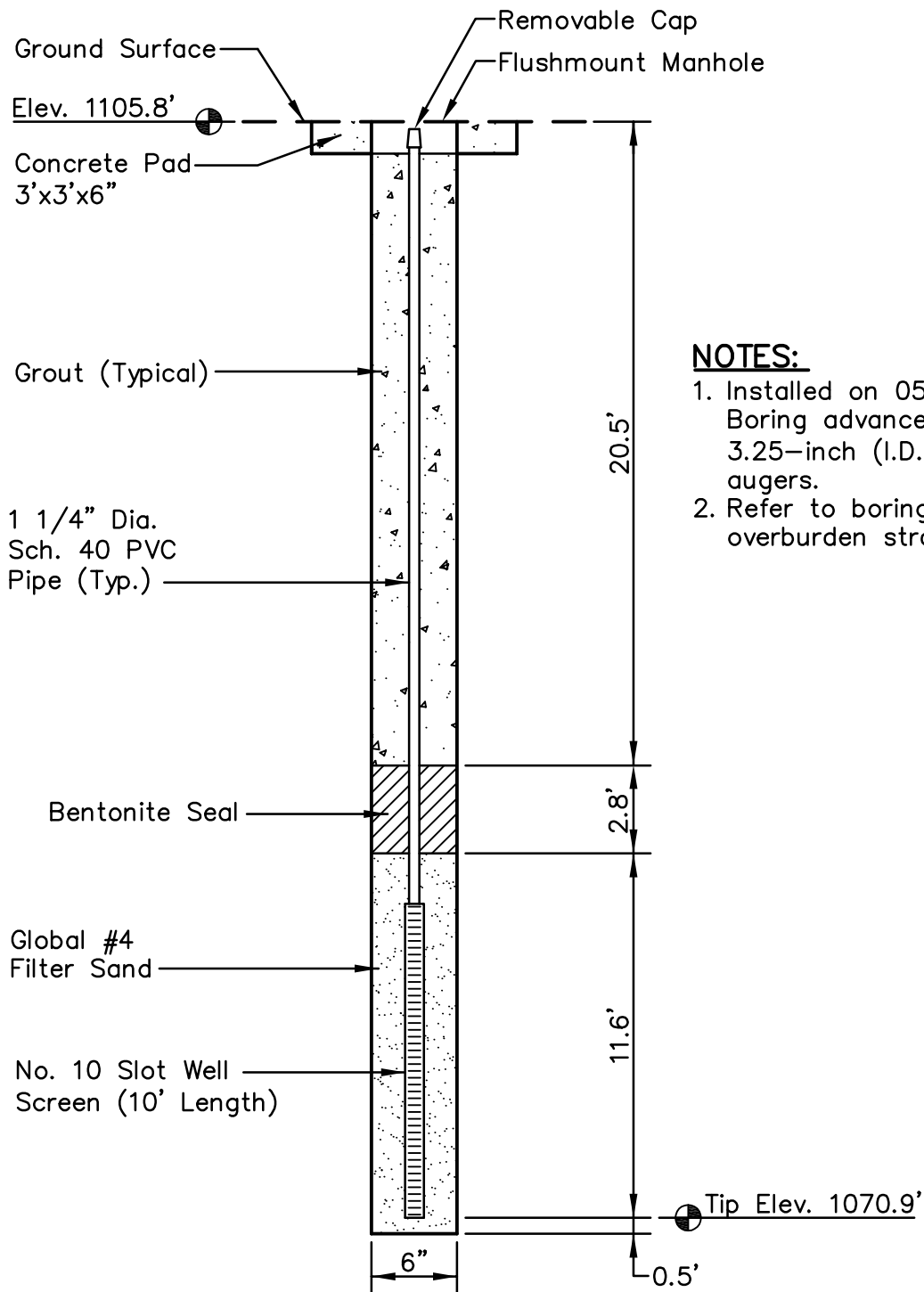
**LOCATION:**

NORTHING: 755,351.34  
 EASTING: 2,861,497.79

HORIZONTAL DATUM: NAD 83  
 VERTICAL DATUM: NGVD 29

|  |   |            |     |               |           |
|--|---|------------|-----|---------------|-----------|
| <b>VIBRATING PIEZOMETER - BA-19</b>  |   |            |     |               |           |
| <b>BOTTOM ASH POND</b>   |   |            |     |               |           |
| <b>JOHN SEVIER FOSSIL PLANT</b>  |   |            |     |               |           |
| <br><b>Stantec</b>   |   | DRAWN BY   | MRB | DATE          | MAR. 2017 |
|  |   | CHECKED BY | PSS | PROJ. NO.     | 175655042 |
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|  |   | REVISED    |     |               | SHEET     |
| 1.   | - | 3.         | -   | <b>1 OF 1</b> |           |
| 2.   | - | 4.         | -   |               |           |

PLOT DATE: 03/28/2017 USER: BROADBUSH, MATTHEW V:\1756\ACTIVE\175655042\ENVIRONMENTAL\DRAWING\SHEET\_FILES\INST\_MON\_PRGM\INSTRUMENTATION\_DETAILS\REV\_1\55042C-USF-301-PZBA-19.DWG



**NOTES:**

1. Installed on 05/12/2009. Boring advanced with 3.25-inch (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-PZJP3.DWG

**LOCATION:**

Northing: 733,483.09  
 Easting: 2,886,974.16  
 Ground Elevation: 1105.8 feet

Locations provided by TVA,  
 Power Systems Operations,  
 Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER JP-3**  
**JOHN SEVIER FOSSIL PLANT**  
**J-POND**

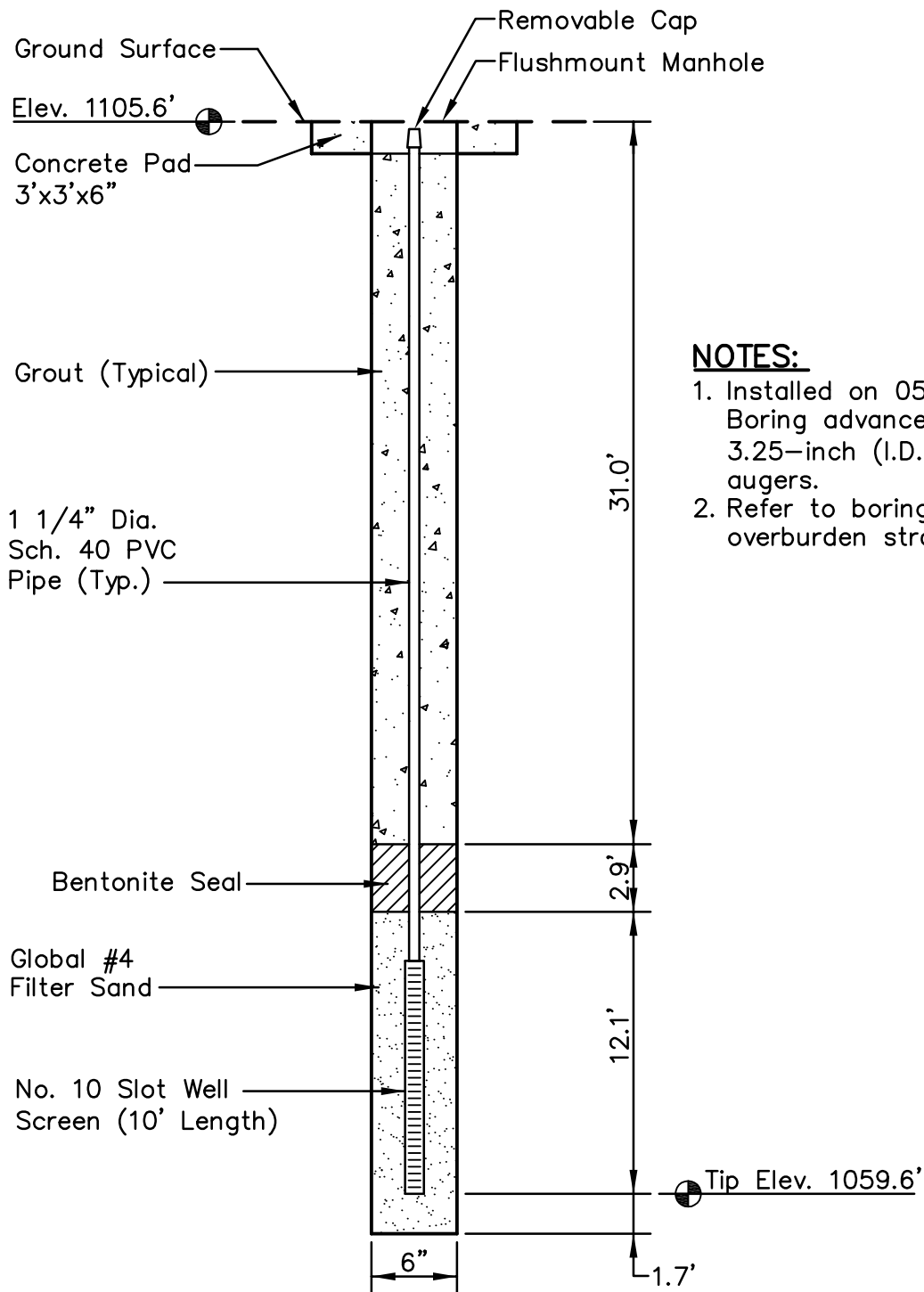


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|------------|-----|-----------|------------|---------|----|--------|
| DRAWN BY   | RWE | DATE      | NOV., 2009 | REVISED |    | SHEET  |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. | 1 OF 1 |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |        |



**NOTES:**

1. Installed on 05/12/2009. Boring advanced with 3.25-inch (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-PZJP4.DWG

**LOCATION:**

Northing: 733,323.27  
 Easting: 2,886,393.14  
 Ground Elevation: 1105.6 feet

Locations provided by TVA, Power Systems Operations, Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER JP-4  
 JOHN SEVIER FOSSIL PLANT  
 J-POND**



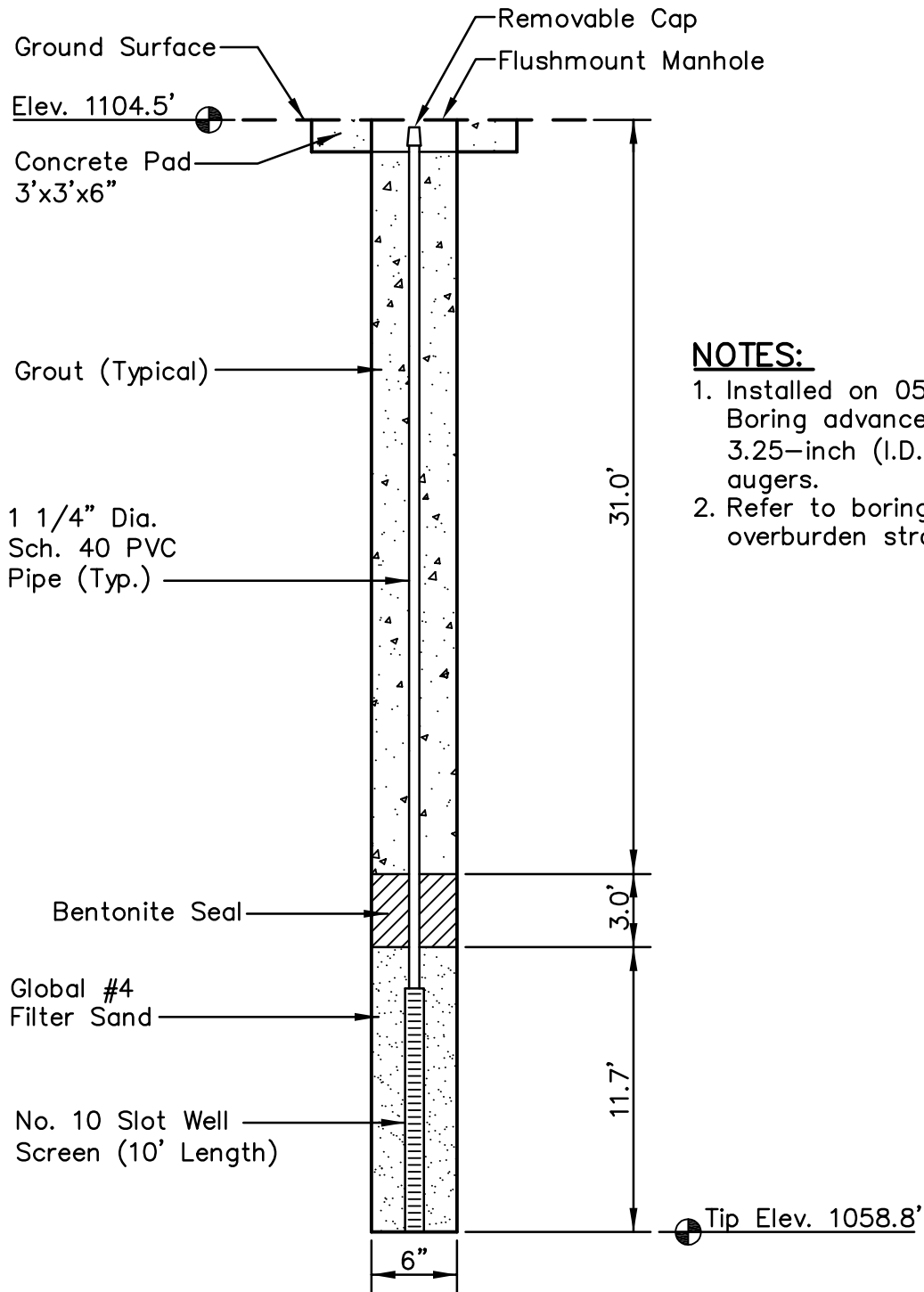
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|------------|-----|-----------|------------|---------|----|-------|
| DRAWN BY   | RWE | DATE      | Nov., 2009 | REVISED |    | SHEET |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. |       |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |       |

**1 OF 1**



**NOTES:**

1. Installed on 05/13/2009. Boring advanced with 3.25-inch (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-PZJP5.DWG

**LOCATION:**

Northing: 732,679.06  
 Easting: 2,886,045.57  
 Ground Elevation: 1104.5 feet

Locations provided by TVA, Power Systems Operations, Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER JP-5  
 JOHN SEVIER FOSSIL PLANT  
 J-POND**



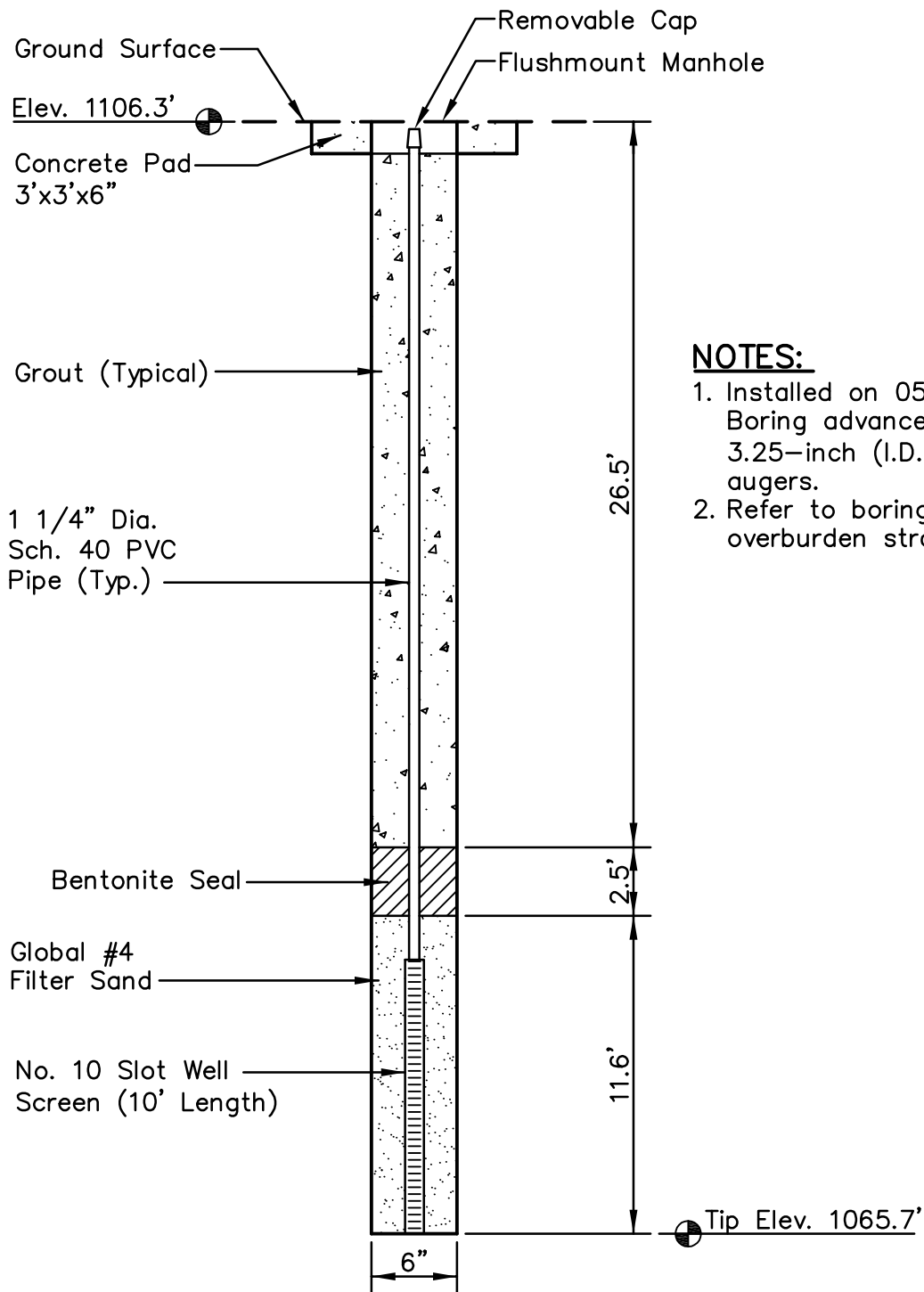
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| DRAWN BY   | RWE | DATE      | NOV., 2009 | REVISED |    | SHEET |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. |       |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |       |

**1 OF 1**



**NOTES:**

1. Installed on 05/13/2009. Boring advanced with 3.25-inch (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-PZJP6.DWG

**LOCATION:**

Northing: 732,862.78  
 Easting: 2,886,526.80  
 Ground Elevation: 1106.3 feet

Locations provided by TVA,  
 Power Systems Operations,  
 Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER JP-6**  
**JOHN SEVIER FOSSIL PLANT**  
**J-POND**



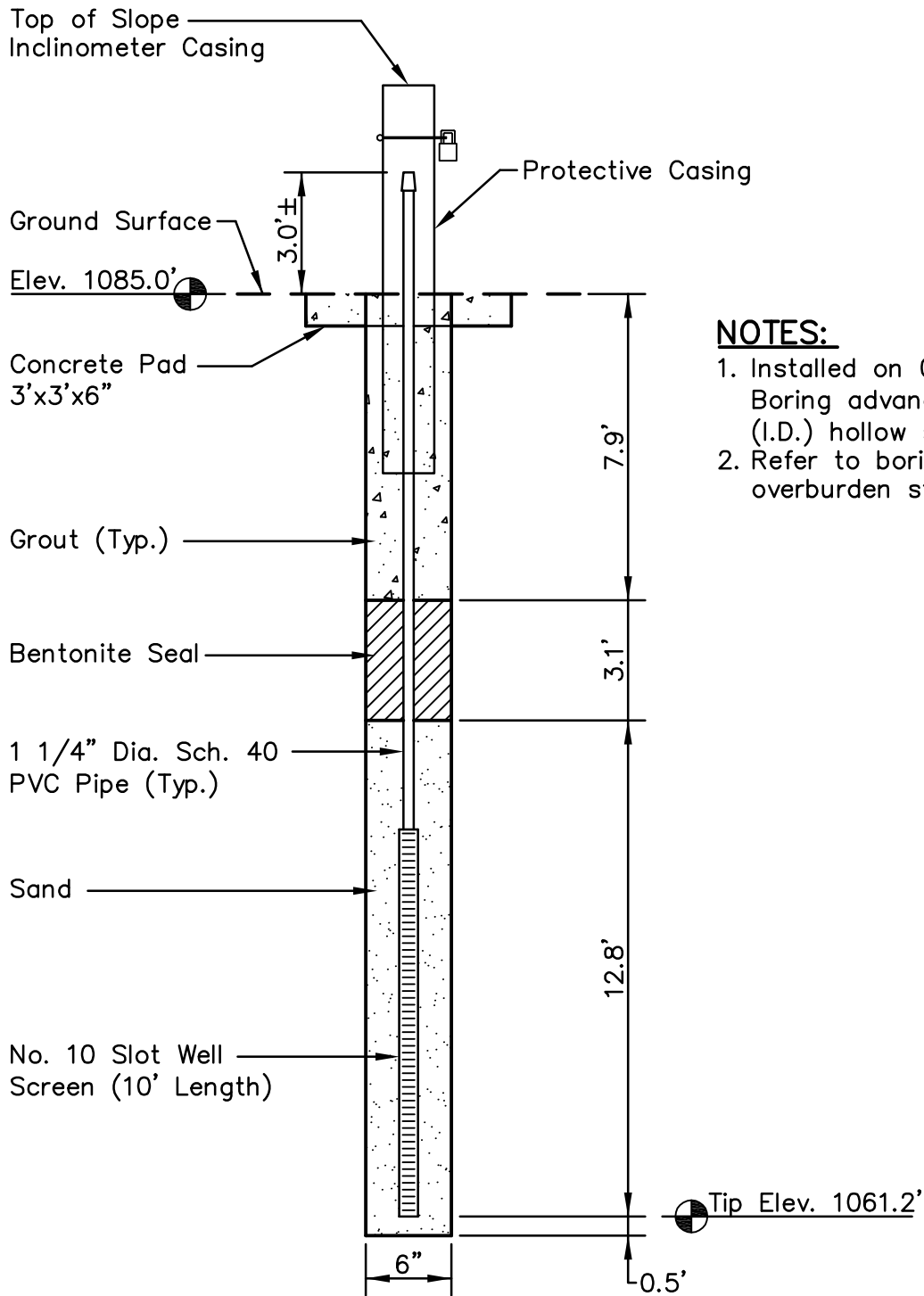
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| DRAWN BY   | RWE | DATE      | NOV., 2009 | REVISED |    | SHEET  |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. | 1 OF 1 |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |        |





**NOTES:**

1. Installed on 04/17/2009. Boring advanced with 3.25" (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-PZJS10.DWG

**LOCATION:**

Northing: 736,877.33  
 Easting: 2,892,782.32  
 Ground Elevation: 1085.0 feet

Locations provided by TVA,  
 Power Systems Operations,  
 Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER JS-10**  
**JOHN SEVIER FOSSIL PLANT**  
**MAIN ASH STACK**

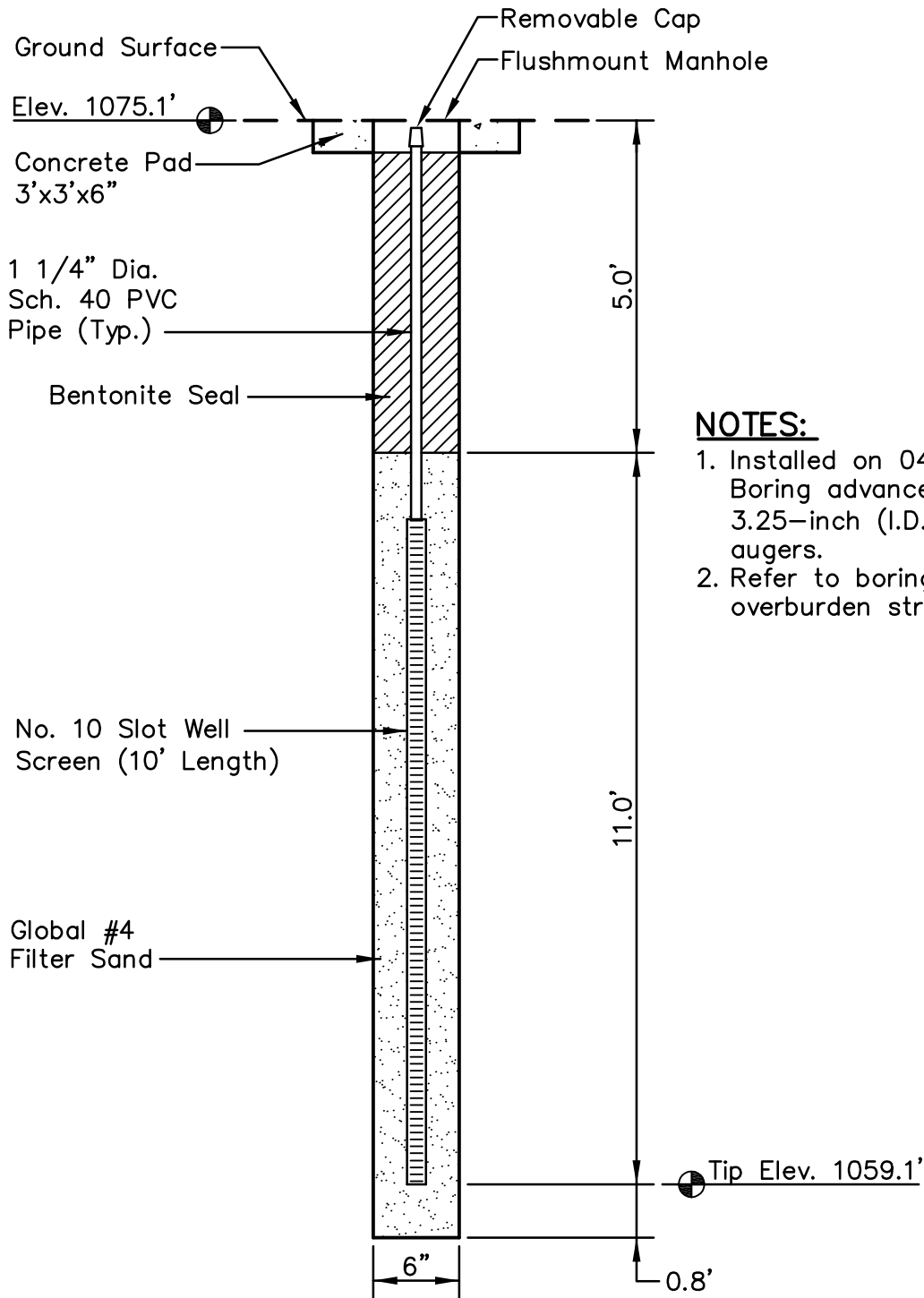


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|------------|-----|-----------|------------|---------|----|--------|
| DRAWN BY   | JRF | DATE      | NOV., 2009 | REVISED |    | SHEET  |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. | 1 OF 1 |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |        |



**NOTES:**

1. Installed on 04/16/2009. Boring advanced with 3.25-inch (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-FZJS23.DWG

**LOCATION:**

Northing: 736,562.81  
 Easting: 2,891,652.34  
 Ground Elevation: 1075.1 feet

Locations provided by TVA,  
 Power Systems Operations,  
 Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER JS-23**  
**JOHN SEVIER FOSSIL PLANT**  
**MAIN ASH STACK**

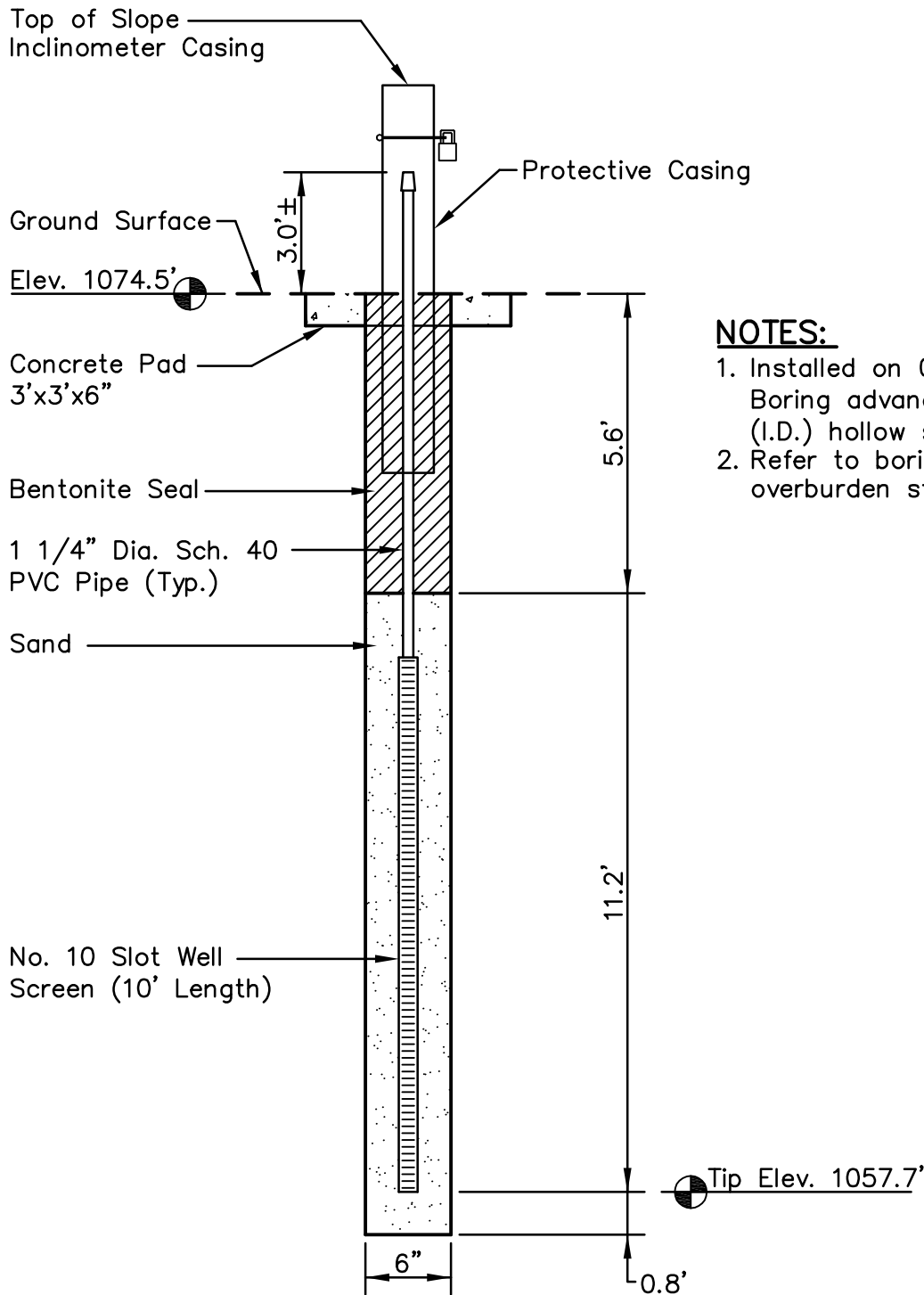


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|------------|-----|-----------|------------|---------|----|--------|
| DRAWN BY   | RWE | DATE      | NOV., 2009 | REVISED |    | SHEET  |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. | 1 OF 1 |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |        |



**NOTES:**

1. Installed on 04/15/2009. Boring advanced with 3.25" (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-PZJS28.DWG

**LOCATION:**

Northing: 736,010.84  
 Easting: 2,891,176.23  
 Ground Elevation: 1074.5 feet

Locations provided by TVA,  
 Power Systems Operations,  
 Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER JS-28**  
**JOHN SEVIER FOSSIL PLANT**  
**MAIN ASH STACK**

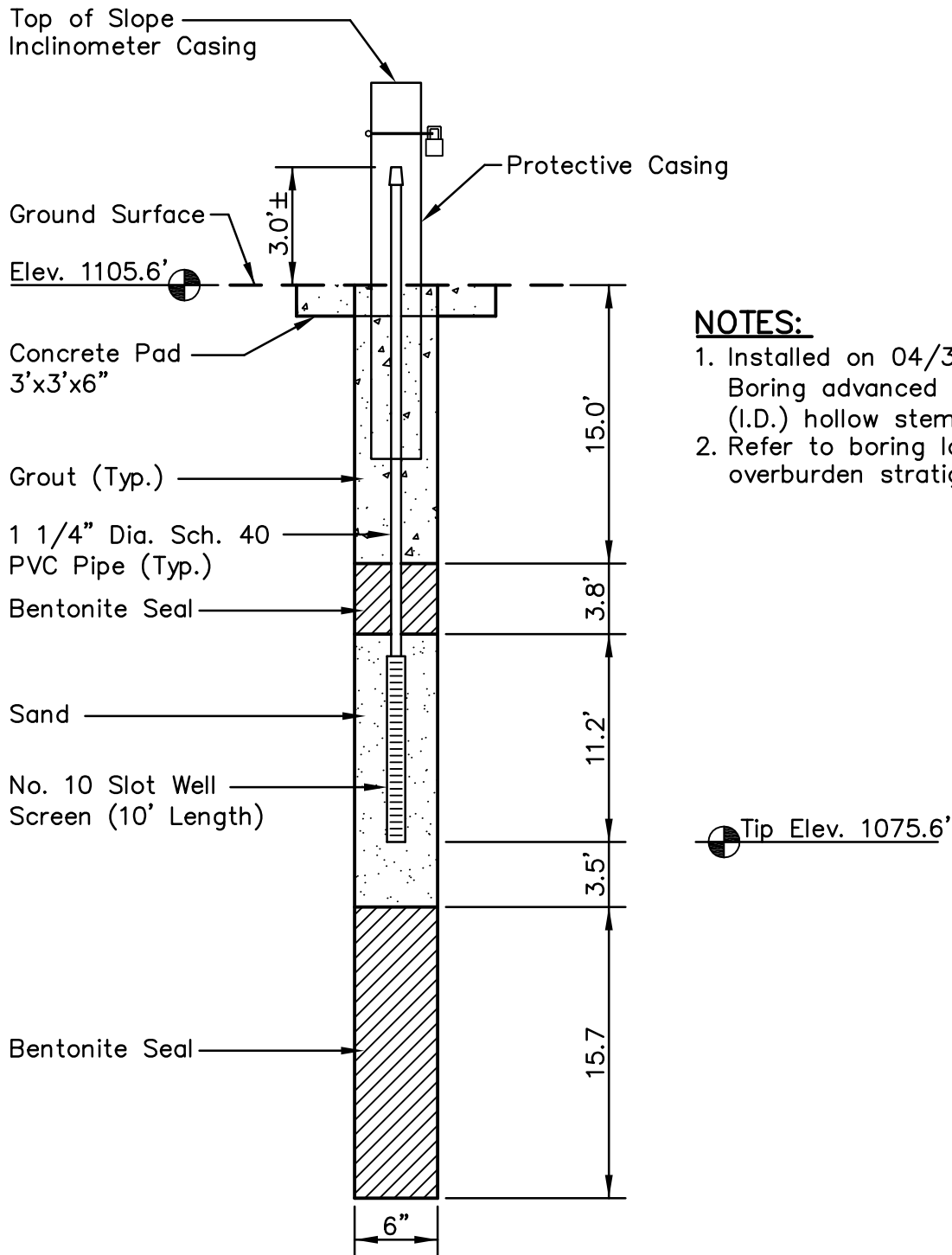


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|------------|-----|-----------|------------|---------|----|--------|
| DRAWN BY   | JRF | DATE      | NOV., 2009 | REVISED |    | SHEET  |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. | 1 OF 1 |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |        |



**NOTES:**

1. Installed on 04/30/2009. Boring advanced with 3.25" (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-PZJS30.DWG

**LOCATION:**

Northing: 735,899.72  
 Easting: 2,891,288.23  
 Ground Elevation: 1105.6 feet

Locations provided by TVA,  
 Power Systems Operations,  
 Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER JS-30**  
**JOHN SEVIER FOSSIL PLANT**  
**MAIN ASH STACK**

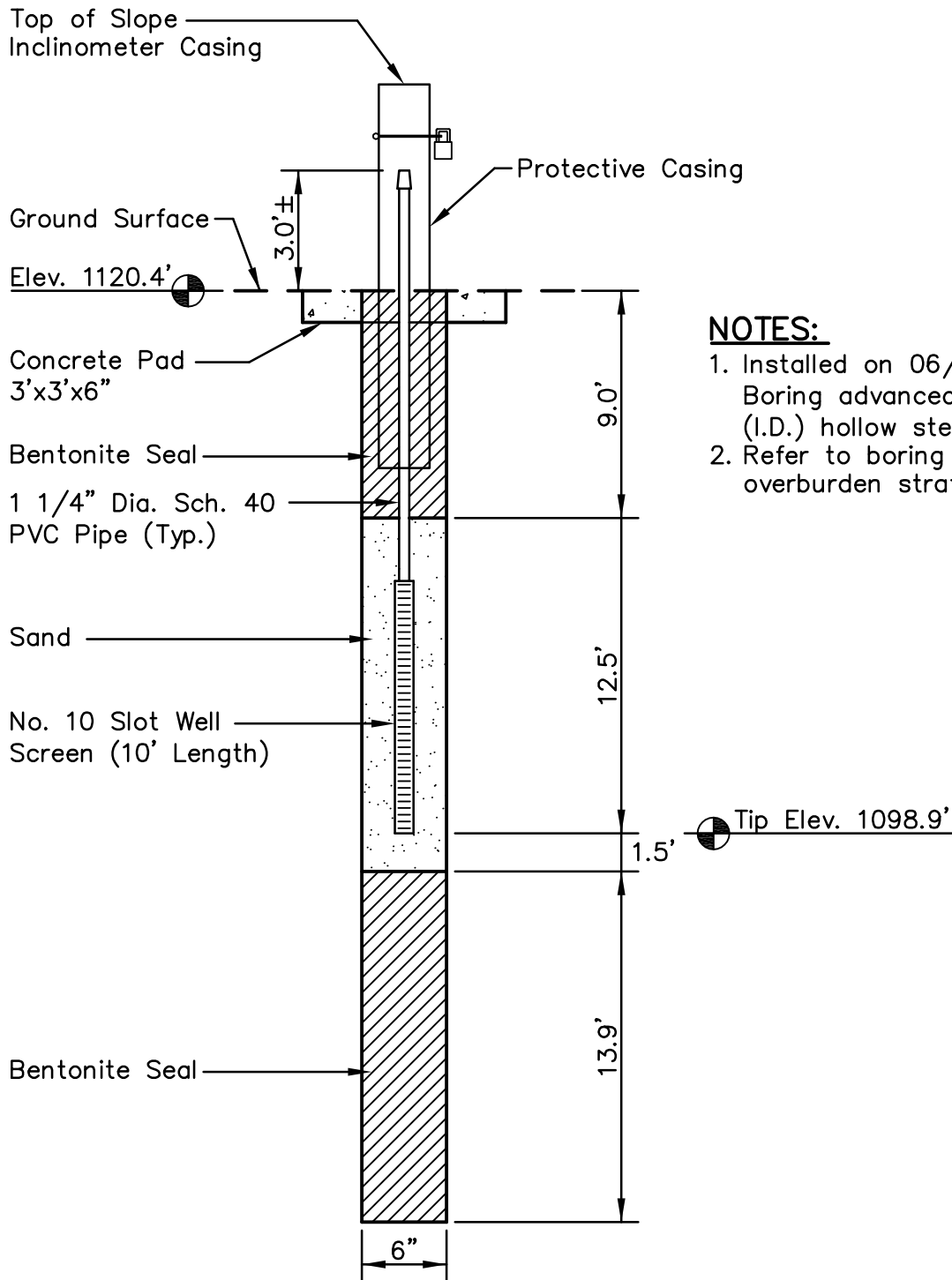


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| DRAWN BY   | JRF | DATE      | NOV., 2009 |    | REVISED |    | SHEET         |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1. |         | 3. | <b>1 OF 1</b> |
| CHECKED BY | AAC | SCALE     | NTS        | 2. |         | 4. |               |



**NOTES:**

1. Installed on 06/03/2009. Boring advanced with 3.25" (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

**LOCATION:**

Northing: 735,045.58  
 Easting: 2,892,079.28  
 Ground Elevation: 1120.4 feet

Locations provided by TVA,  
 Power Systems Operations,  
 Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER JS-34C**  
**JOHN SEVIER FOSSIL PLANT**  
**MAIN ASH STACK**



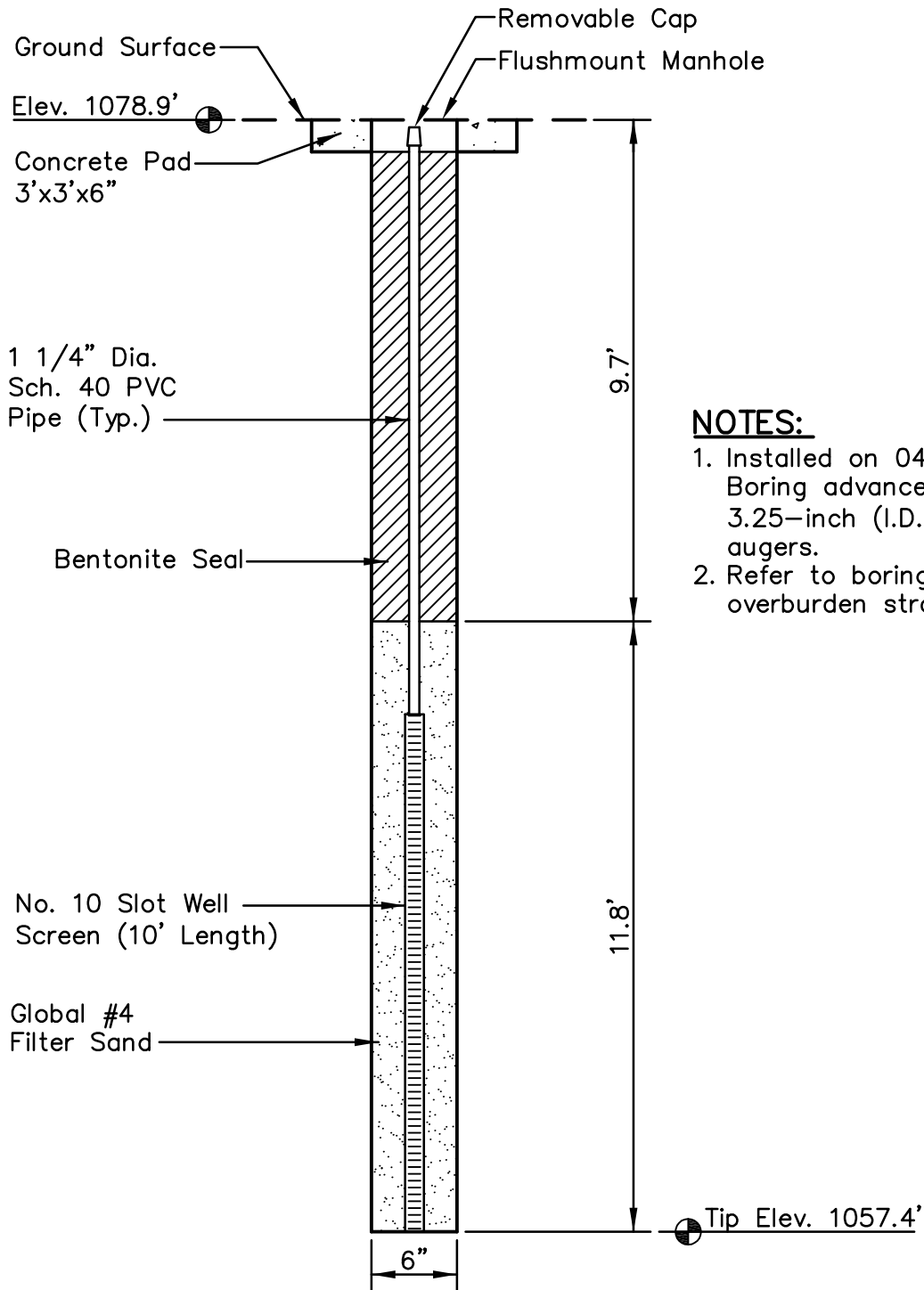
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|------------|-----|-----------|------------|---------|----|--------|
| DRAWN BY   | JRF | DATE      | NOV., 2009 | REVISED |    | SHEET  |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. | 1 OF 1 |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |        |

PLOT DATE: 10/21/2009 USER: FLYNN, RENE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-PZJS34C.DWG



**NOTES:**

1. Installed on 04/14/2009. Boring advanced with 3.25-inch (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-PZJS35.DWG

**LOCATION:**

Northing: 735,547.59  
 Easting: 2,890,689.83  
 Ground Elevation: 1078.9 feet

Locations provided by TVA,  
 Power Systems Operations,  
 Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER JS-35**  
**JOHN SEVIER FOSSIL PLANT**  
**MAIN ASH STACK**

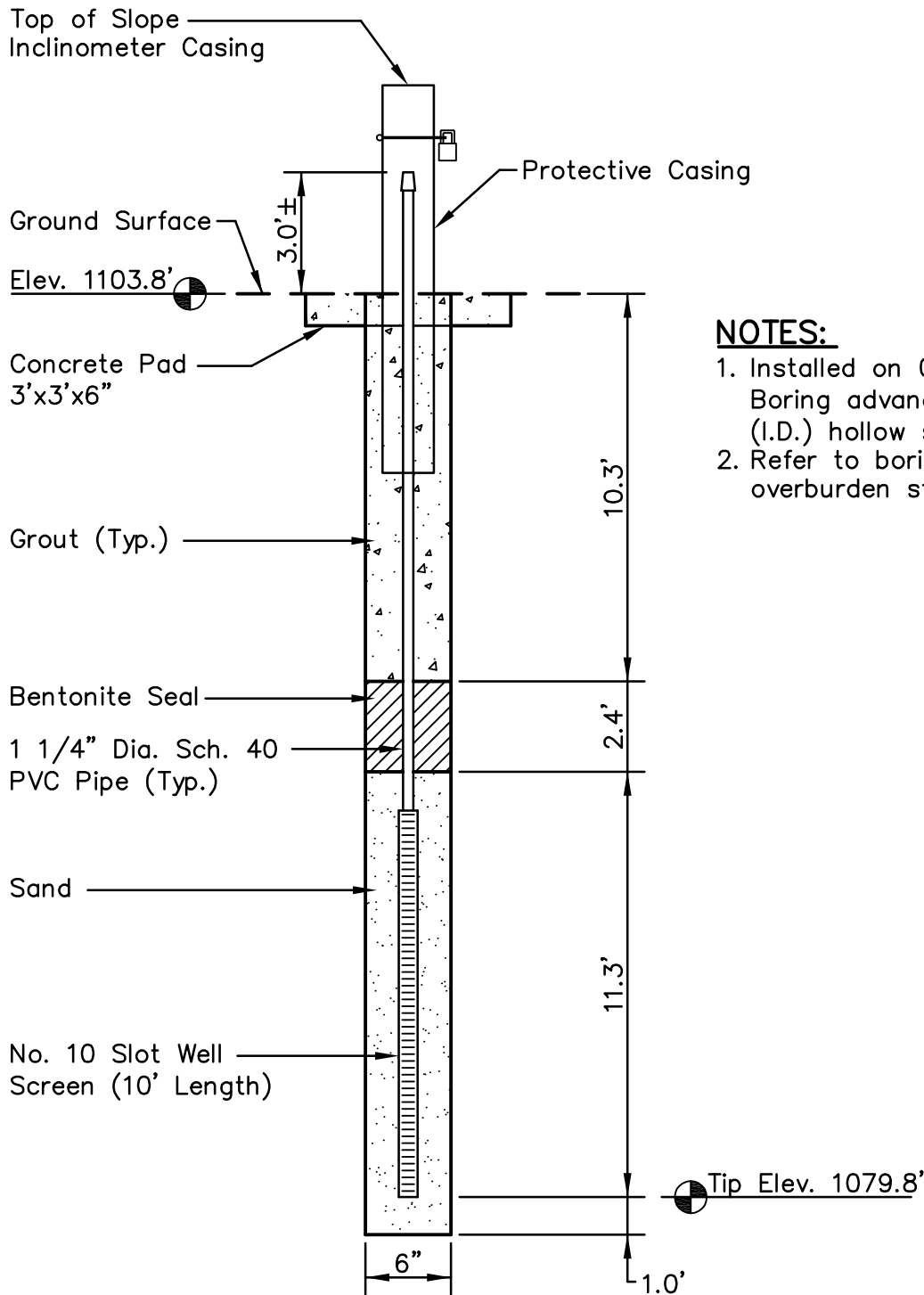


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|------------|-----|-----------|------------|---------|----|--------|
| DRAWN BY   | RWE | DATE      | NOV., 2009 | REVISED |    | SHEET  |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. | 1 OF 1 |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |        |



**NOTES:**

1. Installed on 04/18/2009. Boring advanced with 3.25" (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-PZJS37.DWG

**LOCATION:**

Northing: 735,429.18  
 Easting: 2,890,784.99  
 Ground Elevation: 1103.8 feet

Locations provided by TVA,  
 Power Systems Operations,  
 Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER JS-37**  
**JOHN SEVIER FOSSIL PLANT**  
**MAIN ASH STACK**

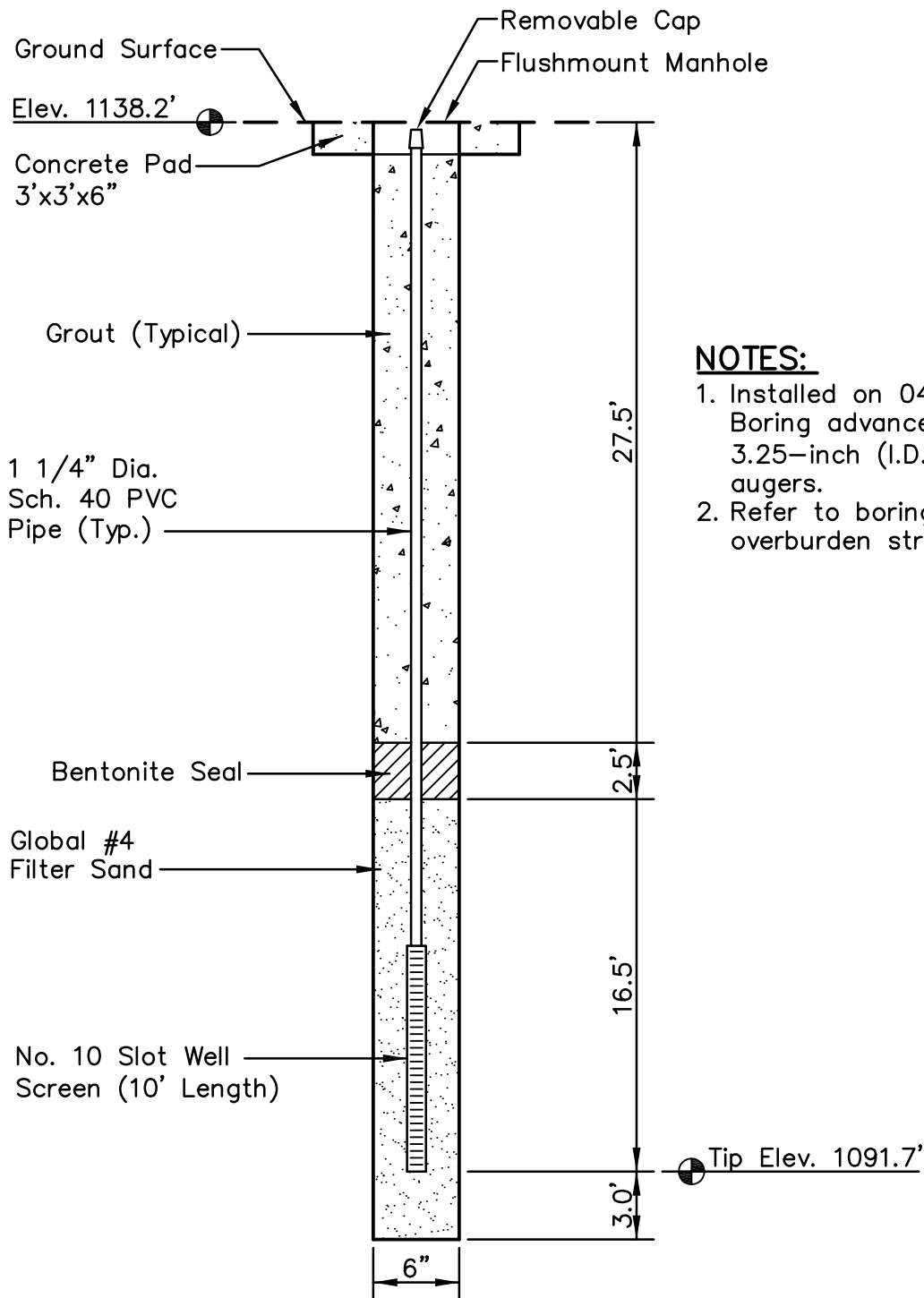


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|------------|-----|-----------|------------|---------|----|--------|
| DRAWN BY   | JRF | DATE      | NOV., 2009 | REVISED |    | SHEET  |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. | 1 OF 1 |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |        |



**NOTES:**

1. Installed on 04/17/2009. Boring advanced with 3.25-inch (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-USF-301-FZJS42.DWG

**LOCATION:**

Northing: 734,710.66  
 Easting: 2,891,295.11  
 Ground Elevation: 1138.2 feet

Locations provided by TVA,  
 Power Systems Operations,  
 Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER JS-42**  
**JOHN SEVIER FOSSIL PLANT**  
**MAIN ASH STACK**



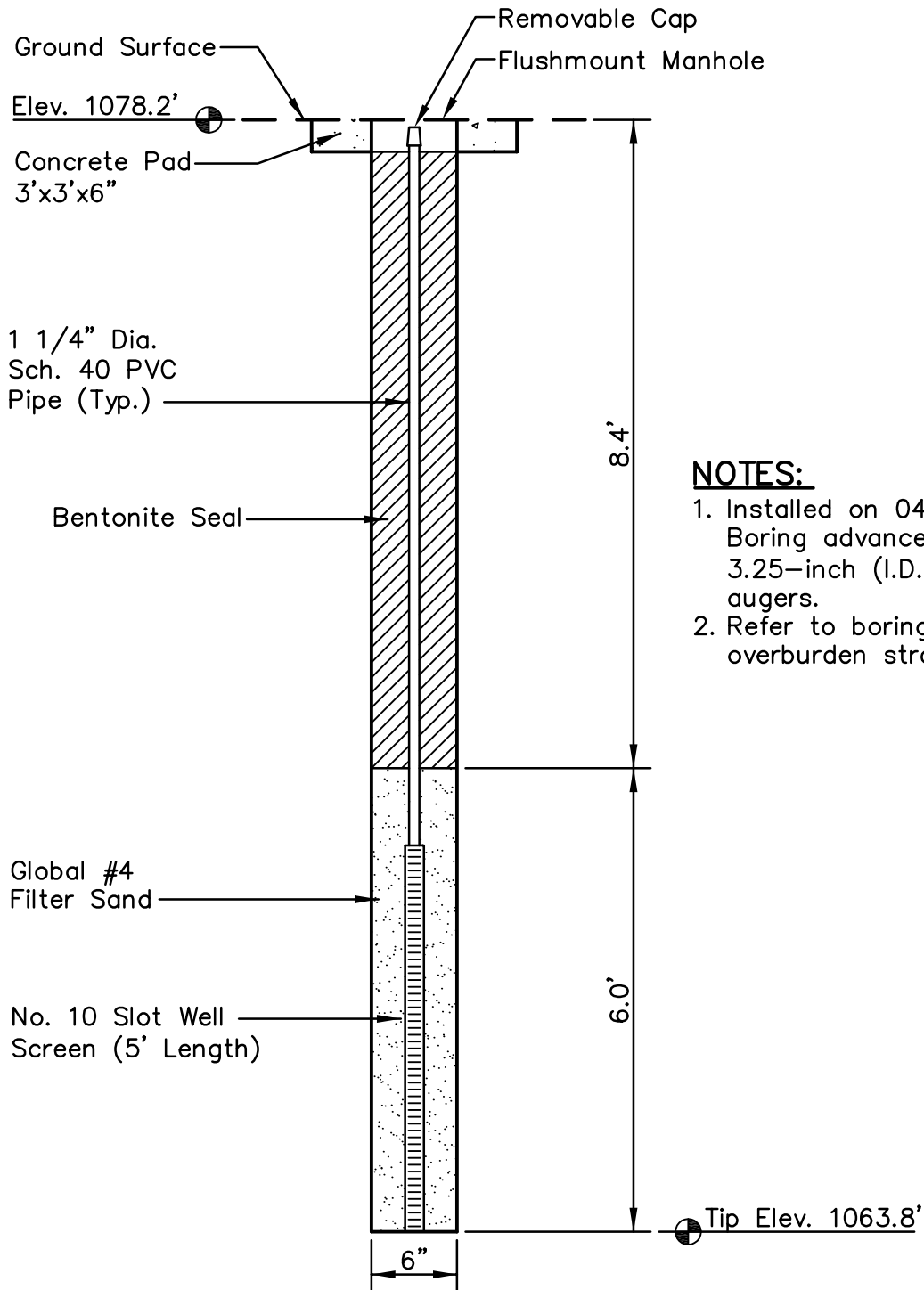
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|            |     |           |            |    |         |    |               |
|------------|-----|-----------|------------|----|---------|----|---------------|
| DRAWN BY   | RWE | DATE      | NOV., 2009 |    | REVISED |    | SHEET         |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1. |         | 3. | <b>1 OF 1</b> |
| CHECKED BY | AAC | SCALE     | NTS        | 2. |         | 4. |               |





**NOTES:**

1. Installed on 04/14/2009. Boring advanced with 3.25-inch (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE  
V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-PZJS47.DWG

**LOCATION:**

Northing: 735,013.36  
Easting: 2,890,001.65  
Ground Elevation: 1078.2 feet

Locations provided by TVA,  
Power Systems Operations,  
Surveying and Project Services.  
Horizontal Datum: NAD 27  
Vertical Datum: NGVD29

**PIEZOMETER JS-47  
JOHN SEVIER FOSSIL PLANT  
MAIN ASH STACK**

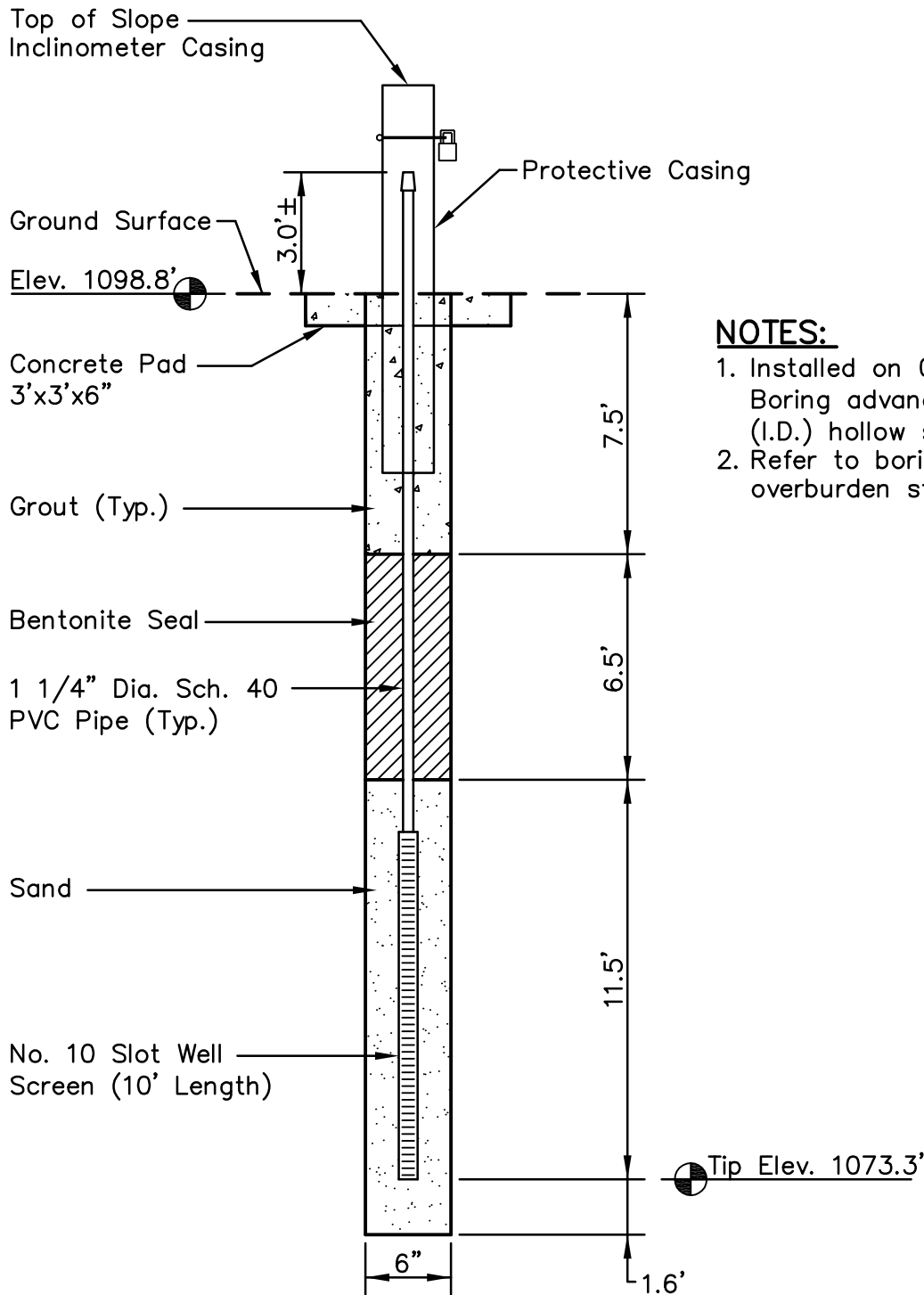


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|------------|-----|-----------|------------|---------|----|--------|
| DRAWN BY   | RWE | DATE      | NOV., 2009 | REVISED |    | SHEET  |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. | 1 OF 1 |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |        |



**NOTES:**

1. Installed on 04/30/2009. Boring advanced with 3.25" (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-PZJS49.DWG

**LOCATION:**

Northing: 734,898.66  
 Easting: 2,890,091.75  
 Ground Elevation: 1098.8 feet

Locations provided by TVA,  
 Power Systems Operations,  
 Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER JS-49**  
**JOHN SEVIER FOSSIL PLANT**  
**MAIN ASH STACK**



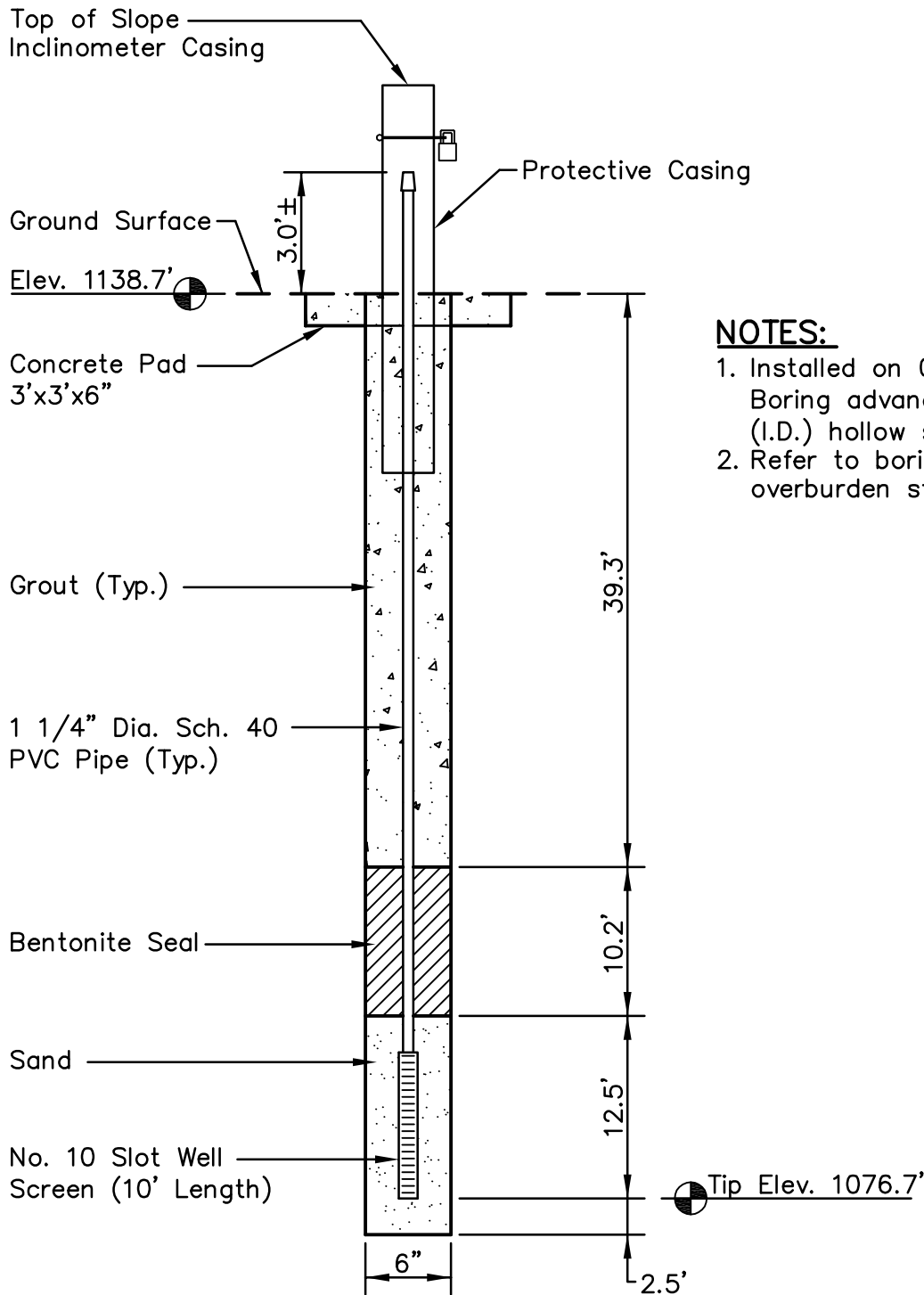
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|------------|-----|-----------|------------|---------|-------|
| DRAWN BY   | JRF | DATE      | NOV., 2009 | REVISED | SHEET |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3.    |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4.    |

1 OF 1



**NOTES:**

1. Installed on 04/21/2009. Boring advanced with 3.25" (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-USF-301-PZJS50.DWG

**LOCATION:**

Northing: 734,760.24  
 Easting: 2,890,196.57  
 Ground Elevation: 1138.7 feet

Locations provided by TVA,  
 Power Systems Operations,  
 Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER JS-50  
 JOHN SEVIER FOSSIL PLANT  
 MAIN ASH STACK**

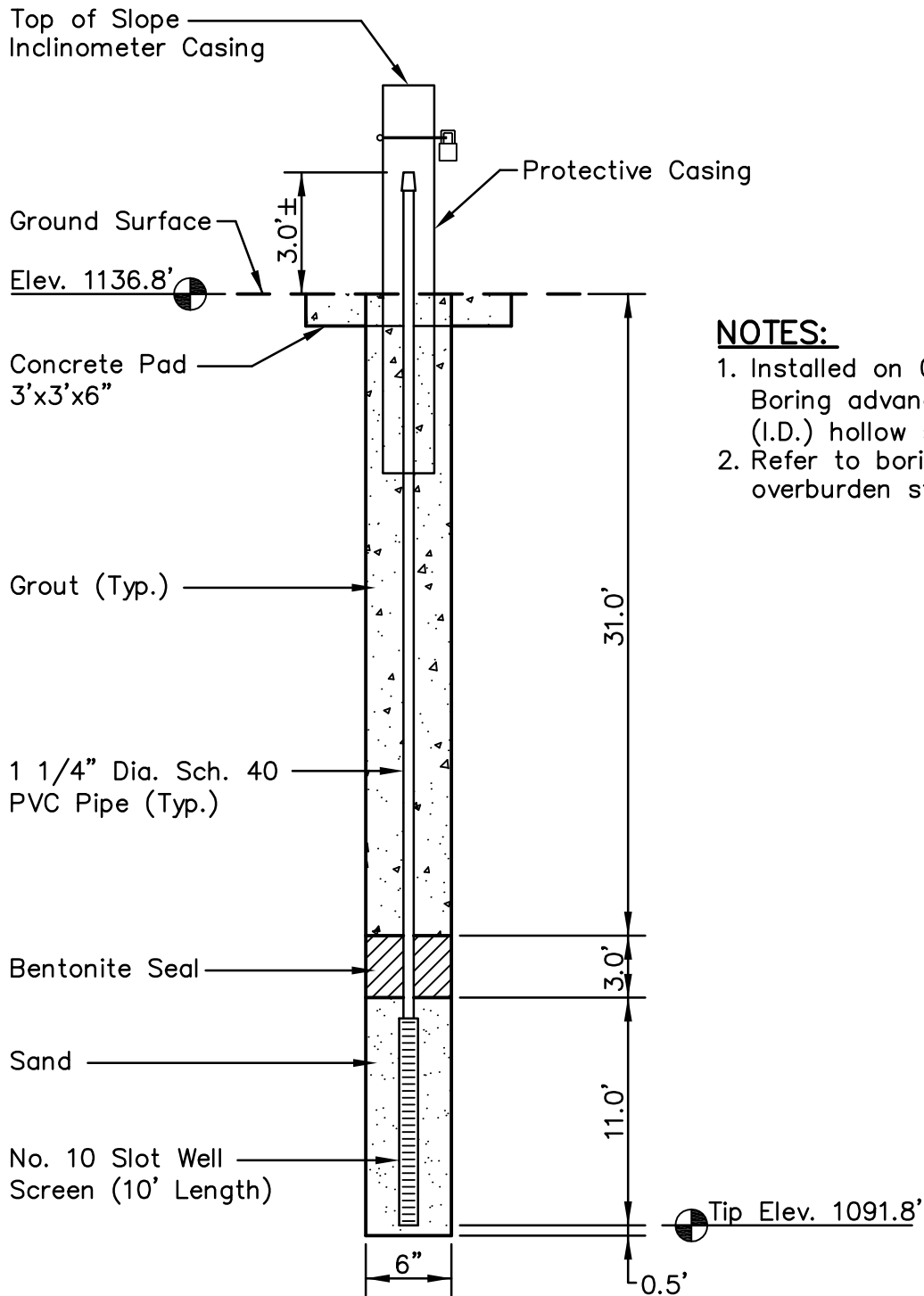


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|------------|-----|-----------|------------|---------|----|---------------|
| DRAWN BY   | JRF | DATE      | NOV., 2009 | REVISED |    | SHEET         |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. | <b>1 OF 1</b> |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |               |



**NOTES:**

1. Installed on 06/01/2009. Boring advanced with 3.25" (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-PZJS52.DWG

**LOCATION:**

Northing: 734,518.95  
 Easting: 2,890,384.61  
 Ground Elevation: 1136.8 feet

Locations provided by TVA,  
 Power Systems Operations,  
 Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER JS-52**  
**JOHN SEVIER FOSSIL PLANT**  
**MAIN ASH STACK**

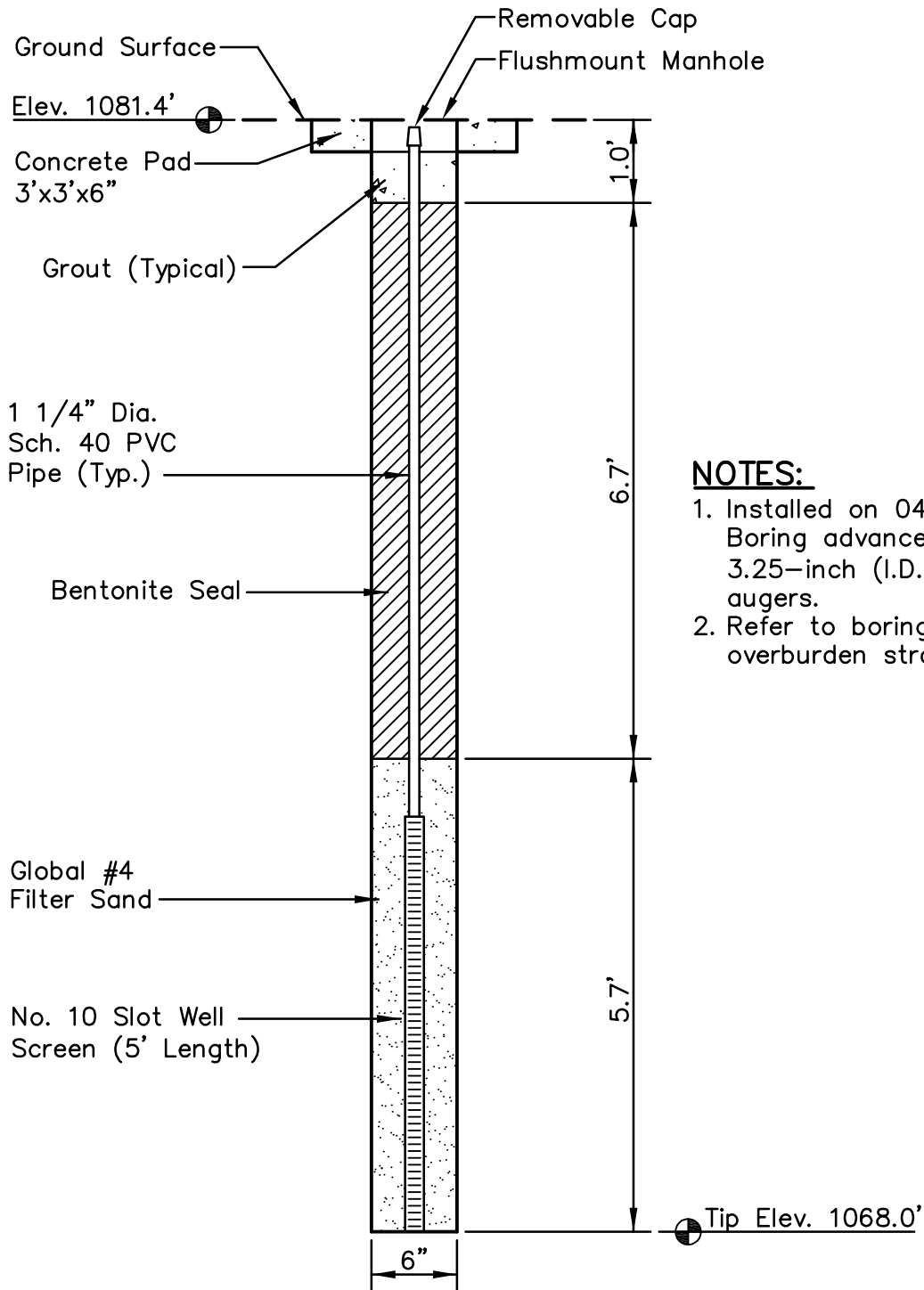


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|------------|-----|-----------|------------|---------|----|--------|
| DRAWN BY   | JRF | DATE      | NOV., 2009 | REVISED |    | SHEET  |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. | 1 OF 1 |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |        |



**NOTES:**

1. Installed on 04/13/2009. Boring advanced with 3.25-inch (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-PZJS53.DWG

**LOCATION:**

Northing: 734,742.01  
 Easting: 2,889,577.25  
 Ground Elevation: 1081.4 feet

Locations provided by TVA,  
 Power Systems Operations,  
 Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER JS-53**  
**JOHN SEVIER FOSSIL PLANT**  
**MAIN ASH STACK**

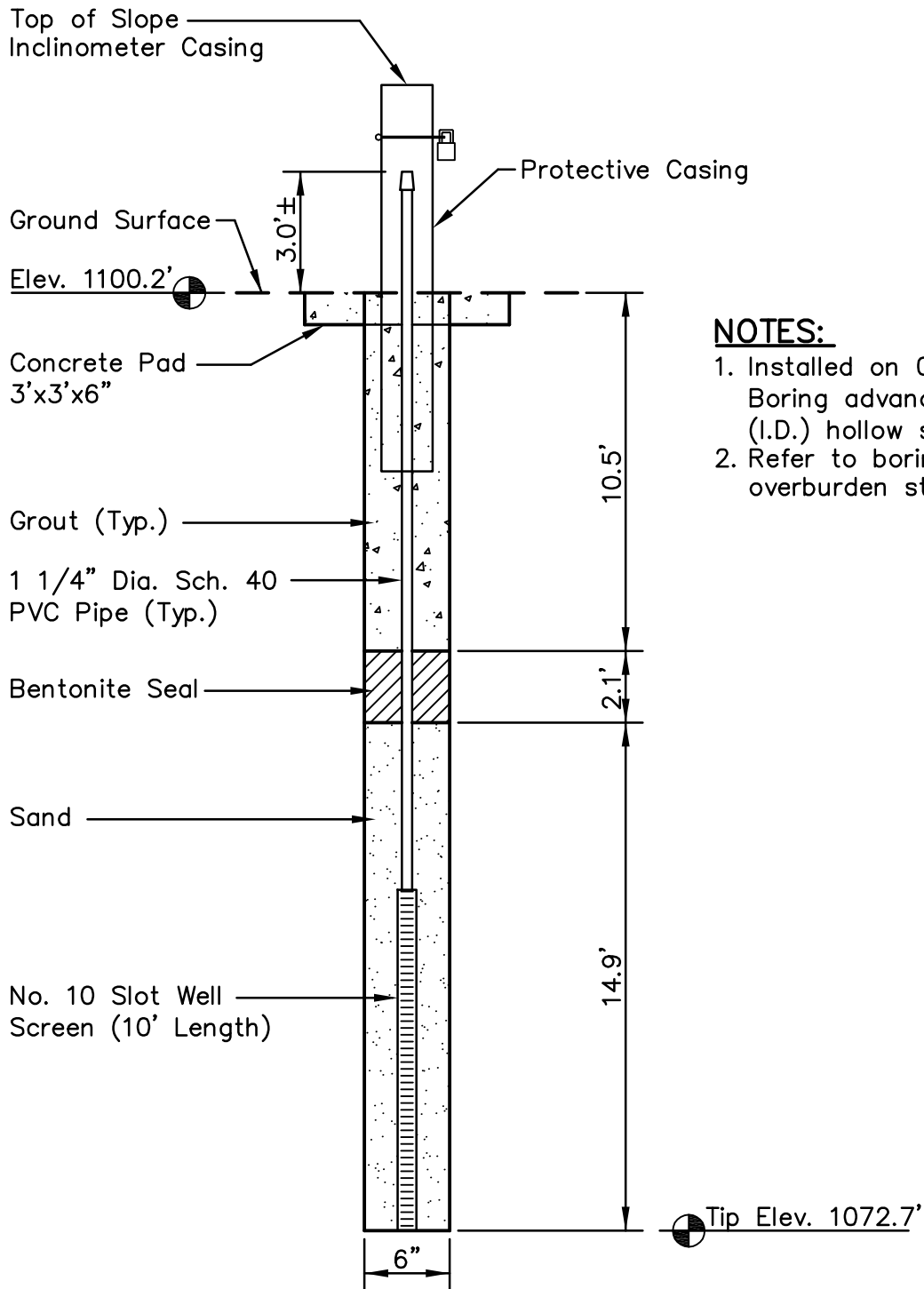


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|------------|-----|-----------|------------|---------|----|--------|
| DRAWN BY   | RWE | DATE      | NOV., 2009 | REVISED |    | SHEET  |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. | 1 OF 1 |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |        |



**NOTES:**

1. Installed on 04/21/2009. Boring advanced with 3.25" (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-PZJS58.DWG

**LOCATION:**

Northing: 734,222.32  
 Easting: 2,889,559.16  
 Ground Elevation: 1100.2 feet

Locations provided by TVA, Power Systems Operations, Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER JS-58  
 JOHN SEVIER FOSSIL PLANT  
 MAIN ASH STACK**

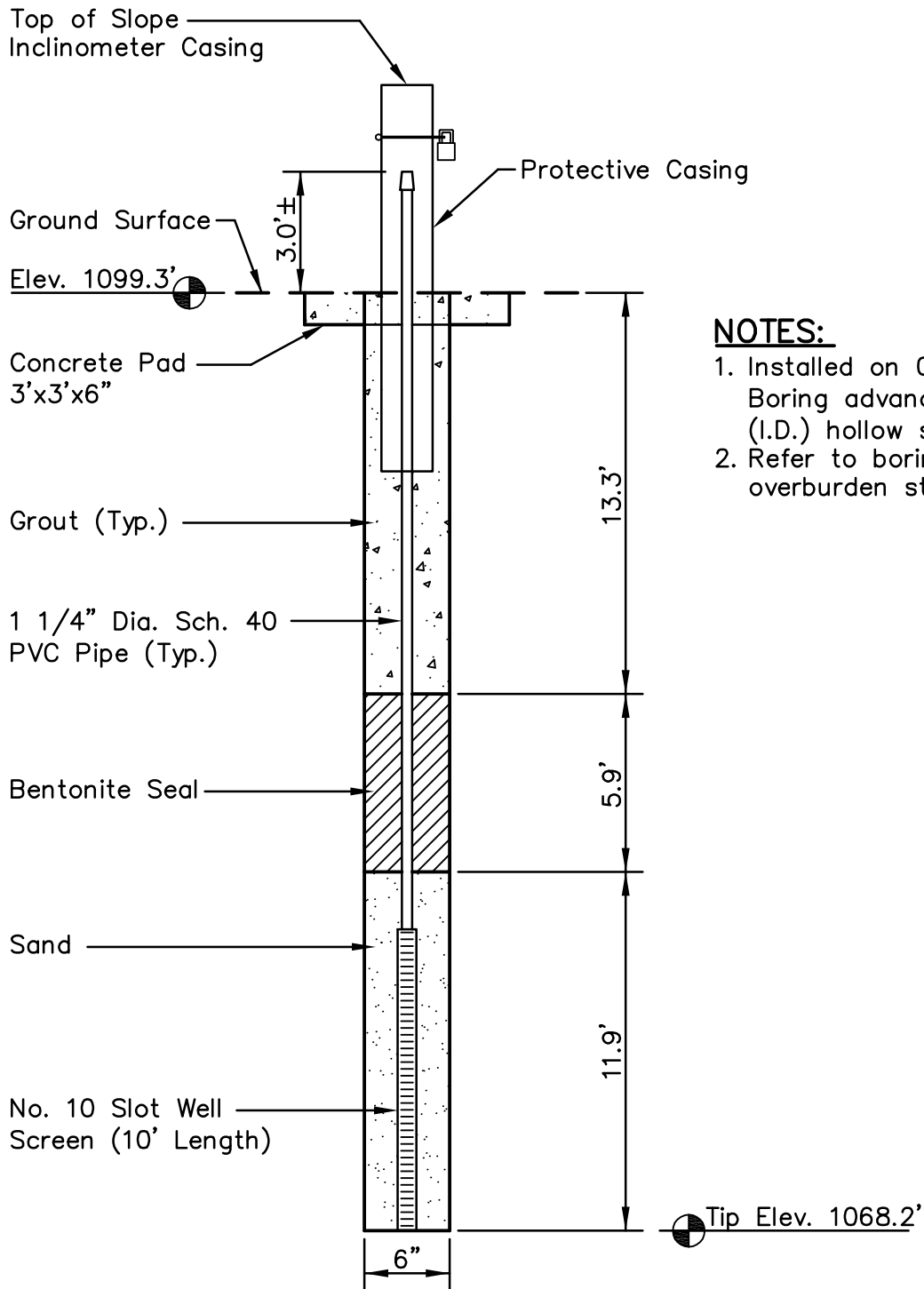


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|------------|-----|-----------|------------|---------|----|---------------|
| DRAWN BY   | JRF | DATE      | NOV., 2009 | REVISED |    | SHEET         |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. | <b>1 OF 1</b> |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |               |



**NOTES:**

1. Installed on 04/04/2009. Boring advanced with 3.25" (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-FZJS59.DWG

**LOCATION:**

Northing: 734,047.10  
 Easting: 2,889,202.69  
 Ground Elevation: 1099.3 feet

Locations provided by TVA, Power Systems Operations, Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER JS-59  
 JOHN SEVIER FOSSIL PLANT  
 MAIN ASH STACK**

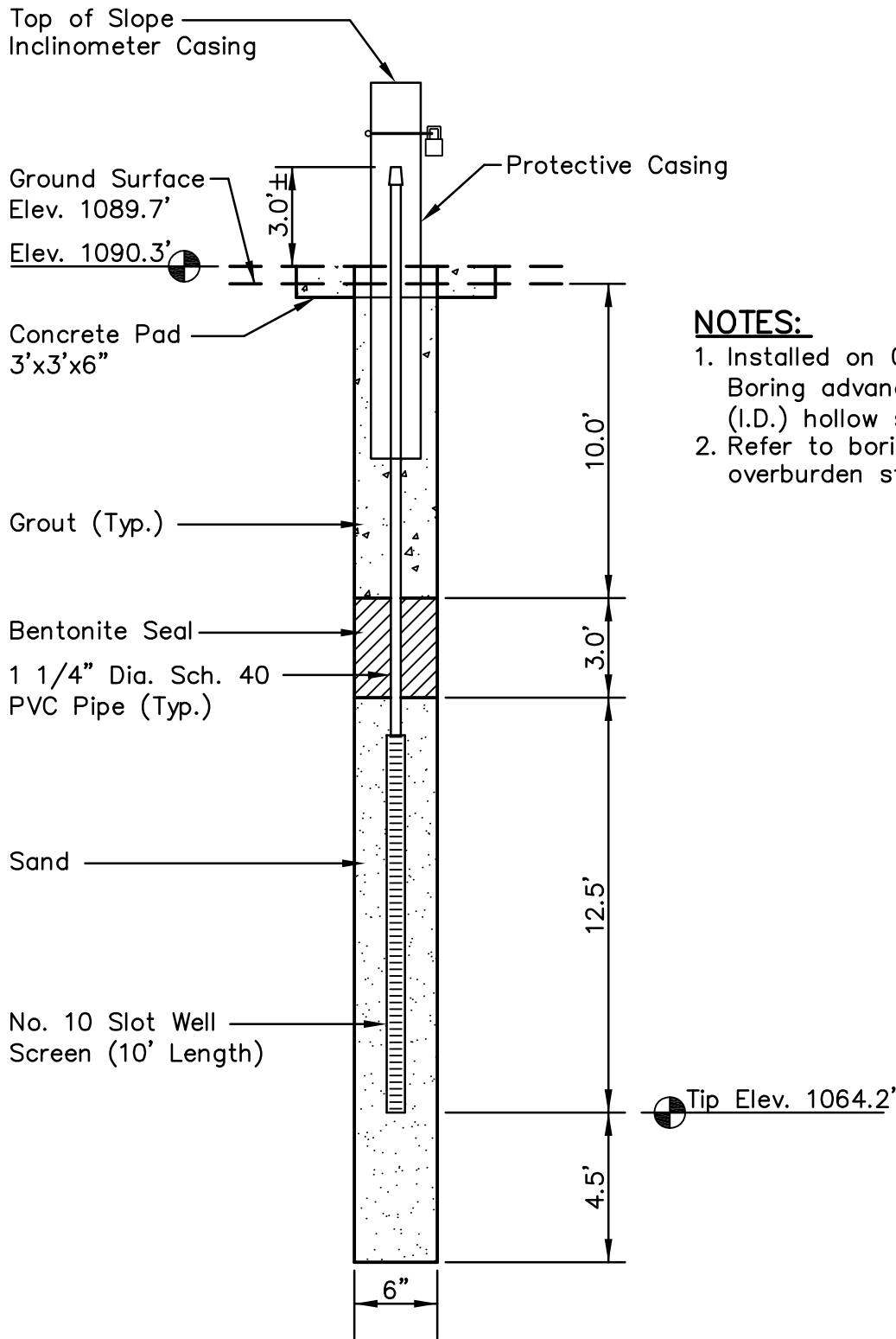


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|------------|-----|-----------|------------|---------|----|---------------|
| DRAWN BY   | JRF | DATE      | NOV., 2009 | REVISED |    | SHEET         |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. | <b>1 OF 1</b> |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |               |



**NOTES:**

1. Installed on 08/20/2009. Boring advanced with 3.25" (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEO\TECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-FZJS61A.DWG

**LOCATION:**

Northing: 735,980.74  
 Easting: 2,891,206.58  
 Ground Elevation: 1089.7 feet

Locations provided by TVA,  
 Power Systems Operations,  
 Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER JS-61A**  
**JOHN SEVIER FOSSIL PLANT**  
**MAIN ASH STACK**



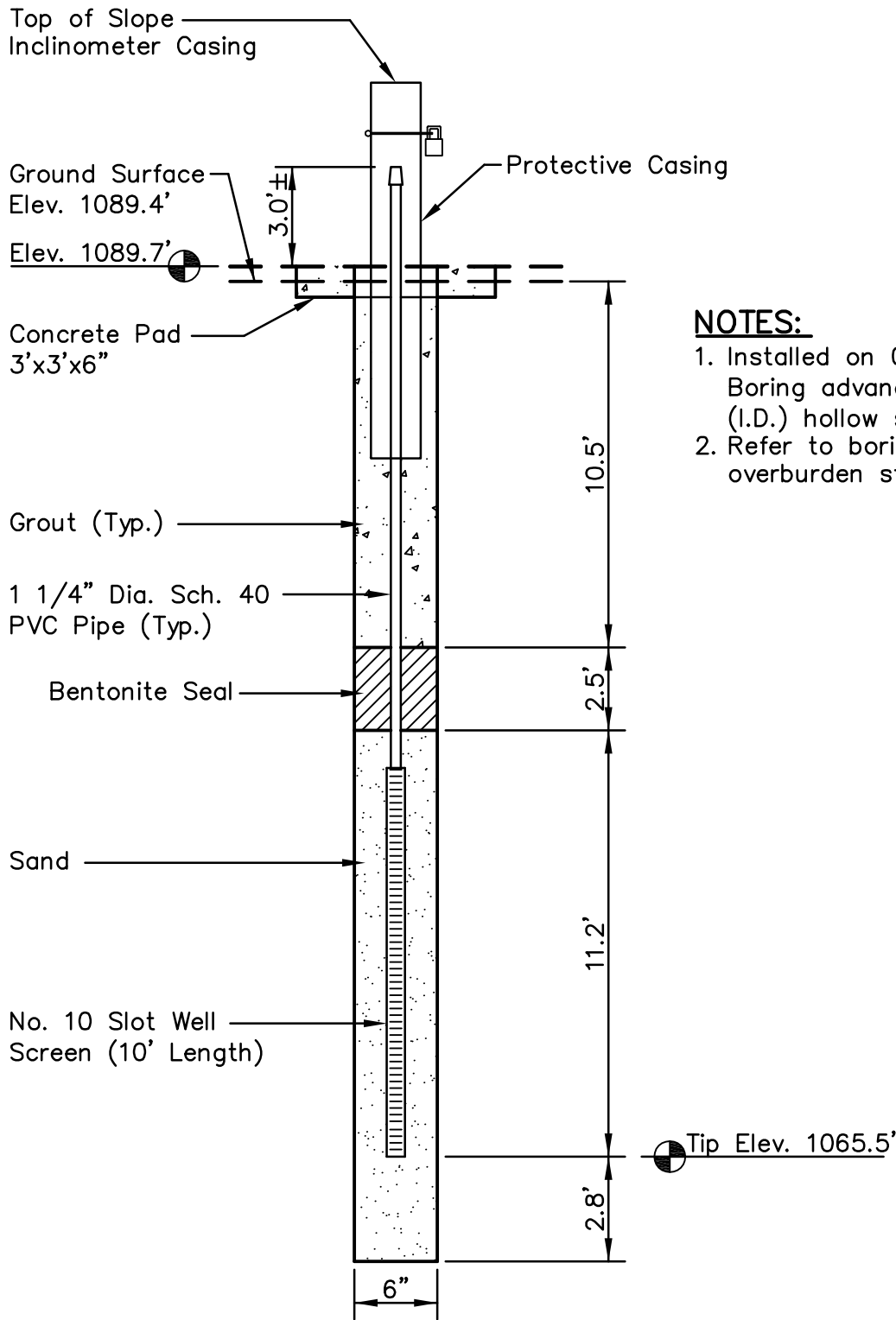
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|------------|-----|-----------|------------|---------|----|--------|
| DRAWN BY   | RWE | DATE      | NOV., 2009 | REVISED |    | SHEET  |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. | 1 OF 1 |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |        |





**NOTES:**

1. Installed on 08/18/2009. Boring advanced with 3.25" (I.D.) hollow stem augers.
2. Refer to boring log for overburden stratigraphy.

PLOT DATE: 10/21/2009 USER: FLYNN, RENEE V:\1755\ACTIVE\175569038\GEOTECHNICAL\DRAWING\INSTRUMENT\69038C-JSF-301-PZJS63B.DWG

**LOCATION:**

Northing: 734,987.89  
 Easting: 2,890,023.29  
 Ground Elevation: 1089.4 feet

Locations provided by TVA,  
 Power Systems Operations,  
 Surveying and Project Services.  
 Horizontal Datum: NAD 27  
 Vertical Datum: NGVD29

**PIEZOMETER JS-63B  
 JOHN SEVIER FOSSIL PLANT  
 MAIN ASH STACK**



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|------------|-----|-----------|------------|---------|----|--------|
| DRAWN BY   | RWE | DATE      | NOV., 2009 | REVISED |    | SHEET  |
| CHECKED BY | ARD | PROJ. NO. | 175569038  | 1.      | 3. | 1 OF 1 |
| CHECKED BY | AAC | SCALE     | NTS        | 2.      | 4. |        |

PROJECT: JSF – FINAL CLOSURE

HOLE #: JS-73

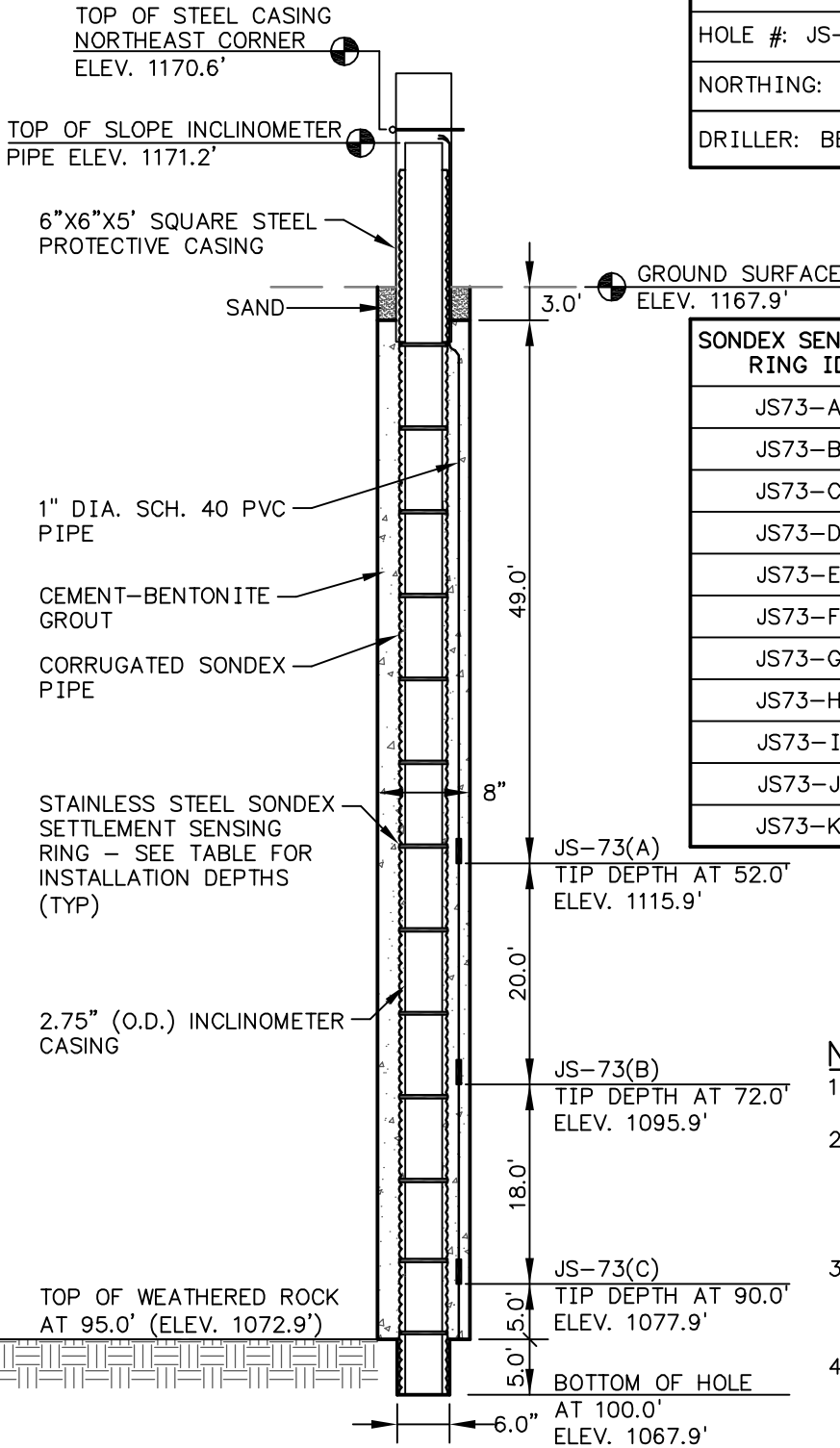
DATE: 04/10/2013

NORTHING: 734,639.8

EASTING: 2,890,303.2

DRILLER: BERTRAM G.

SUPERVISORS: TONY S. CHRISPIN G.



| SONDEX SENSING RING ID | DEPTH FROM TOP OF PIPE (FT) | ELEVATION (FT) |
|------------------------|-----------------------------|----------------|
| JS73-A                 | 29.72                       | 1141.48        |
| JS73-B                 | 39.03                       | 1132.17        |
| JS73-C                 | 50.65                       | 1120.55        |
| JS73-D                 | 60.80                       | 1110.40        |
| JS73-E                 | 67.16                       | 1104.04        |
| JS73-F                 | 74.30                       | 1096.90        |
| JS73-G                 | 81.54                       | 1089.66        |
| JS73-H                 | 89.39                       | 1081.81        |
| JS73-I                 | 97.97                       | 1073.23        |
| JS73-J                 | 102.80                      | 1068.40        |
| JS73-K                 | 103.10                      | 1068.10        |

**NOTES:**

1. INSTALLED ON 04/10/2013.
2. BORING ADVANCED WITH 4.25" (I.D.) AND 6.25" (I.D.) HOLLOW STEM AUGERS AND HQ WIRELINE ROCK CORING TOOLS.
3. REFER TO BORING LOG FOR OVERBURDEN AND BEDROCK STRATIGRAPHY.
4. LOCATIONS PROVIDED BY TVA, POWER SYSTEMS OPERATIONS, SURVEYING AND PROJECT SERVICES. HORIZONTAL DATUM: NAD27, PROJECTION: GA MERCATOR WEST, VERTICAL DATUM: NGVD 29.

PLOT DATE: 08/14/2013 USER: JOHNSON, TRACY V: 1756\ACTIVE\175661025\ENVIRONMENTAL\DRAWING\SHEET\_FILES\JSF12\INSTRUMENT\JS-73.DWG

**SLOPE INCLINOMETER INSTALLATION FORM  
JOHN SEVIER FOSSIL PLANT  
HAWKINS COUNTY, TENNESSEE**

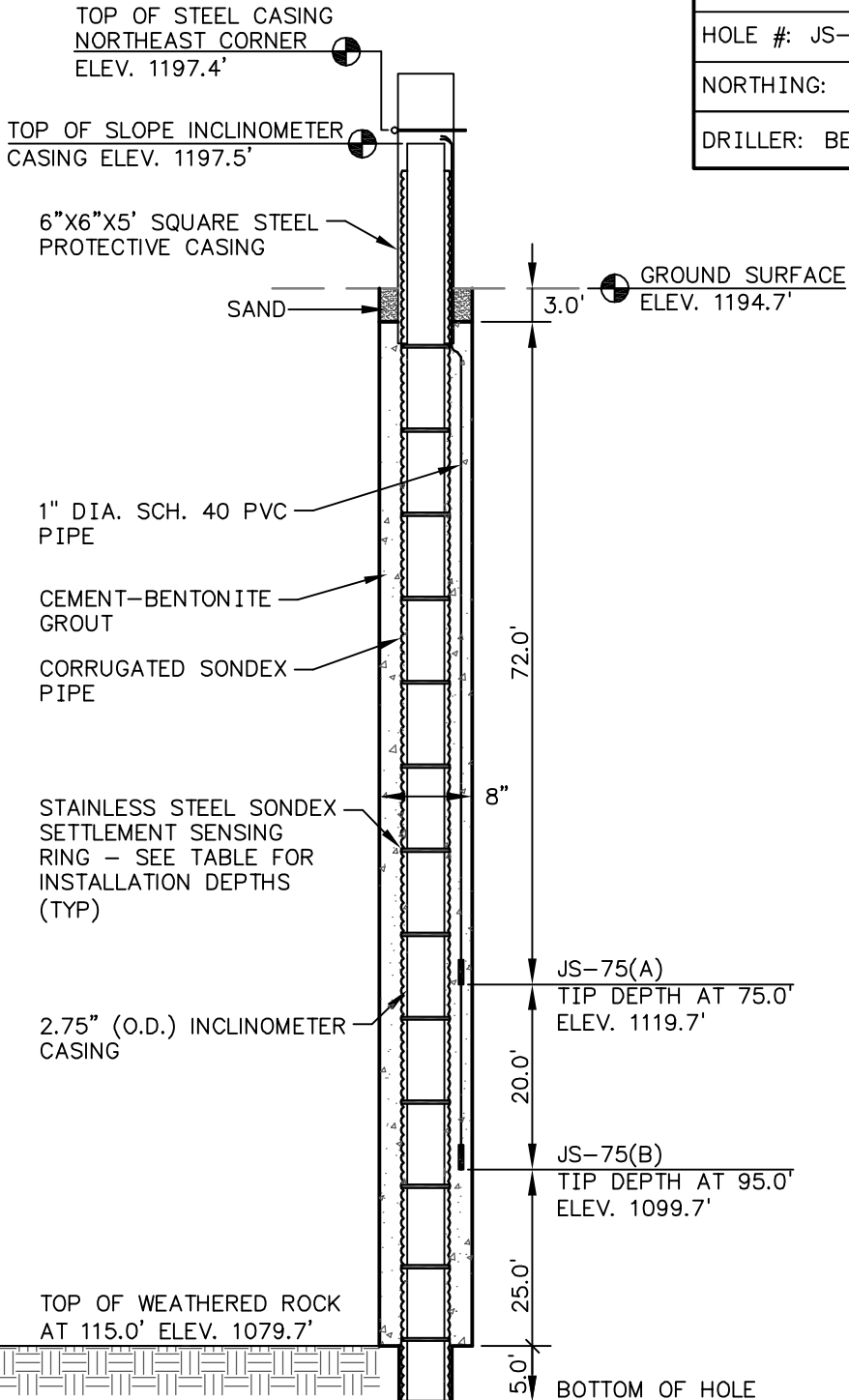


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|------------|-----|-----------|------------|---------|----|---------------|
| DRAWN BY   | PJB | DATE      | AUG., 2013 | REVISED |    | SHEET         |
| CHECKED BY | CG  | PROJ. NO. | 165661025  | 1.      | 3. | <b>1 OF 1</b> |
| CHECKED BY | -   | SCALE     | NTS        | 2.      | 4. |               |

|                              |                      |
|------------------------------|----------------------|
| PROJECT: JSF – FINAL CLOSURE |                      |
| HOLE #: JS-75                | DATE: 07/10/2013     |
| NORTHING: 735,028.4          | EASTING: 2,891,089.4 |
| DRILLER: BERTRAM G.          | SUPERVISOR: SAM LEE  |



| SONDEX SENSING RING ID | INSTALLED DEPTH FROM TOP OF PIPE (FT) | ELEVATION (FT) |
|------------------------|---------------------------------------|----------------|
| JS75-A                 | 7.80                                  | 1189.70        |
| JS75-B                 | 12.80                                 | 1184.70        |
| JS75-C                 | 17.80                                 | 1179.70        |
| JS75-D                 | 22.80                                 | 1174.70        |
| JS75-E                 | 27.80                                 | 1169.70        |
| JS75-F                 | 32.80                                 | 1164.70        |
| JS75-G                 | 37.80                                 | 1159.70        |
| JS75-H                 | 42.80                                 | 1154.70        |
| JS75-I                 | 47.80                                 | 1149.70        |
| JS75-J                 | 52.80                                 | 1144.70        |
| JS75-K                 | 57.80                                 | 1139.70        |
| JS75-L                 | 62.80                                 | 1134.70        |
| JS75-M                 | 67.80                                 | 1129.70        |
| JS75-N                 | 72.80                                 | 1124.70        |
| JS75-O                 | 77.80                                 | 1119.70        |
| JS75-P                 | 82.80                                 | 1114.70        |
| JS75-Q                 | 87.80                                 | 1109.70        |
| JS75-R                 | 92.80                                 | 1104.70        |
| JS75-S                 | 97.80                                 | 1099.70        |
| JS75-T                 | 102.80                                | 1094.70        |
| JS75-U                 | 107.80                                | 1089.70        |
| JS75-V                 | 112.80                                | 1084.70        |
| JS75-W                 | 117.80                                | 1079.70        |
| JS75-X                 | 122.80                                | 1074.70        |

- NOTES:**
- INSTALLED ON 07/10/2013.
  - BORING ADVANCED WITH 4.25" (I.D.) AND 6.25" (I.D.) HOLLOW STEM AUGERS AND HQ WIRELINE ROCK CORING TOOLS.
  - REFER TO BORING LOG FOR OVERBURDEN AND BEDROCK STRATIGRAPHY.
  - LOCATIONS PROVIDED BY TVA, POWER SYSTEMS OPERATIONS, SURVEYING AND PROJECT SERVICES. HORIZONTAL DATUM: NAD27, PROJECTION: GA MERCATOR WEST, VERTICAL DATUM: NGVD 29.

**SLOPE INCLINOMETER INSTALLATION FORM**  
**JOHN SEVIER FOSSIL PLANT**  
**HAWKINS COUNTY, TENNESSEE**

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|------------|-----|-----------|------------|---------|-------|
| DRAWN BY   | PJB | DATE      | AUG., 2013 | REVISED | SHEET |
| CHECKED BY | CG  | PROJ. NO. | 165661025  | 1.      | 3.    |
| CHECKED BY | —   | SCALE     | NTS        | 2.      | 4.    |

1 OF 1

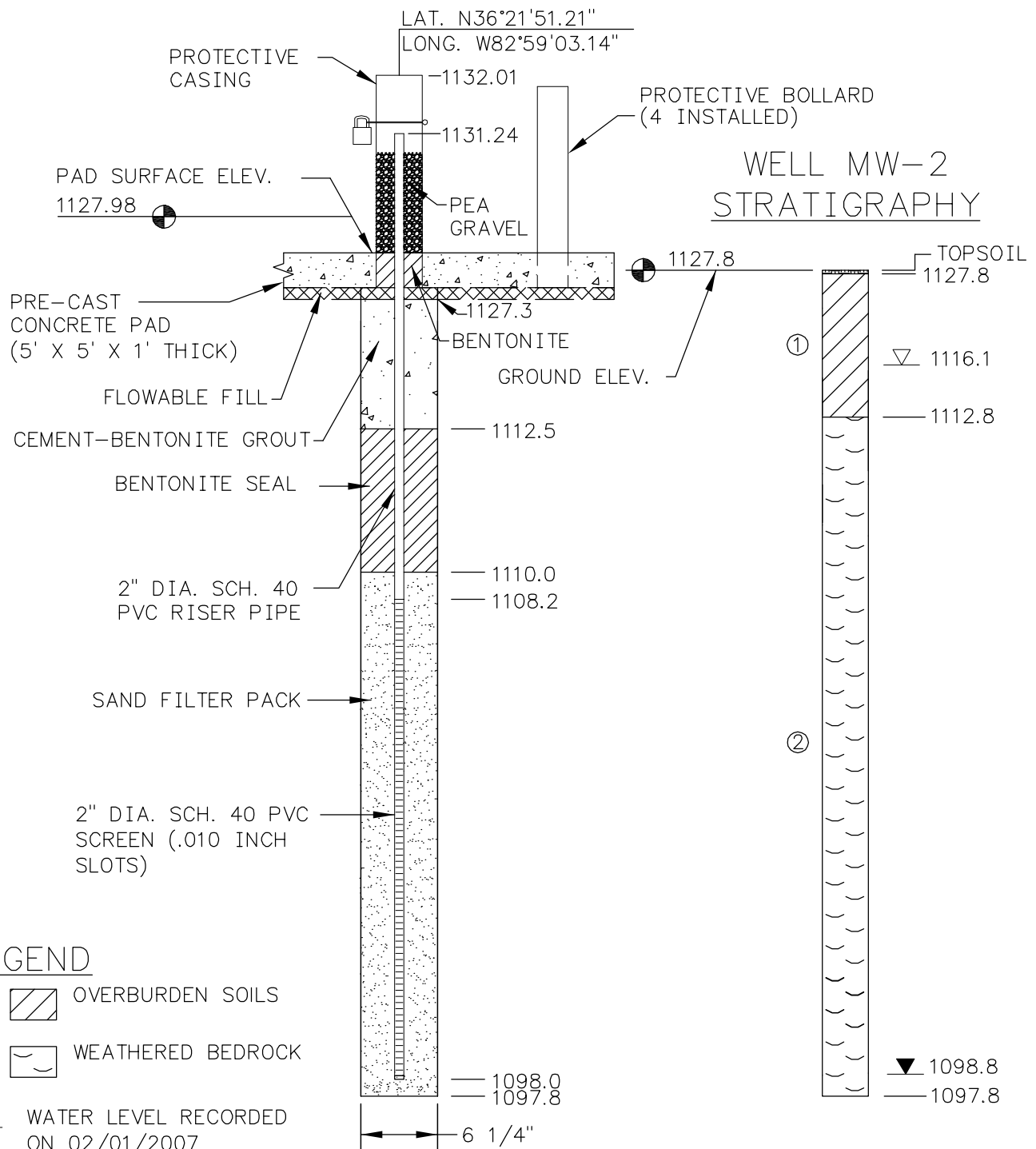
PLOT DATE: 08/14/2013 USER: JOHNSON, TRACY V: \1756\ACTIVE\175661025\ENVIRONMENTAL\DRAWING\SHEET\_FILES\JSF12\INSTRUMENT\JS-75.DWG

# **APPENDIX C.3**

## **PERMANENT WELLS**

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**LEGEND**

- ① OVERBURDEN SOILS
- ② WEATHERED BEDROCK
- WATER LEVEL RECORDED ON 02/01/2007
- WATER LEVEL RECORDED DURING DRILLING 01/31/2007

**NOTES:**

1. SUBSURFACE STRATIGRAPHY BASED ON SPT SAMPLES OBTAINED DURING THE DRILLING PROCESS.
2. SURVEY INFORMATION PROVIDED BY STANTEC (NAD83 SHOWN).
3. WELL INSTALLED ON 1/31/07 BY LAW ENGINEERING.

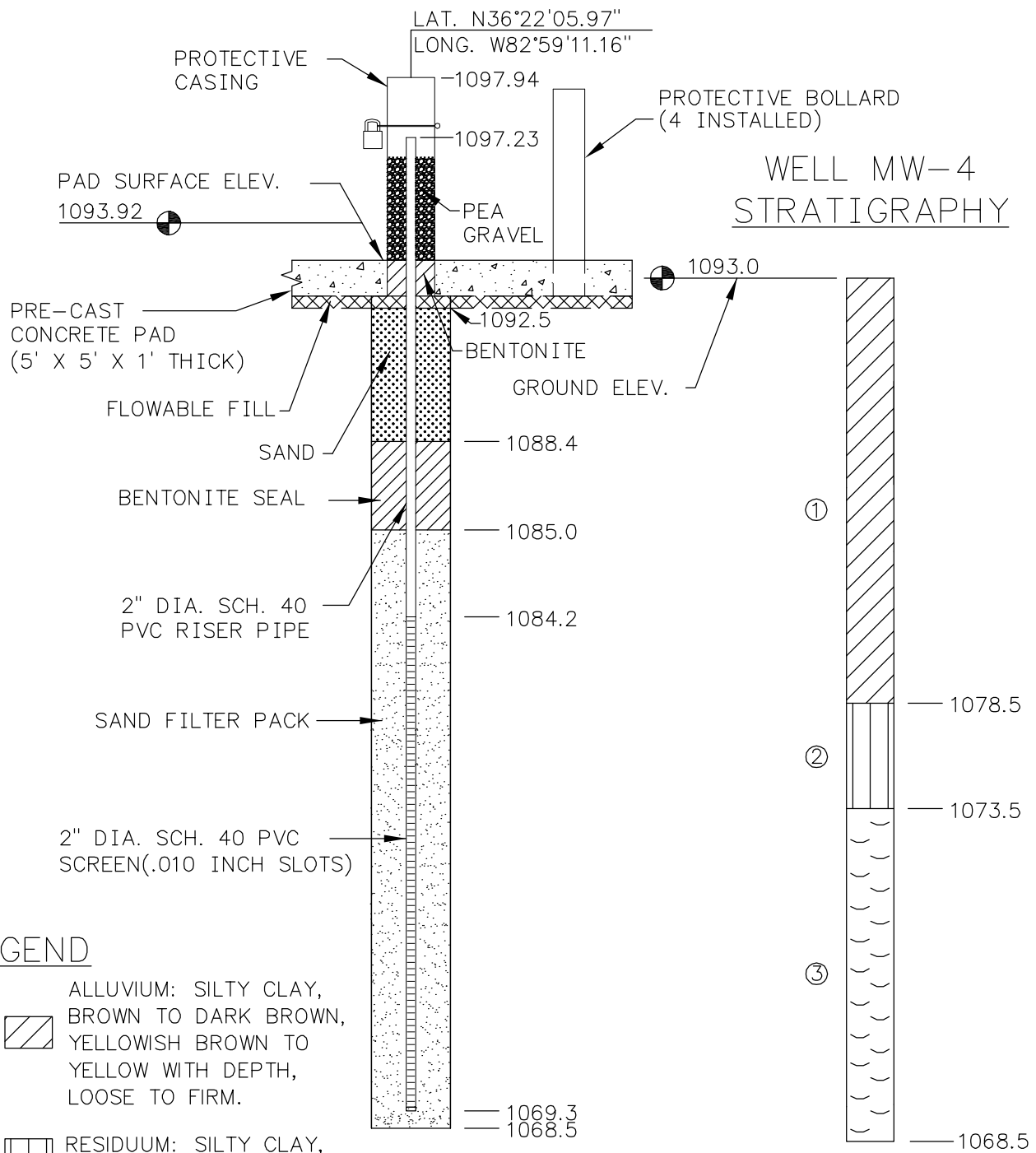
**MW-2 MONITORING WELL INSTALLATION DETAIL  
TVA JOHN SEVIER FOSSIL PLANT  
ROGERSVILLE, HAWKINS COUNTY, TN**

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|------------|-----|-----------|-------------|---------|----|
| DRAWN BY   | MSJ | DATE      | APRIL, 2016 | REVISED |    |
| CHECKED BY | DRP | PROJ. NO. | 175565262   | 1.      | 3. |
| CHECKED BY | BLB | SCALE     | NTS         | 2.      | 4. |

SHEET  
1 of 1

PLOT DATE: 04/21/2016 USER: JENNINGS, MATTHEW  
U: \1755\TVA GW MONITORING WELLS - CADD\USF\175565262 - INSTALL\WELL\_LOGS\65262-MWELL-LOG\_MW-2.DWG



**LEGEND**

- ① ALLUVIUM: SILTY CLAY, BROWN TO DARK BROWN, YELLOWISH BROWN TO YELLOW WITH DEPTH, LOOSE TO FIRM.
- ② RESIDUUM: SILTY CLAY, BROWN, MODERATELY FIRM
- ③ WEATHERED TO SLIGHTLY WEATHERED SHALE, BROWN TO LIGHT BROWN

**NOTES:**

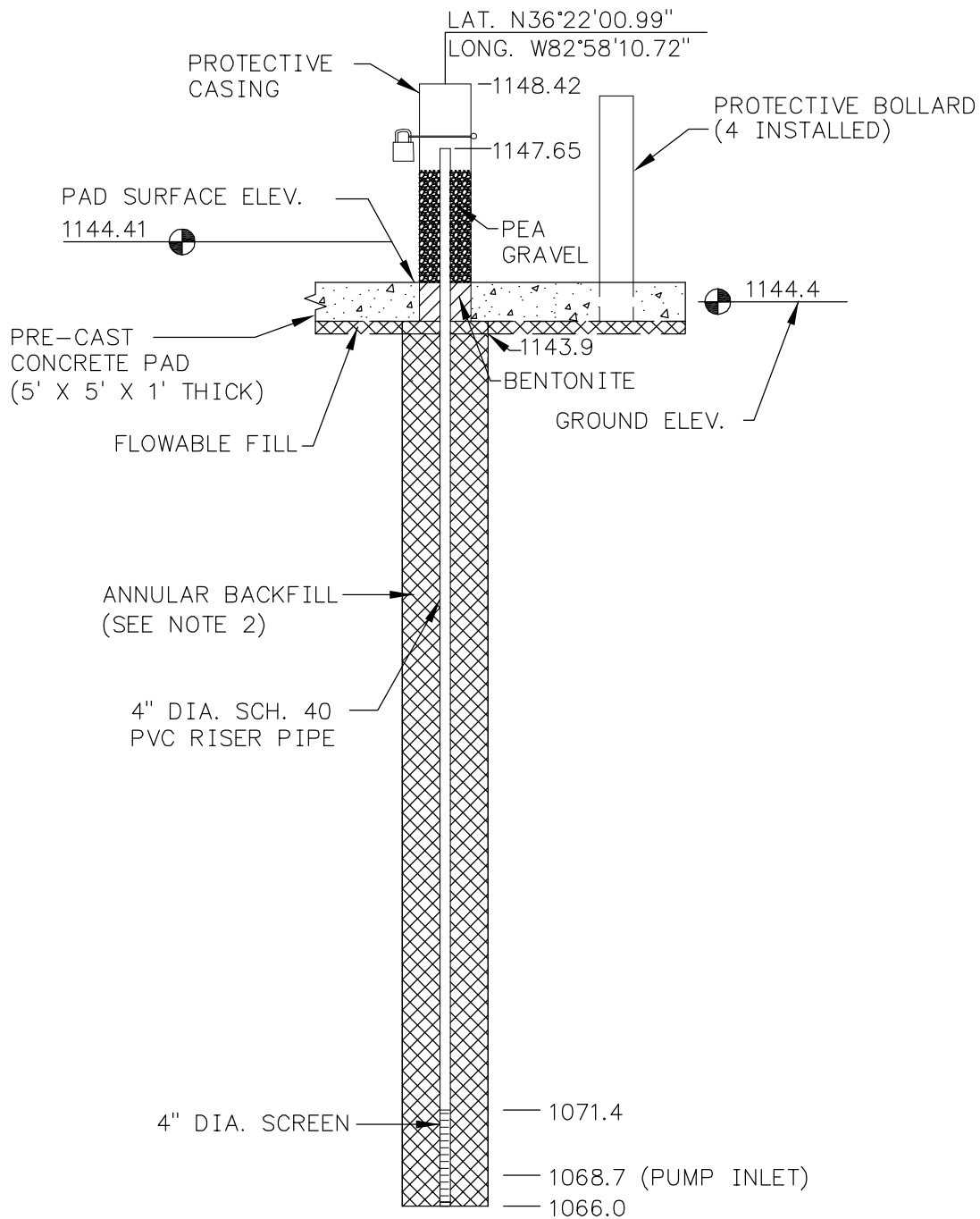
1. SUBSURFACE STRATIGRAPHY BASED ON VISUAL DESCRIPTIONS BY MACTEC.
2. SURVEY INFORMATION PROVIDED BY STANTEC (NAD83 SHOWN).
3. WELL INSTALLATION BY MACTEC ON 01/31/2007.

**MW-4 MONITORING WELL INSTALLATION DETAIL  
TVA JOHN SEVIER FOSSIL PLANT  
ROGERSVILLE, HAWKINS COUNTY, TN**

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|------------|-----|-----------|-------------|---------|----|---------------|
| DRAWN BY   | MSJ | DATE      | APRIL, 2016 | REVISED |    |               |
| CHECKED BY | DRP | PROJ. NO. | 175565262   | 1.      | 3. | <b>1 of 1</b> |
| CHECKED BY | BLB | SCALE     | NTS         | 2.      | 4. |               |

PLOT DATE: 04/20/2016 USER: JENNINGS, MATTHEW  
U: \1755\TVA GW MONITORING WELLS - CADD\USF\175565262 - INSTALL\WELL\_LOGS\65262-MWELL-LOG-MW-4.DWG



**NOTES:**

1. SUBSURFACE STRATIGRAPHY UNKNOWN.
2. WELL CONSTRUCTION DETAILS PROVIDED BY TVA. ANNULAR BACKFILL UNKNOWN.
3. SURVEY INFORMATION PROVIDED BY STANTEC (NAD83 SHOWN).
4. WELL INSTALLED ON 12/1986 BY LAW ENGINEERING.

**W-1 MONITORING WELL INSTALLATION DETAIL  
TVA JOHN SEVIER FOSSIL PLANT  
ROGERSVILLE, HAWKINS COUNTY, TN**



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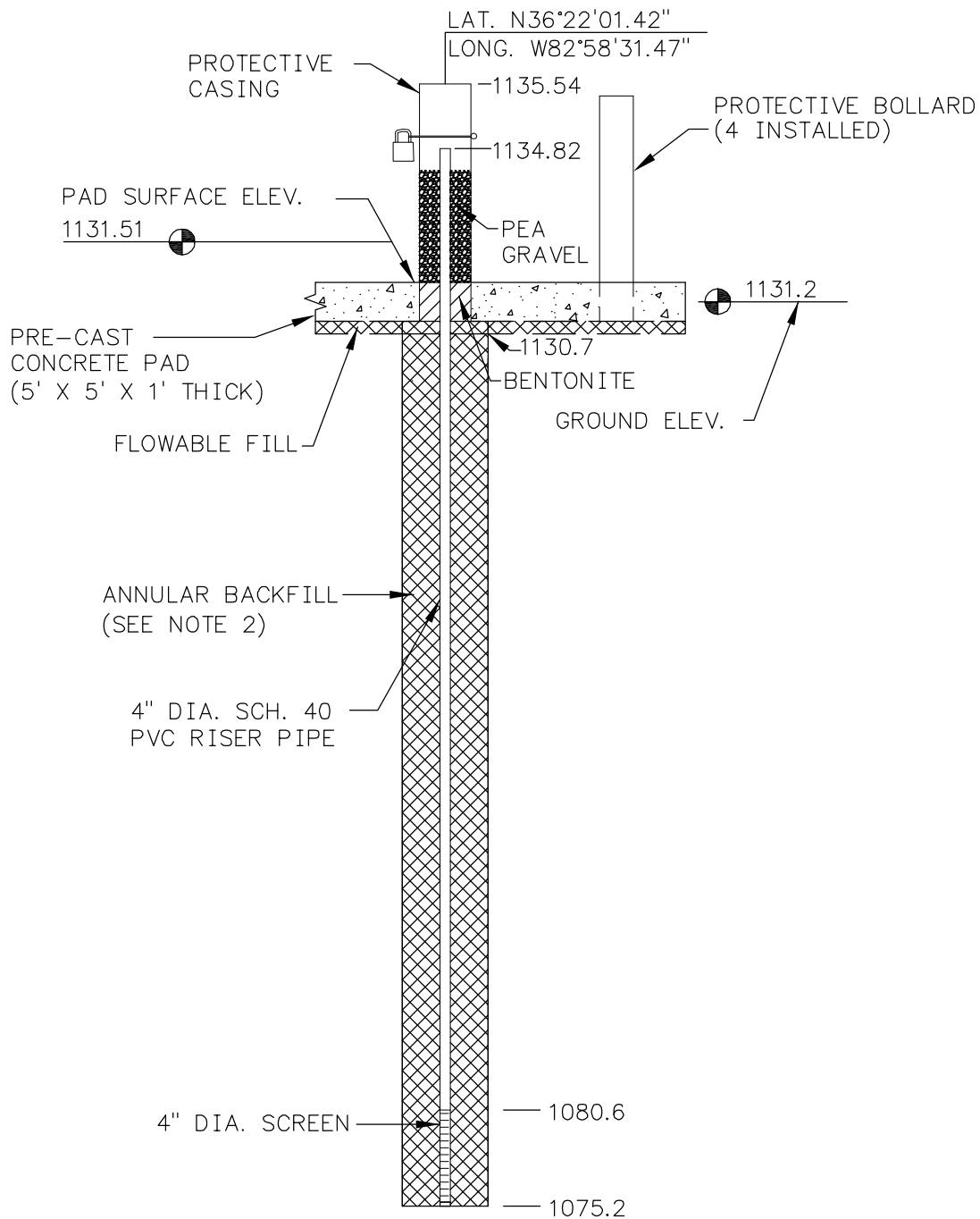
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|------------|-----|-----------|-------------|---------|----|
| DRAWN BY   | MSJ | DATE      | APRIL, 2016 | REVISED |    |
| CHECKED BY | DRP | PROJ. NO. | 175565262   | 1.      | 3. |
| CHECKED BY | BLB | SCALE     | NTS         | 2.      | 4. |

SHEET

**1 of 1**





PLOT DATE: 04/20/2016 USER: JENNINGS, MATTHEW U:\1755\TVA GW MONITORING WELLS - CADD\USF\175565262 - INSTALL\WELL\_LOGS\65262-MWELL-LOG\_W-2.DWG

**NOTES:**

1. SUBSURFACE STRATIGRAPHY UNKNOWN.
2. WELL CONSTRUCTION DETAILS PROVIDED BY TVA. WELL DEPTH MEASURED BY STANTEC ON 11/03/2015.
3. SURVEY INFORMATION PROVIDED BY STANTEC (NAD83 SHOWN).

**W-2 MONITORING WELL INSTALLATION DETAIL  
TVA JOHN SEVIER FOSSIL PLANT  
ROGERSVILLE, HAWKINS COUNTY, TN**



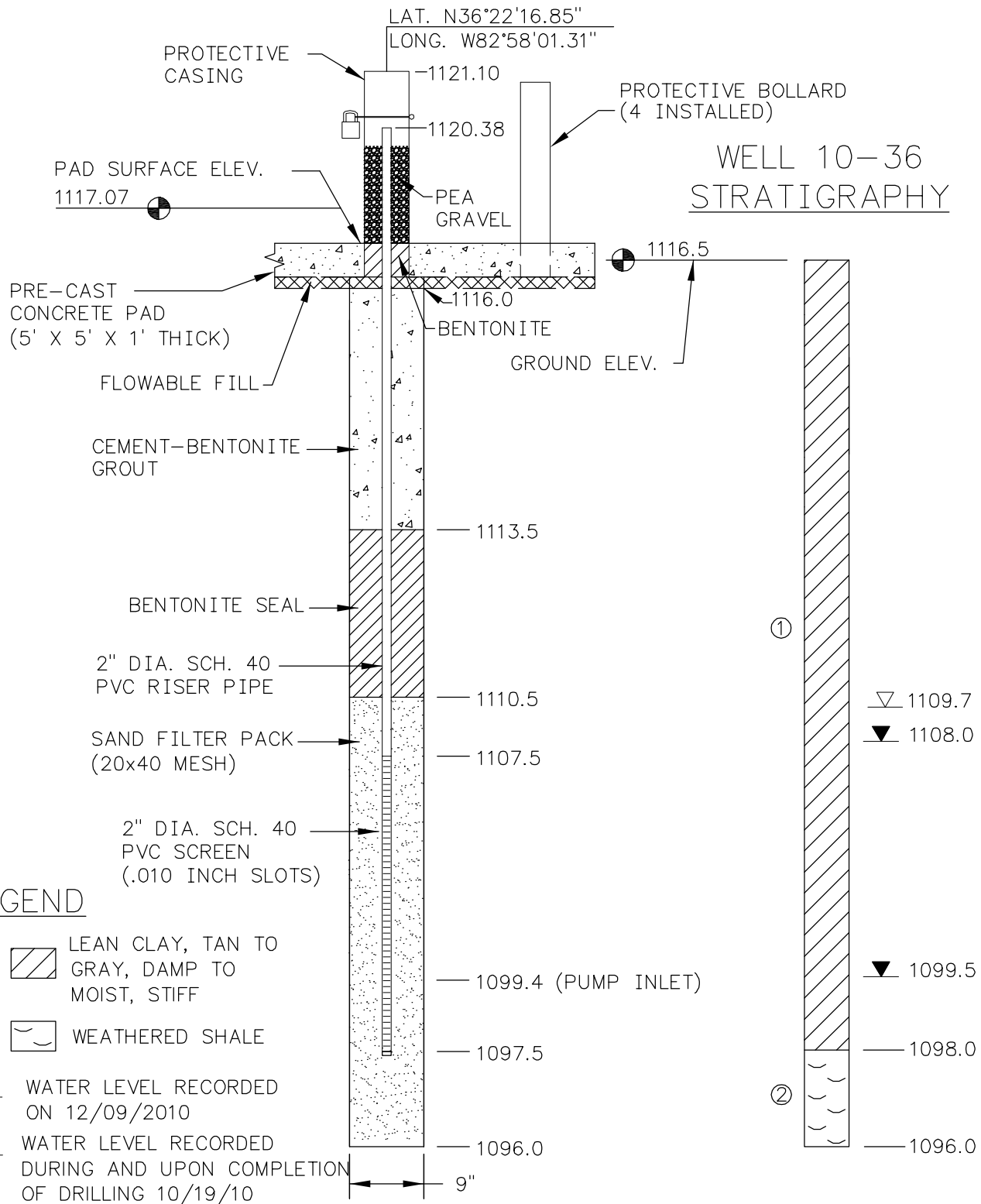
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| DRAWN BY   | MSJ | DATE      | APRIL, 2016 | REVISED |    |
| CHECKED BY | DRP | PROJ. NO. | 175565262   | 1.      | 3. |
| CHECKED BY | BLB | SCALE     | NTS         | 2.      | 4. |

SHEET  
**1 of 1**



### LEGEND

- ① LEAN CLAY, TAN TO GRAY, DAMP TO MOIST, STIFF
- ② WEATHERED SHALE
- ▽ WATER LEVEL RECORDED ON 12/09/2010
- ▼ WATER LEVEL RECORDED DURING AND UPON COMPLETION OF DRILLING 10/19/10

### NOTES:

1. SUBSURFACE STRATIGRAPHY BASED ON SPT SAMPLES OBTAINED DURING THE DRILLING PROCESS.
2. SURVEY INFORMATION PROVIDED BY STANTEC (NAD83 SHOWN).
3. WELL INSTALLED ON 10/19/2010 BY STANTEC.

## 10-36 MONITORING WELL INSTALLATION DETAIL TVA JOHN SEVIER FOSSIL PLANT ROGERSVILLE, HAWKINS COUNTY, TN

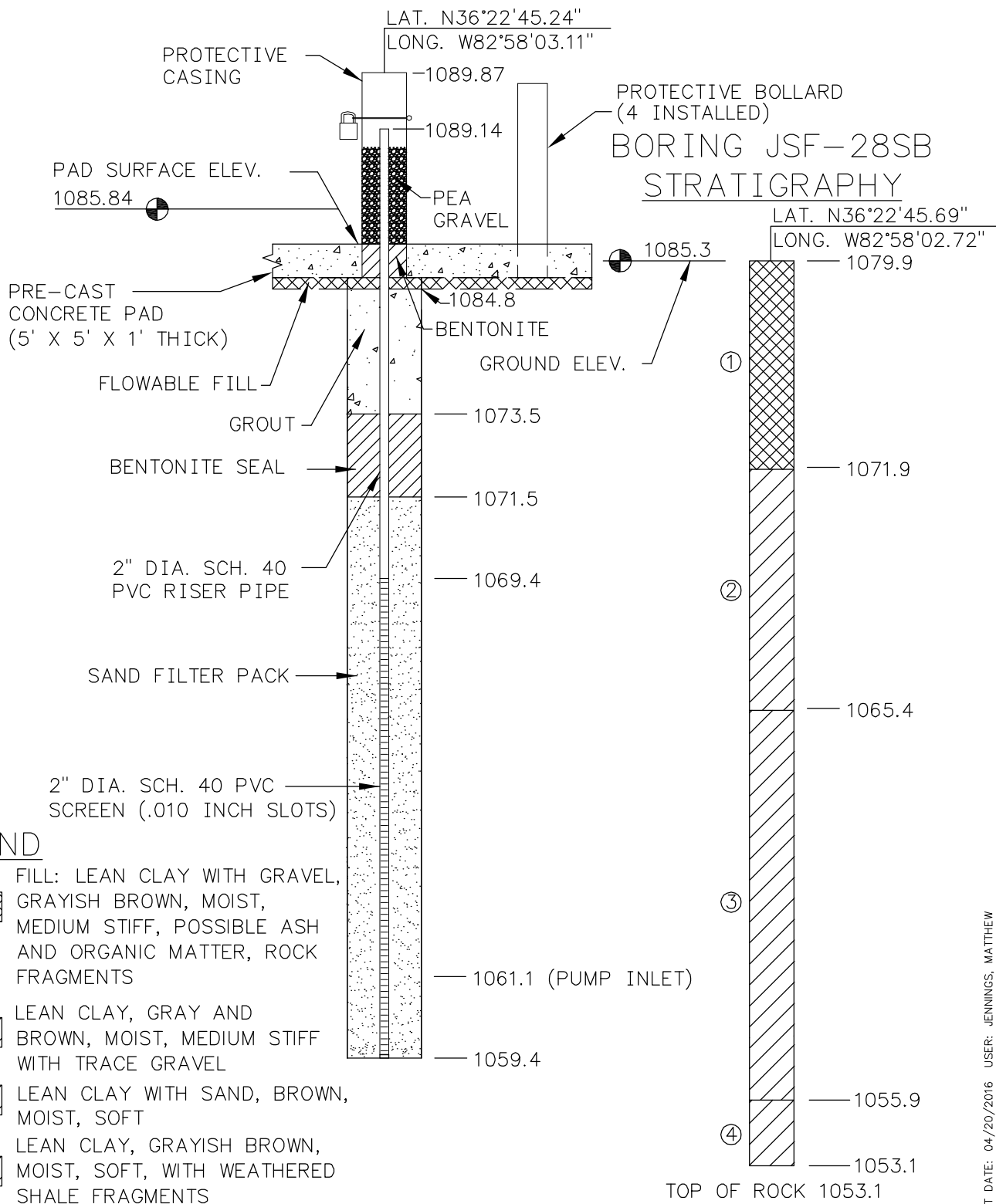


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|------------|-----|-----------|-------------|---------|----|
| DRAWN BY   | MSJ | DATE      | APRIL, 2016 | REVISED |    |
| CHECKED BY | DRP | PROJ. NO. | 175565262   | 1.      | 3. |
| CHECKED BY | BLB | SCALE     | NTS         | 2.      | 4. |

SHEET  
**1 of 1**



**LEGEND**

- ① FILL: LEAN CLAY WITH GRAVEL, GRAYISH BROWN, MOIST, MEDIUM STIFF, POSSIBLE ASH AND ORGANIC MATTER, ROCK FRAGMENTS
- ② LEAN CLAY, GRAY AND BROWN, MOIST, MEDIUM STIFF WITH TRACE GRAVEL
- ③ LEAN CLAY WITH SAND, BROWN, MOIST, SOFT
- ④ LEAN CLAY, GRAYISH BROWN, MOIST, SOFT, WITH WEATHERED SHALE FRAGMENTS

**NOTES:**

1. SOIL BORING JSF-28SB WAS ADVANCED NEAR WELL W-28 BY STANTEC (10/09/2015) FOR STRATIGRAPHY PURPOSES.
2. SURVEY INFORMATION PROVIDED BY STANTEC (NAD83 SHOWN).
3. WELL INSTALLED ON 06/01/1998 BY LAW ENGINEERING.

**W-28 MONITORING WELL INSTALLATION DETAIL  
TVA JOHN SEVIER FOSSIL PLANT  
ROGERSVILLE, HAWKINS COUNTY, TN**



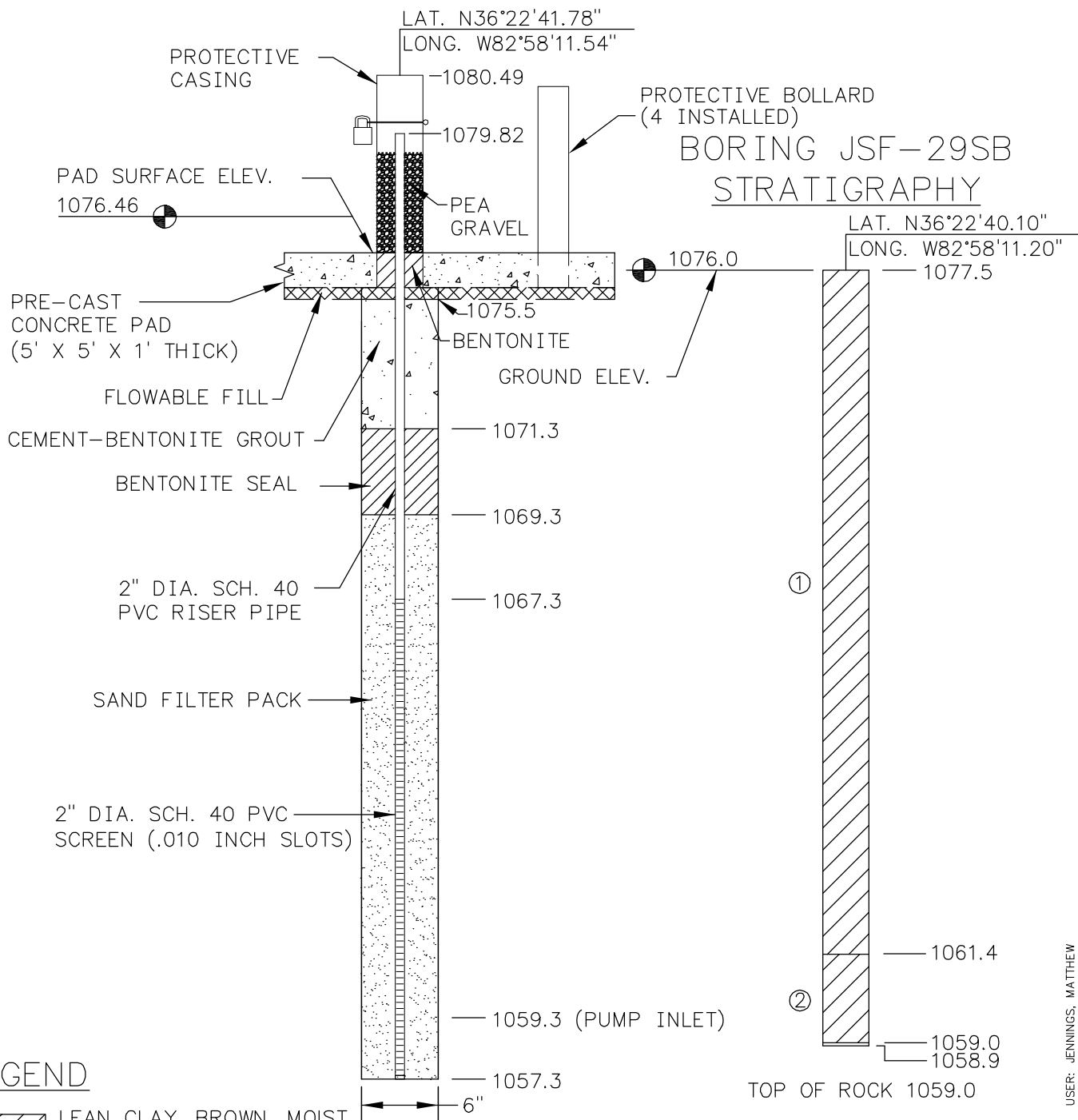
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|-------------------|-----|------------------|-------------|----------------|----|
| <b>DRAWN BY</b>   | MSJ | <b>DATE</b>      | APRIL, 2016 | <b>REVISED</b> |    |
| <b>CHECKED BY</b> | DRP | <b>PROJ. NO.</b> | 175565262   | 1.             | 3. |
| <b>CHECKED BY</b> | BLB | <b>SCALE</b>     | NTS         | 2.             | 4. |

**SHEET**  
**1 of 1**

PLOT DATE: 04/20/2016 USER: JENNINGS, MATTHEW U: \1755\TVA GW MONITORING WELLS - CADD\JSF\175565262 - INSTALL\WELL\_LOGS\65262-MWELL-LOG\_W-28.DWG



**LEGEND**

- ① LEAN CLAY, BROWN, MOIST STIFF TO SOFT
- ② SANDY LEAN CLAY, BROWN, MOIST TO WET, SOFT

**NOTES:**

1. SOIL BORING JSF-29SB WAS ADVANCED NEAR WELL W-29 BY STANTEC (10/09/2015) FOR STRATIGRAPHY PURPOSES.
2. SURVEY INFORMATION PROVIDED BY STANTEC (NAD83 SHOWN).
3. WELL INSTALLED ON 06/03/1998 BY LAW ENGINEERING.

**W-29 MONITORING WELL INSTALLATION DETAIL**  
**TVA JOHN SEVIER FOSSIL PLANT**  
**ROGERSVILLE, HAWKINS COUNTY, TN**

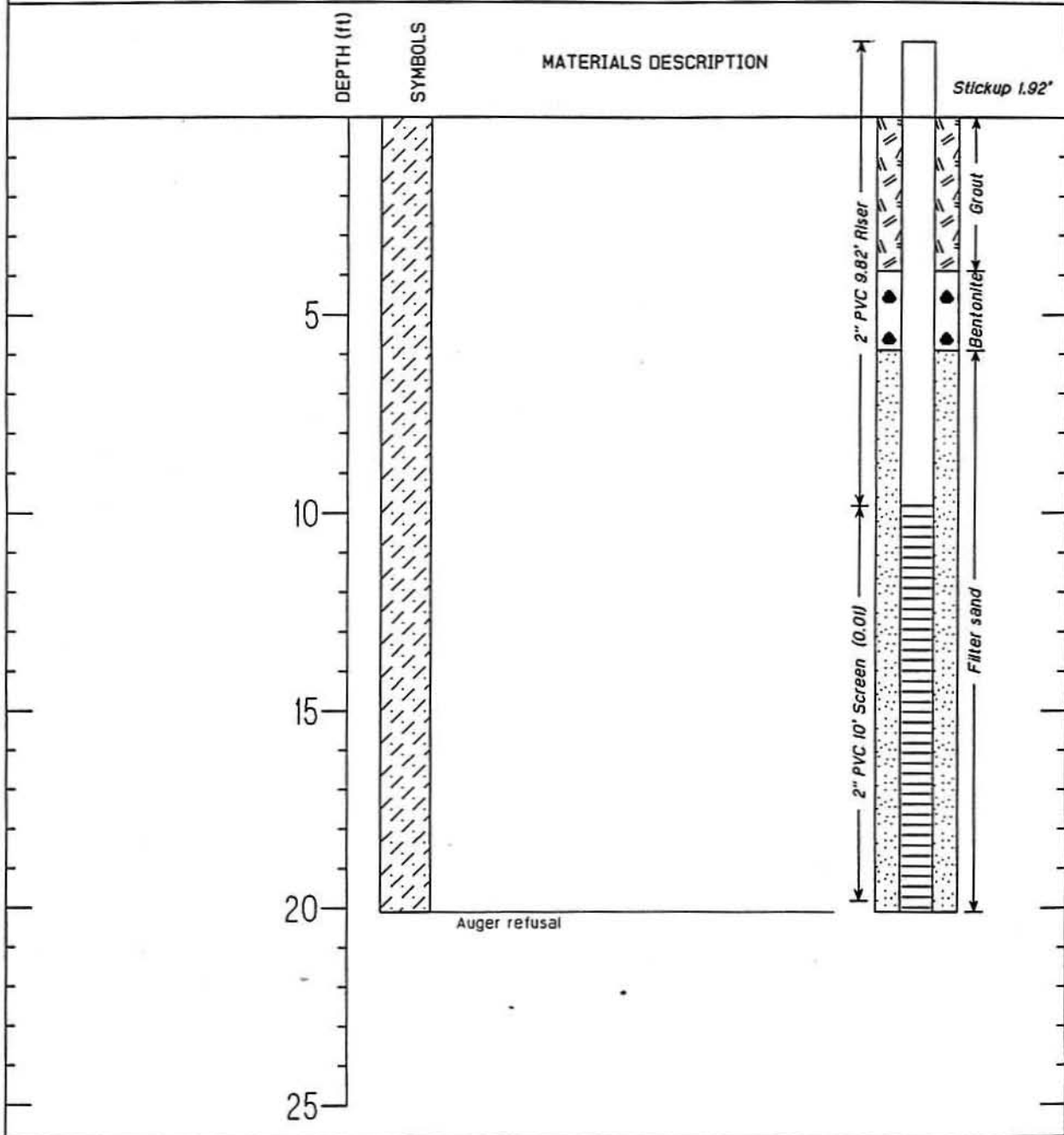
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|------------|-----|-----------|-------------|---------|----|---------------|
| DRAWN BY   | MSJ | DATE      | APRIL, 2016 | REVISED |    | SHEET         |
| CHECKED BY | DRP | PROJ. NO. | 175565262   | 1.      | 3. | <b>1 of 1</b> |
| CHECKED BY | BLB | SCALE     | NTS         | 2.      | 4. |               |

PLOT DATE: 04/20/2016 USER: JENNINGS, MATTHEW  
 U: \1755\TVA GW MONITORING WELLS - CADD\JSF\175565262 - INSTALL\WELL\_LOGS\65262-MWELL-LOG\_W-29.DWG

Tennessee Valley Authority

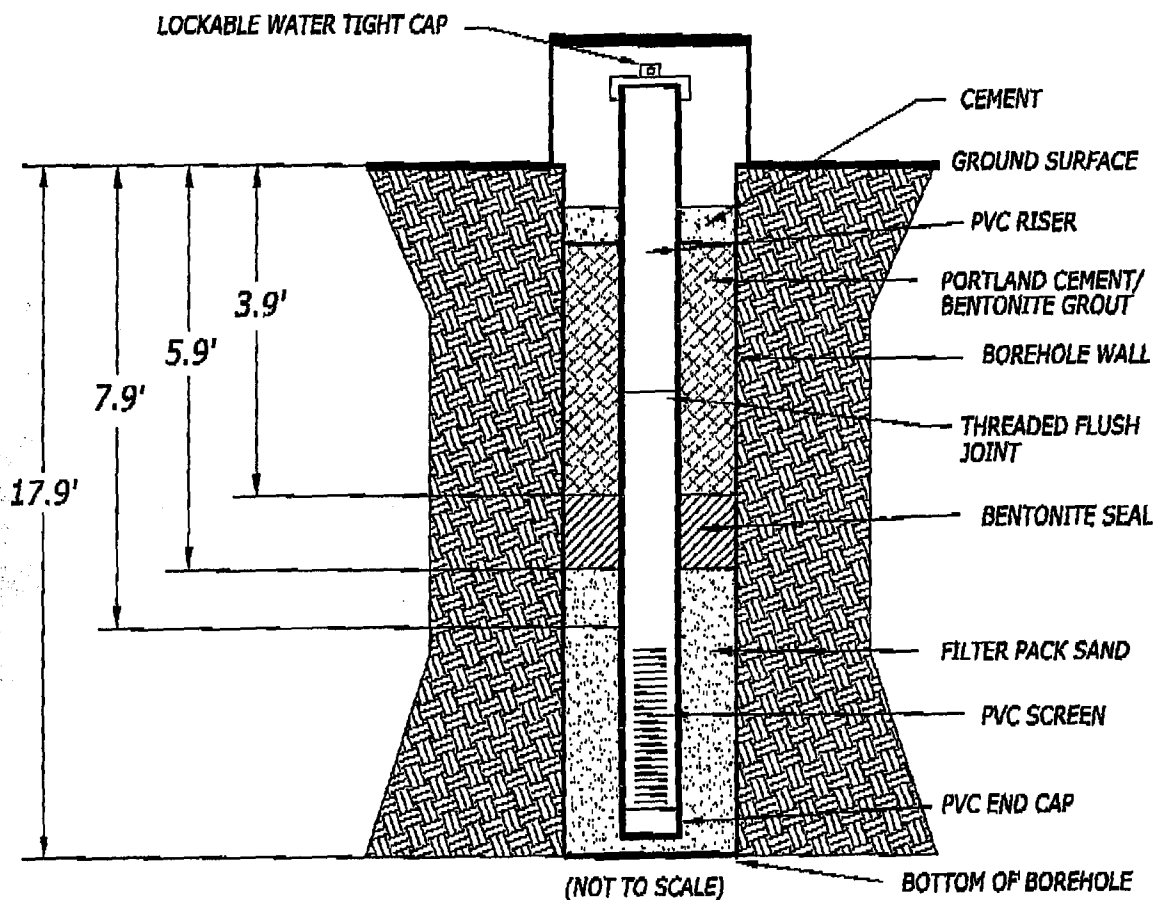
MONITORING WELL W-30  
WELL CONSTRUCTION DETAIL



|                       |                         |                       |                  |
|-----------------------|-------------------------|-----------------------|------------------|
| PROJECT               | John Sevier Steam Plant | DRILLING COMPANY      | Law Engineering  |
| LOCATION              | Rogersville, Tennessee  | DATE DRILLED          | June 24, 1998    |
| DRILL RIG             | Hollow Stem Auger       | SURFACE ELEVATION     | feet-msl         |
| LOGGER/ENGINEER       | J. Voekel               | T.O.C. ELEVATION      | 1079.36 feet-msl |
| WATER LEVEL (INITIAL) |                         | WATER LEVEL (24-HOUR) | feet             |

## TYPE II MONITORING WELL CONSTRUCTION RECORD

|   |   |
|---|---|
| <p><b>JOB NAME</b> <u>TVA JOHN SEVIER FOSSIL PLANT</u></p> <p><b>WELL NUMBER</b> <u>W-30</u></p> <p><b>BOREHOLE DIAMETER</b> <u>6"</u></p> <p><b>TOTAL DEPTH</b> <u>17.9'</u></p> <p><b>LAW ENGINEERING FIELD REPRESENTATIVE</b> <u>CHRIS YARNELL</u></p> | <p><b>JOB NUMBER</b> <u>50385-5-0400/045/01</u></p> <p><b>INSTALLATION DATE</b> <u>6/4/98</u></p> <p><b>DRILLED BY</b> <u>J. VOEKEL</u></p> <p><b>RISER/SCREEN:</b></p> <p><b>MATERIAL:</b> <u>SCHEDULE 40 PVC</u></p> <p><b>DIAMETER:</b> <u>2"</u></p> <p><b>SLOT SIZE:</b> <u>0.010"</u></p> |
|---|---|



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**MONITORING WELL CONSTRUCTION DIAGRAM**  
TVA JOHN SEVIER FOSSIL PLANT  
ROGERSVILLE, TENNESSEE

|                             |                              |                               |
|-----------------------------|------------------------------|-------------------------------|
| <b>DRAWN BY:</b><br>D. LUBY | <b>DATE:</b><br>JULY 1, 1998 | <b>SCALE:</b><br>NOT TO SCALE |
|-----------------------------|------------------------------|-------------------------------|

## TYPE II MONITORING WELL CONSTRUCTION RECORD

JOB NAME TVA JOHN SEVIER FOSSIL PLANT

JOB NUMBER 50385-5-0400/045/01

WELL NUMBER W-31

INSTALLATION DATE 5/25/98

BOREHOLE DIAMETER 6"

DRILLED BY J. VOEKEL

TOTAL DEPTH 15.3'

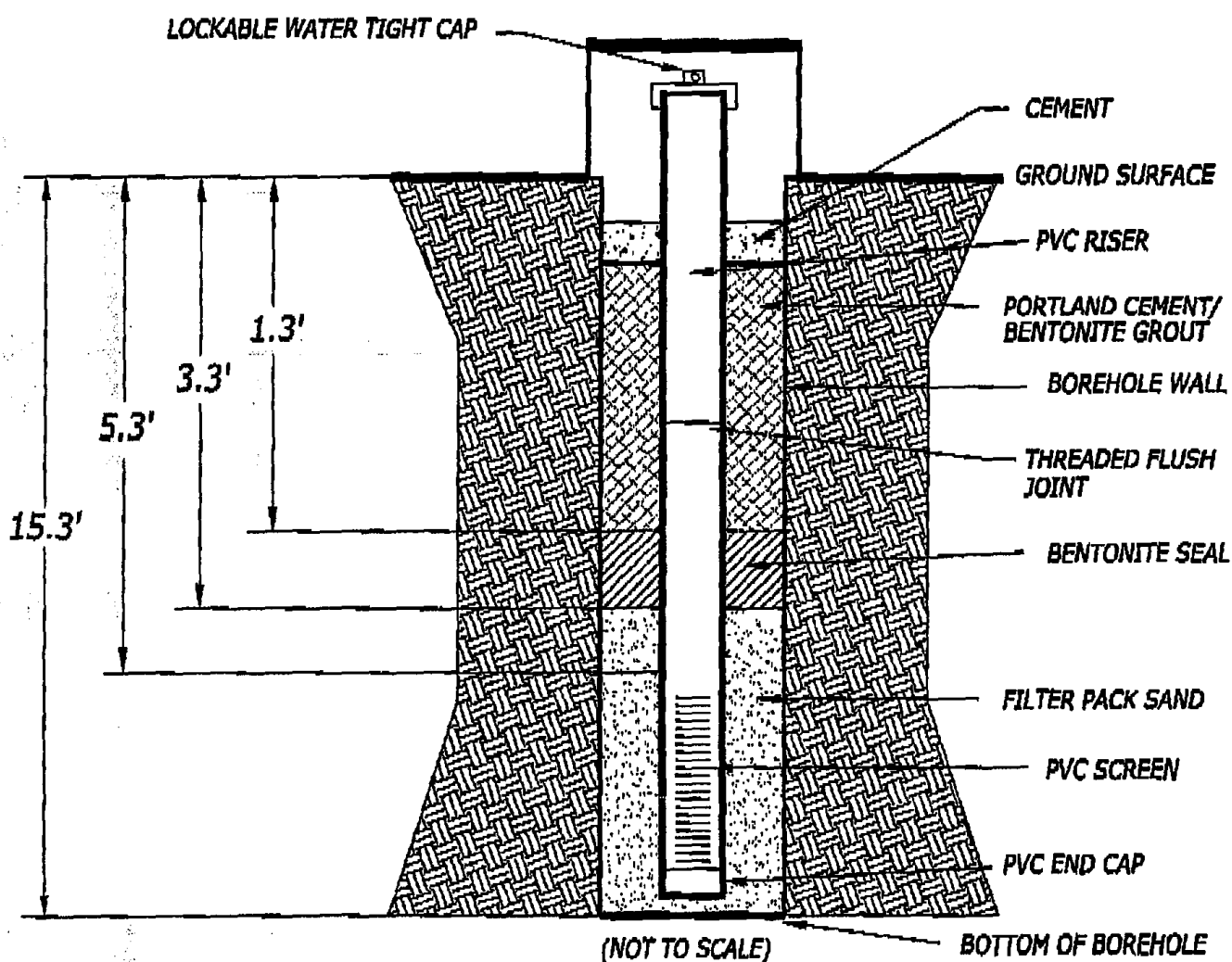
RISER/SCREEN:

LAW ENGINEERING CHRIS YARNELL  
FIELD REPRESENTATIVE

MATERIAL: SCHEDULE 40 PVC

DIAMETER: 2"

SLOT SIZE: 0.010"



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**MONITORING WELL CONSTRUCTION DIAGRAM  
TVA JOHN SEVIER FOSSIL PLANT  
ROGERSVILLE, TENNESSEE**

DRAWN BY:

D. LUBY

DATE:

JULY 1, 1998

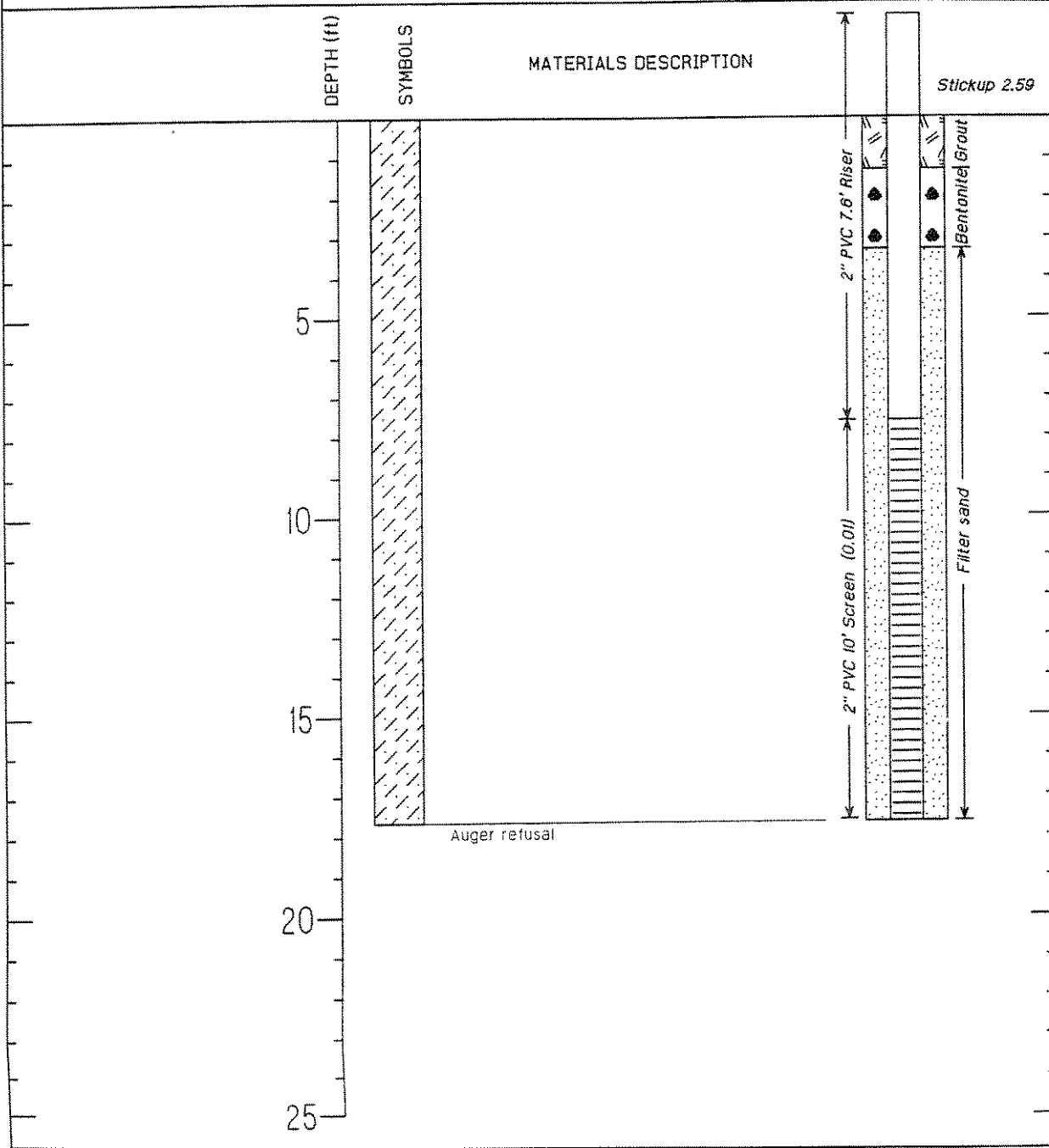
SCALE:

NOT TO SCALE

Tennessee Valley Authority

MONITORING WELL W-31

WELL CONSTRUCTION DETAIL

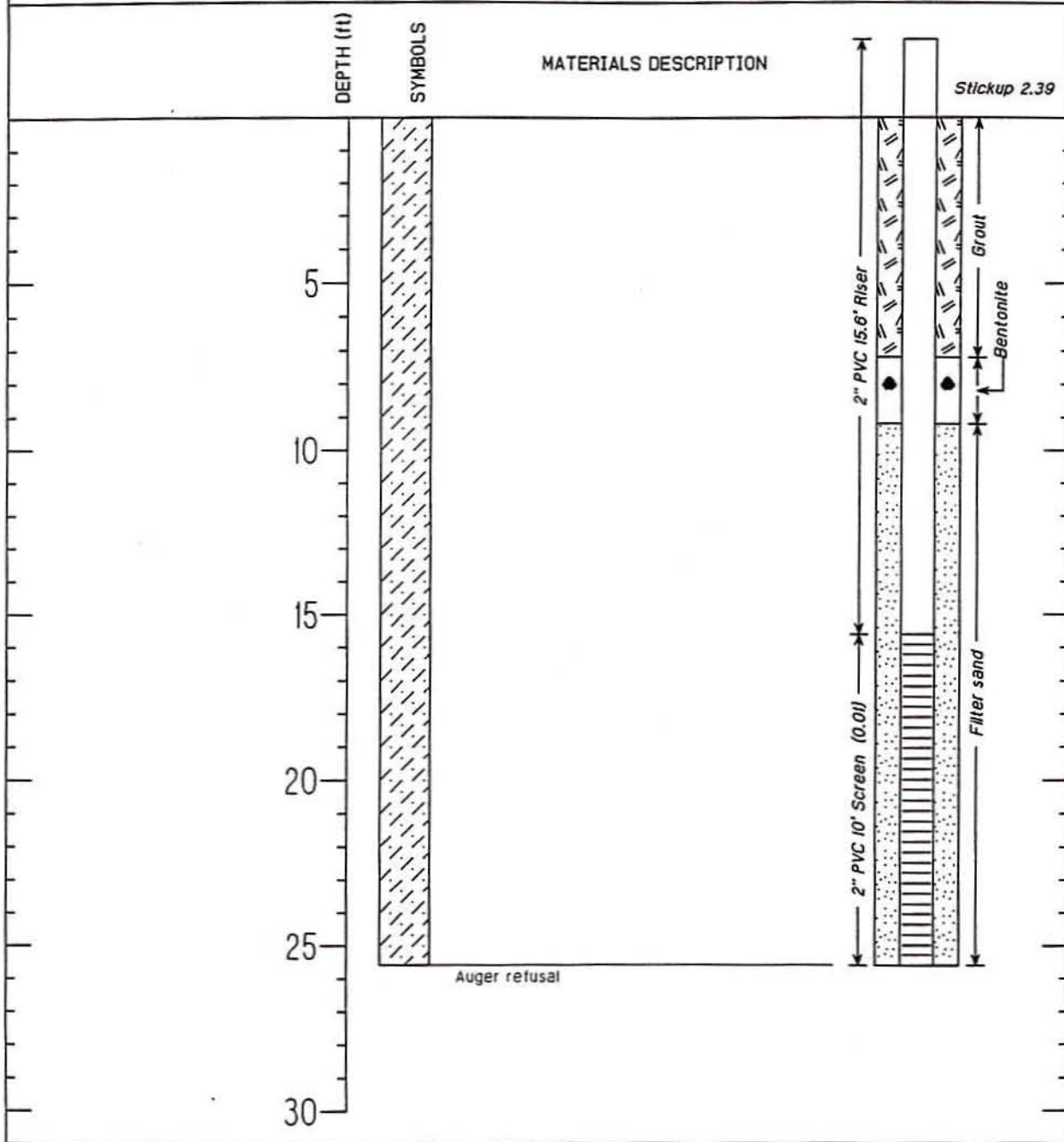


|                       |                         |                       |                  |
|-----------------------|-------------------------|-----------------------|------------------|
| PROJECT               | John Sevier Steam Plant | DRILLING COMPANY      | Law Engineering  |
| LOCATION              | Rogersville, Tennessee  | DATE DRILLED          | June 25, 1998    |
| DRILL RIG             | Hollow Stem Auger       | SURFACE ELEVATION     | feet-msl         |
| LOGGER/ENGINEER       | J. Voekel               | T.O.C. ELEVATION      | 1084.62 feet-msl |
| WATER LEVEL (INITIAL) |                         | WATER LEVEL (24-HOUR) | feet             |



Tennessee Valley Authority

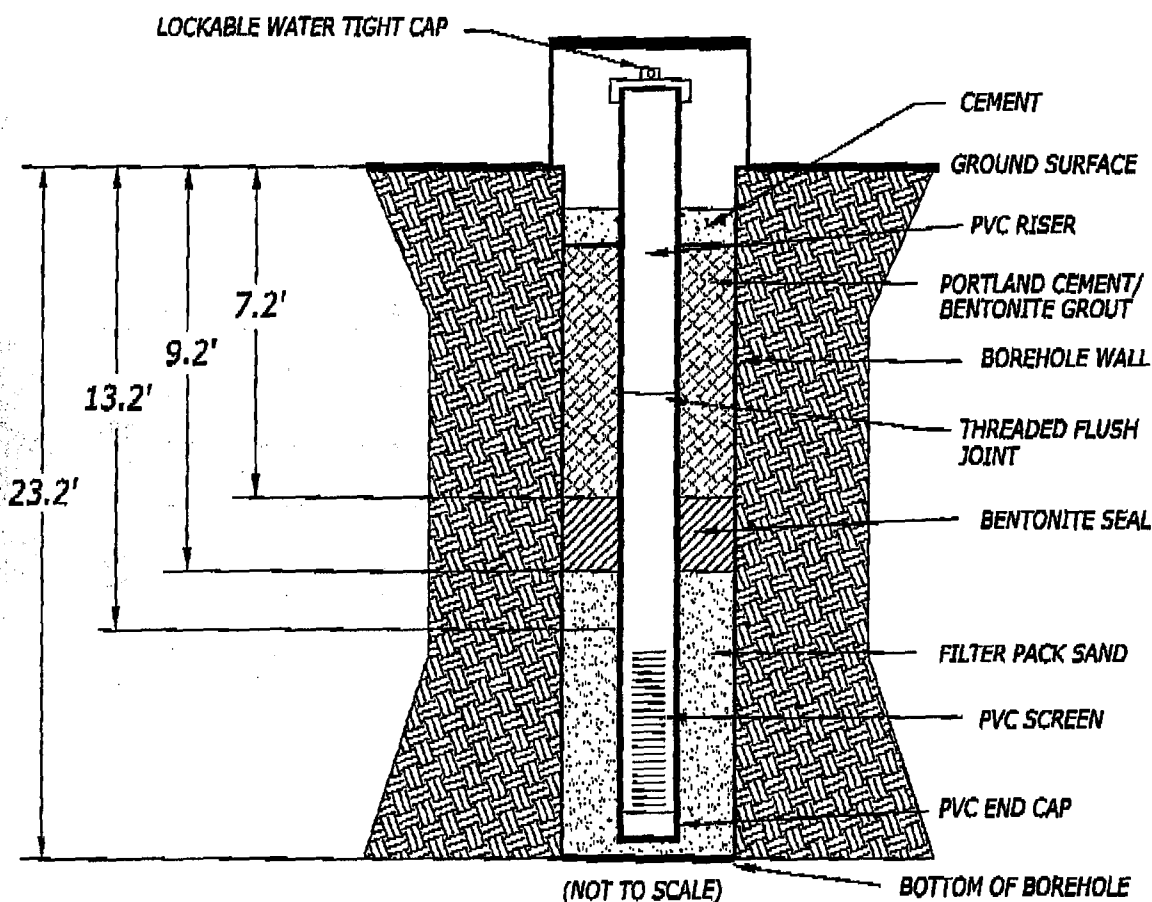
MONITORING WELL W-32  
WELL CONSTRUCTION DETAIL



|                       |                         |                       |                  |
|-----------------------|-------------------------|-----------------------|------------------|
| PROJECT               | John Sevier Steam Plant | DRILLING COMPANY      | Law Engineering  |
| LOCATION              | Rogersville, Tennessee  | DATE DRILLED          | June 19, 1998    |
| DRILL RIG             | Hollow Stem Auger       | SURFACE ELEVATION     | feet-msl         |
| LOGGER/ENGINEER       | J. Voekel               | T.O.C. ELEVATION      | 1103.94 feet-msl |
| WATER LEVEL (INITIAL) |                         | WATER LEVEL (24-HOUR) | feet             |

## TYPE II MONITORING WELL CONSTRUCTION RECORD

|   |  |
|---|--|
| <b>JOB NAME</b> <u>TVA JOHN SEVIER FOSSIL PLANT</u> | <b>JOB NUMBER</b> <u>50385-5-0400/045/01</u> |
| <b>WELL NUMBER</b> <u>W-32</u>                      | <b>INSTALLATION DATE</b> <u>5/19/98</u>      |
| <b>BOREHOLE DIAMETER</b> <u>6"</u>                  | <b>DRILLED BY</b> <u>J. VOEKEL</u>           |
| <b>TOTAL DEPTH</b> <u>23.2'</u>                     | <b>RISER/SCREEN:</b>                         |
| <b>LAW ENGINEERING</b> <u>CHRIS YARNELL</u>         | <b>MATERIAL:</b> <u>SCHEDULE 40 PVC</u>      |
| <b>FIELD REPRESENTATIVE</b>                         | <b>DIAMETER:</b> <u>2"</u>                   |
|   | <b>SLOT SIZE:</b> <u>0.010"</u>              |



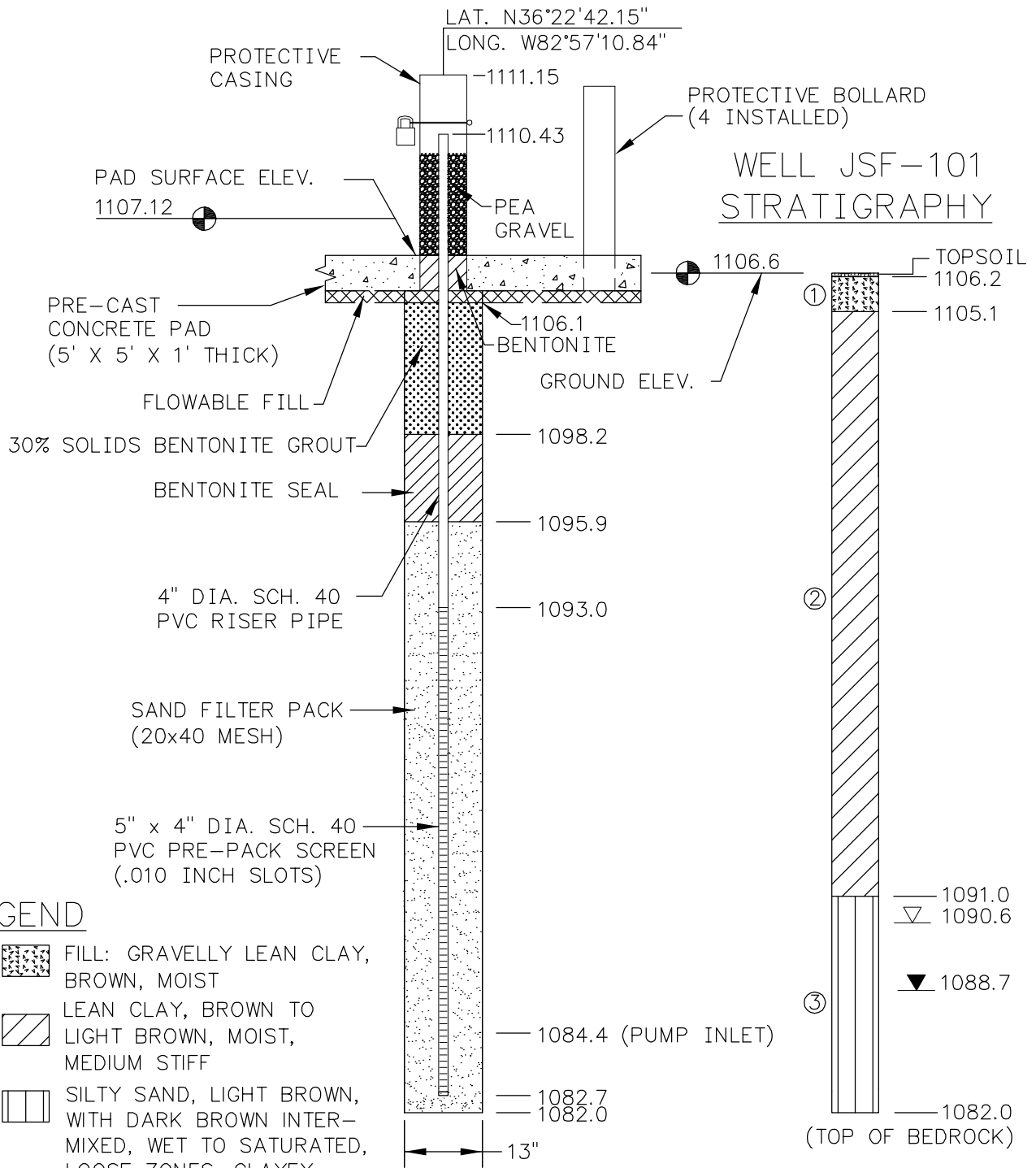
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**MONITORING WELL CONSTRUCTION DIAGRAM  
TVA JOHN SEVIER FOSSIL PLANT  
ROGERSVILLE, TENNESSEE**

|                             |                              |                               |
|-----------------------------|------------------------------|-------------------------------|
| <b>DRAWN BY:</b><br>D. LUBY | <b>DATE:</b><br>JULY 1, 1998 | <b>SCALE:</b><br>NOT TO SCALE |
|-----------------------------|------------------------------|-------------------------------|



**LEGEND**

- ① FILL: GRAVELLY LEAN CLAY, BROWN, MOIST
- ② LEAN CLAY, BROWN TO LIGHT BROWN, MOIST, MEDIUM STIFF
- ③ SILTY SAND, LIGHT BROWN, WITH DARK BROWN INTER-MIXED, WET TO SATURATED, LOOSE ZONES, CLAYEY

- ▽ WATER LEVEL RECORDED ON 10/21/2015
- ▼ WATER LEVEL RECORDED DURING DRILLING 10/07/2015

**NOTES:**

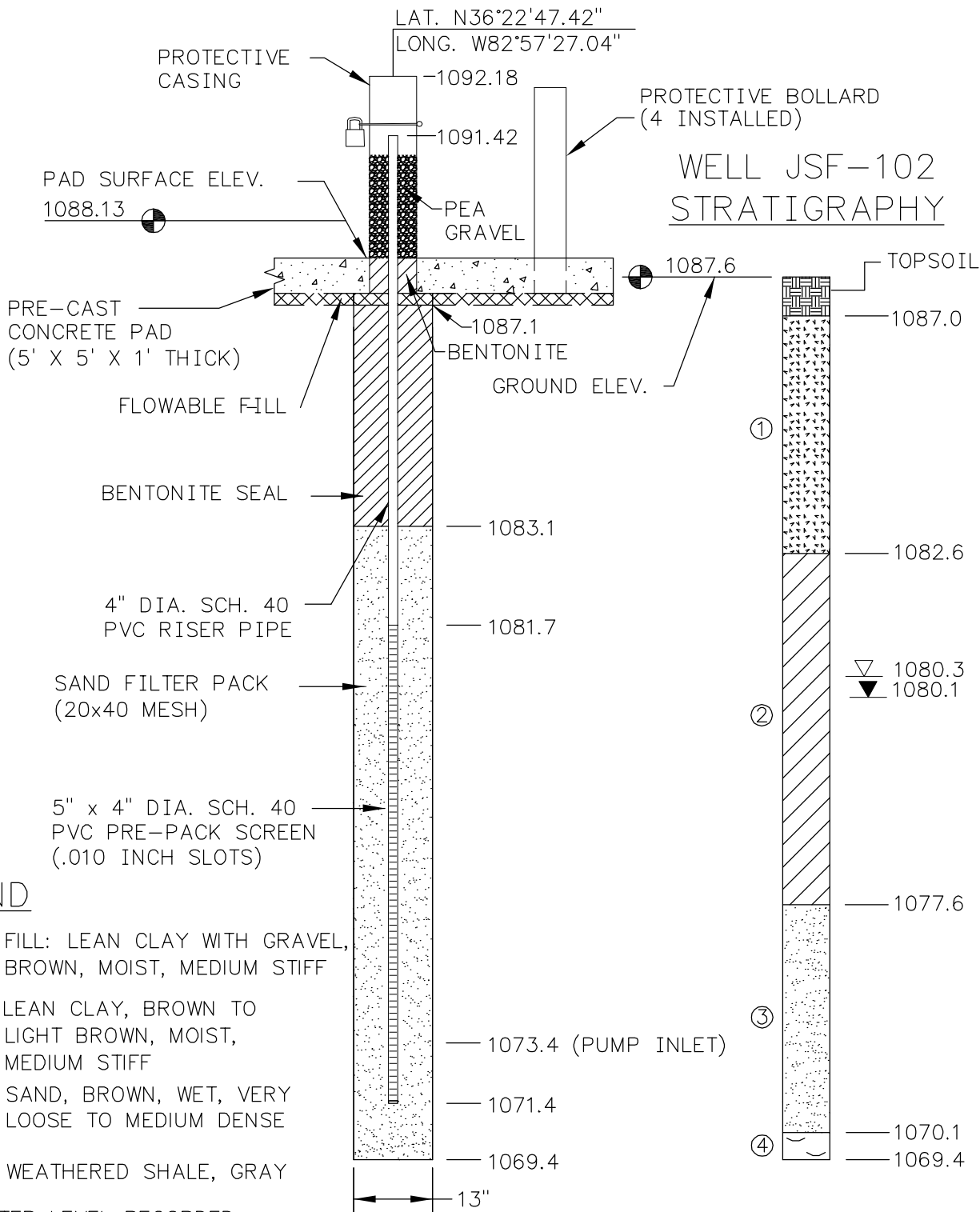
1. SUBSURFACE STRATIGRAPHY BASED ON SPT SAMPLES OBTAINED DURING THE DRILLING PROCESS.
2. SURVEY INFORMATION PROVIDED BY STANTEC (NAD83 SHOWN).
3. WELL INSTALLED ON 10/19/2015.

**JSF-101 MONITORING WELL INSTALLATION DETAIL  
TVA JOHN SEVIER FOSSIL PLANT  
ROGERSVILLE, HAWKINS COUNTY, TN**

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| DRAWN BY   | MSJ | DATE      | APRIL, 2016 | REVISED | SHEET         |
| CHECKED BY | DRP | PROJ. NO. | 175565262   | 1.      | <b>1 of 1</b> |
| CHECKED BY | BLB | SCALE     | NTS         | 2.      |               |

PLOT DATE: 04/19/2016 USER: JENNINGS, MATTHEW U: \1755\TVA GW MONITORING WELLS - CADD\JSF\175565262 - INSTALL\WELL\_LOGS\65262-MWELL-LOG\_101.DWG



### LEGEND

- ① FILL: LEAN CLAY WITH GRAVEL, BROWN, MOIST, MEDIUM STIFF
- ② LEAN CLAY, BROWN TO LIGHT BROWN, MOIST, MEDIUM STIFF
- ③ SAND, BROWN, WET, VERY LOOSE TO MEDIUM DENSE
- ④ WEATHERED SHALE, GRAY

- WATER LEVEL RECORDED ON 10/19/2015
- WATER LEVEL RECORDED DURING DRILLING 10/15/2015

### NOTES:

1. SUBSURFACE STRATIGRAPHY BASED ON SPT SAMPLES OBTAINED DURING THE DRILLING PROCESS.
2. SURVEY INFORMATION PROVIDED BY STANTEC (NAD83 SHOWN).
3. WELL INSTALLED ON 10/16/2015.

## JSF-102 MONITORING WELL INSTALLATION DETAIL TVA JOHN SEVIER FOSSIL PLANT ROGERSVILLE, HAWKINS COUNTY, TN

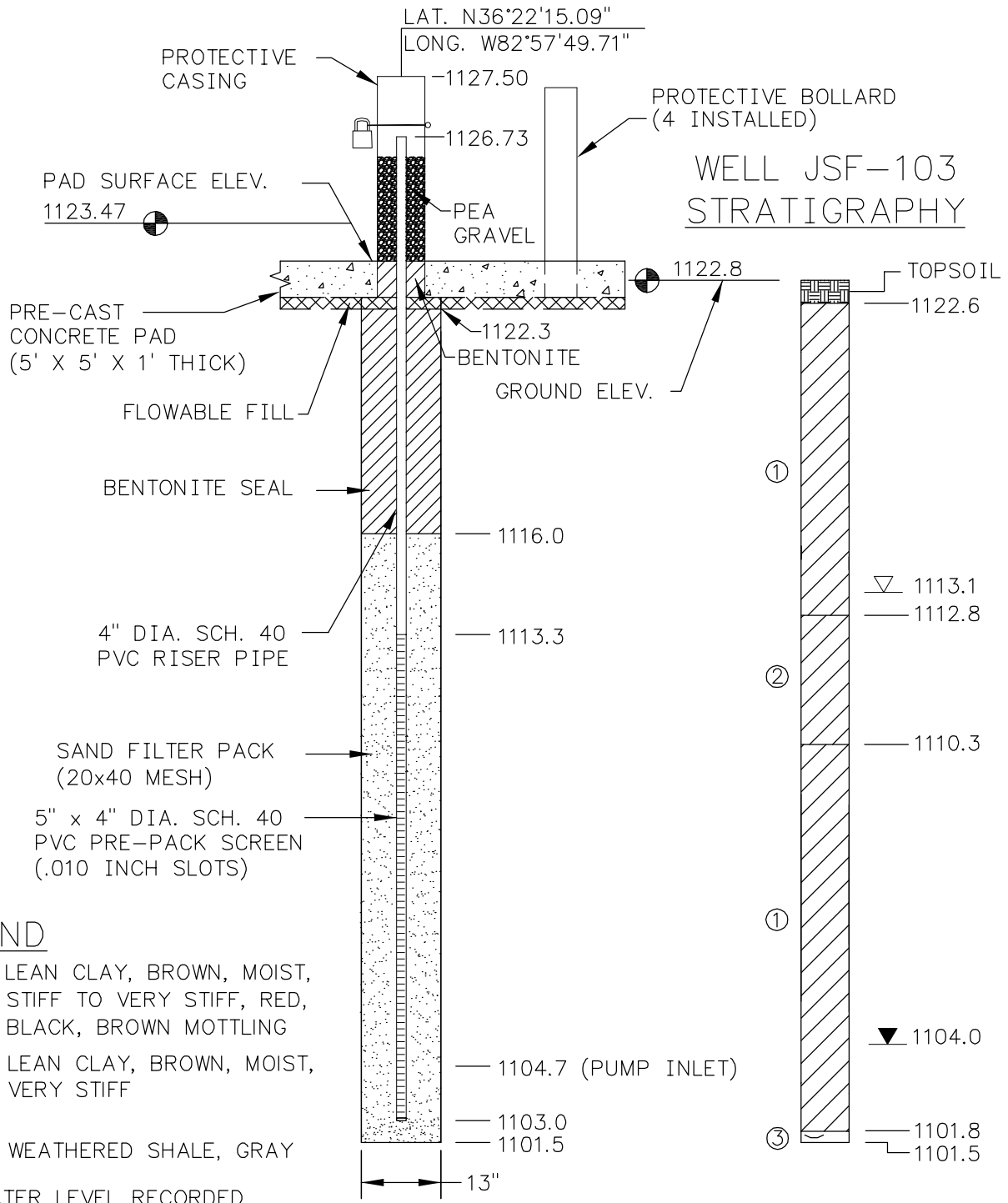


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|------------|-----|-----------|-------------|---------|-------|
| DRAWN BY   | MSJ | DATE      | APRIL, 2016 | REVISED | SHEET |
| CHECKED BY | DRP | PROJ. NO. | 175565262   | 1.      | 3.    |
| CHECKED BY | BLB | SCALE     | NTS         | 2.      | 4.    |

1 of 1



**LEGEND**

- ① LEAN CLAY, BROWN, MOIST, STIFF TO VERY STIFF, RED, BLACK, BROWN MOTTLING
- ② LEAN CLAY, BROWN, MOIST, VERY STIFF
- ③ WEATHERED SHALE, GRAY
- ▽ WATER LEVEL RECORDED ON 10/21/2015
- ▼ WATER LEVEL RECORDED DURING DRILLING 10/20/2015

**NOTES:**

1. SUBSURFACE STRATIGRAPHY BASED ON SPT SAMPLES OBTAINED DURING THE DRILLING PROCESS.
2. SURVEY INFORMATION PROVIDED BY STANTEC (NAD83 SHOWN).
3. WELL INSTALLED ON 10/21/2015.

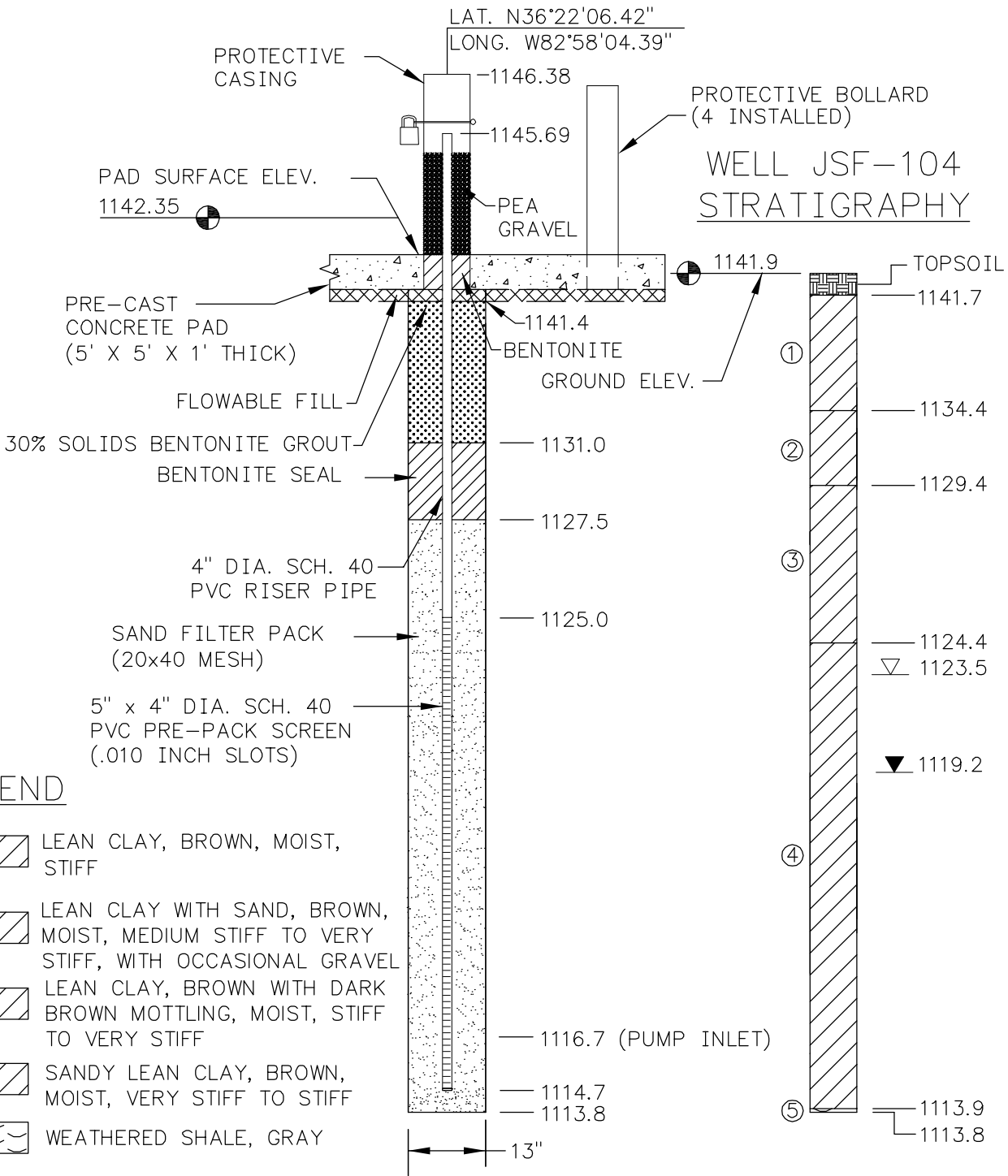
**JSF-103 MONITORING WELL INSTALLATION DETAIL  
TVA JOHN SEVIER FOSSIL PLANT  
ROGERSVILLE, HAWKINS COUNTY, TN**

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| DRAWN BY   | MSJ | DATE      | APRIL, 2016 | REVISED | SHEET |
| CHECKED BY | DRP | PROJ. NO. | 175565262   | 1.      | 3.    |
| CHECKED BY | BLB | SCALE     | NTS         | 2.      | 4.    |

1 of 1

PLOT DATE: 04/19/2016 USER: JENNINGS, MATTHEW U:\1755\TVA GW MONITORING WELLS - CADD\JSF\175565262 - INSTALL\WELL\_LOGS\65262-MWELL-LOG-103.DWG



**LEGEND**

- ① LEAN CLAY, BROWN, MOIST, STIFF
- ② LEAN CLAY WITH SAND, BROWN, MOIST, MEDIUM STIFF TO VERY STIFF, WITH OCCASIONAL GRAVEL
- ③ LEAN CLAY, BROWN WITH DARK BROWN MOTTLING, MOIST, STIFF TO VERY STIFF
- ④ SANDY LEAN CLAY, BROWN, MOIST, VERY STIFF TO STIFF
- ⑤ WEATHERED SHALE, GRAY

- ▽ WATER LEVEL RECORDED ON 10/19/2015
- ▼ WATER LEVEL RECORDED DURING DRILLING 10/14/2015

**NOTES:**

1. SUBSURFACE STRATIGRAPHY BASED ON SPT SAMPLES OBTAINED DURING THE DRILLING PROCESS.
2. SURVEY INFORMATION PROVIDED BY STANTEC (NAD83 SHOWN).
3. WELL INSTALLED ON 10/21/2015.

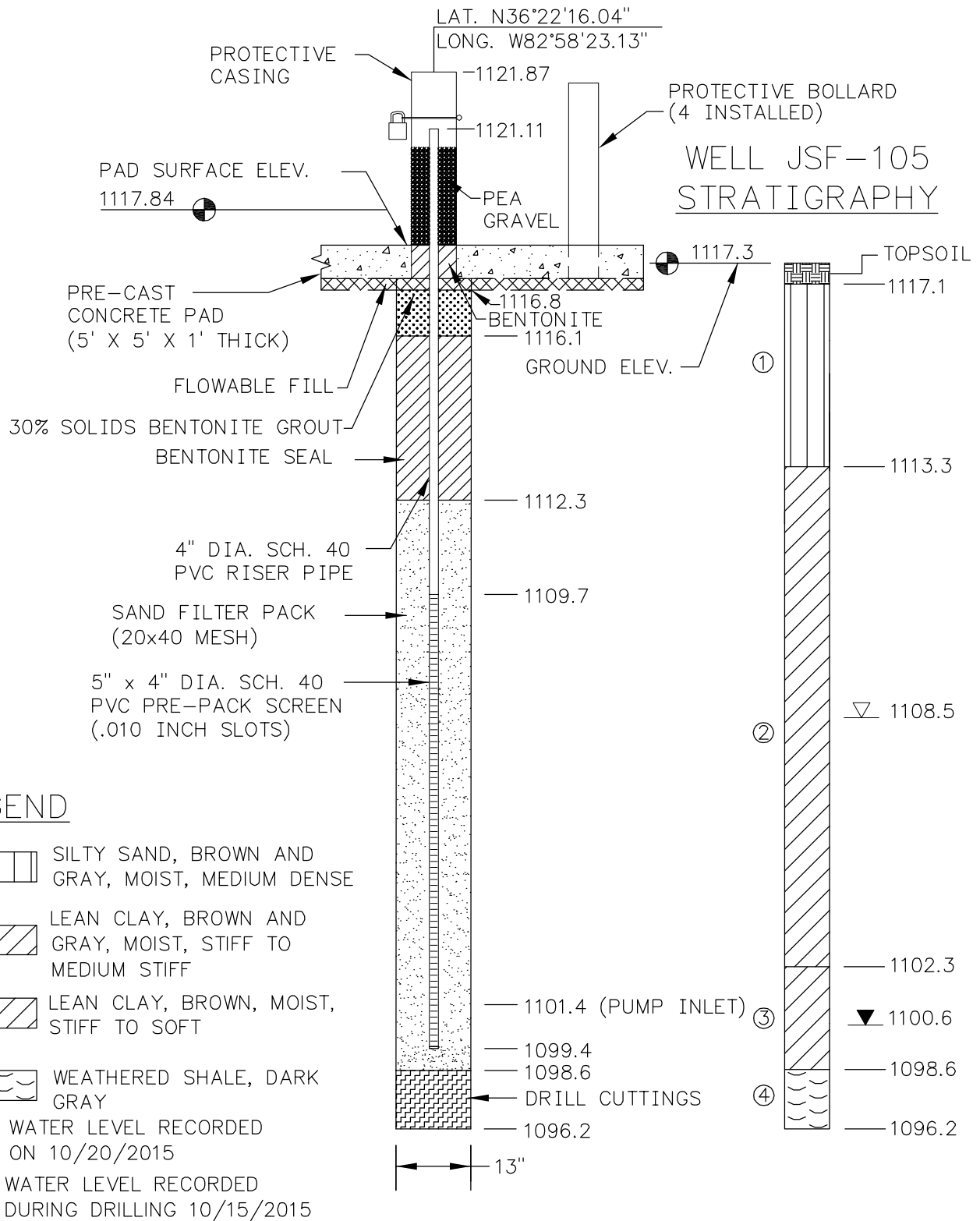
**JSF-104 MONITORING WELL INSTALLATION DETAIL  
TVA JOHN SEVIER FOSSIL PLANT  
ROGERSVILLE, HAWKINS COUNTY, TN**

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|------------|-----|-----------|-------------|---------|-------|
| DRAWN BY   | MSJ | DATE      | APRIL, 2016 | REVISED | SHEET |
| CHECKED BY | DRP | PROJ. NO. | 175565262   | 1.      | 3.    |
| CHECKED BY | BLB | SCALE     | NTS         | 2.      | 4.    |

1 of 1

PLOT DATE: 04/19/2016 USER: JENNINGS, MATTHEW U:\1755\TVA GW MONITORING WELLS - CADD\JSF\175565262 - INSTALL\WELL\_LOGS\65262-MWELL-LOG\_104.DWG



PLOT DATE: 04/21/2016 USER: JENNINGS, MATTHEW U: \1755\TVA GW MONITORING WELLS - CADD\JSF 175565262 - INSTALL\_WELL\_LOGS\65262-MWELL-LOG\_105.DWG

**NOTES:**

1. SUBSURFACE STRATIGRAPHY BASED ON SPT SAMPLES OBTAINED DURING THE DRILLING PROCESS.
2. SURVEY INFORMATION PROVIDED BY STANTEC (NAD83 SHOWN).
3. WELL INSTALLED ON 10/21/2015.

**JSF-105 MONITORING WELL INSTALLATION DETAIL**  
**TVA JOHN SEVIER FOSSIL PLANT**  
**ROGERSVILLE, HAWKINS COUNTY, TN**

|   |   |  |    |    |    |  |
|---|---|--|----|----|----|--|
|   | <p><b>Stantec Consulting Services Inc.</b><br/>1409 N. Forbes Rd.<br/>Lexington, Kentucky<br/>40511-2050<br/>859-422-3000<br/><a href="http://www.stantec.com">www.stantec.com</a></p>                          | <p>SHEET</p> <p style="font-size: 24pt;"><b>1 of 1</b></p> |    |    |    |  |
| <p><b>DRAWN BY</b> MSJ    <b>DATE</b> APRIL, 2016</p> <p><b>CHECKED BY</b> DRP    <b>PROJ. NO.</b> 175565262</p> <p><b>CHECKED BY</b> BLB    <b>SCALE</b> NTS</p> | <p><b>REVISED</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">1.</td> <td style="width: 50%;">3.</td> </tr> <tr> <td>2.</td> <td>4.</td> </tr> </table> | 1.   | 3. | 2. | 4. |  |
| 1.  | 3.  |  |    |    |    |  |
| 2.  | 4.  |  |    |    |    |  |



# WELL INSTALLATION DETAIL

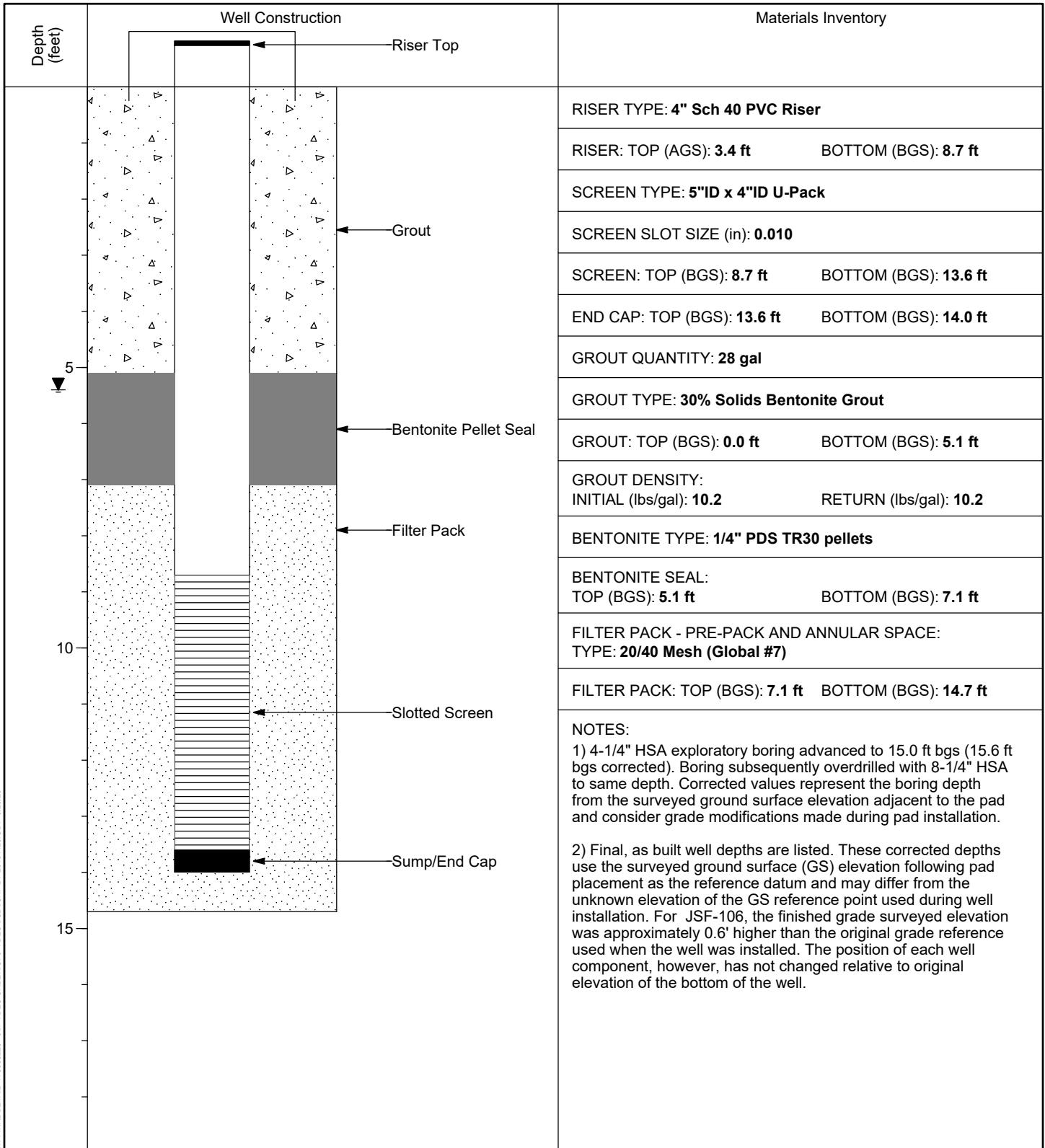
WELL / PROBEHOLE / BOREHOLE NO:

PAGE 1 OF 1

## JSF-106 (Boring JSF-106)

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#2, #711**  
 DRILLING METHOD: **8-1/4" HSA**  
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners,**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **C. Kocka**  
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **1/23/19** COMPLETED: **1/25/19**  
 LOCATION: **733,018.92 N; 2,887,105.85 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIP: **Ash Disposal Area J, Upgradient**  
 LATITUDE: **36° 22' 5.56"** LONGITUDE: **-82° 59' 11.83"**  
 GROUND ELEV (ft): **1094.8** TOC ELEV (ft): **1098.21**  
 ELEVATION DATUM: **NGVD29**  
 WELL DEPTH (ft, bgs): **14.0**  
 DTW AT COMPLETION (ft, bgs): **5.4**  
 BOREHOLE DIA. (in): **13.3** WELL DIA. (in): **4.0**



MW FINAL DETAIL 175568225 - JSF TDEC ORDER GPGJ TDEC SUBSURF DT 20191120.GDT 6/29/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)



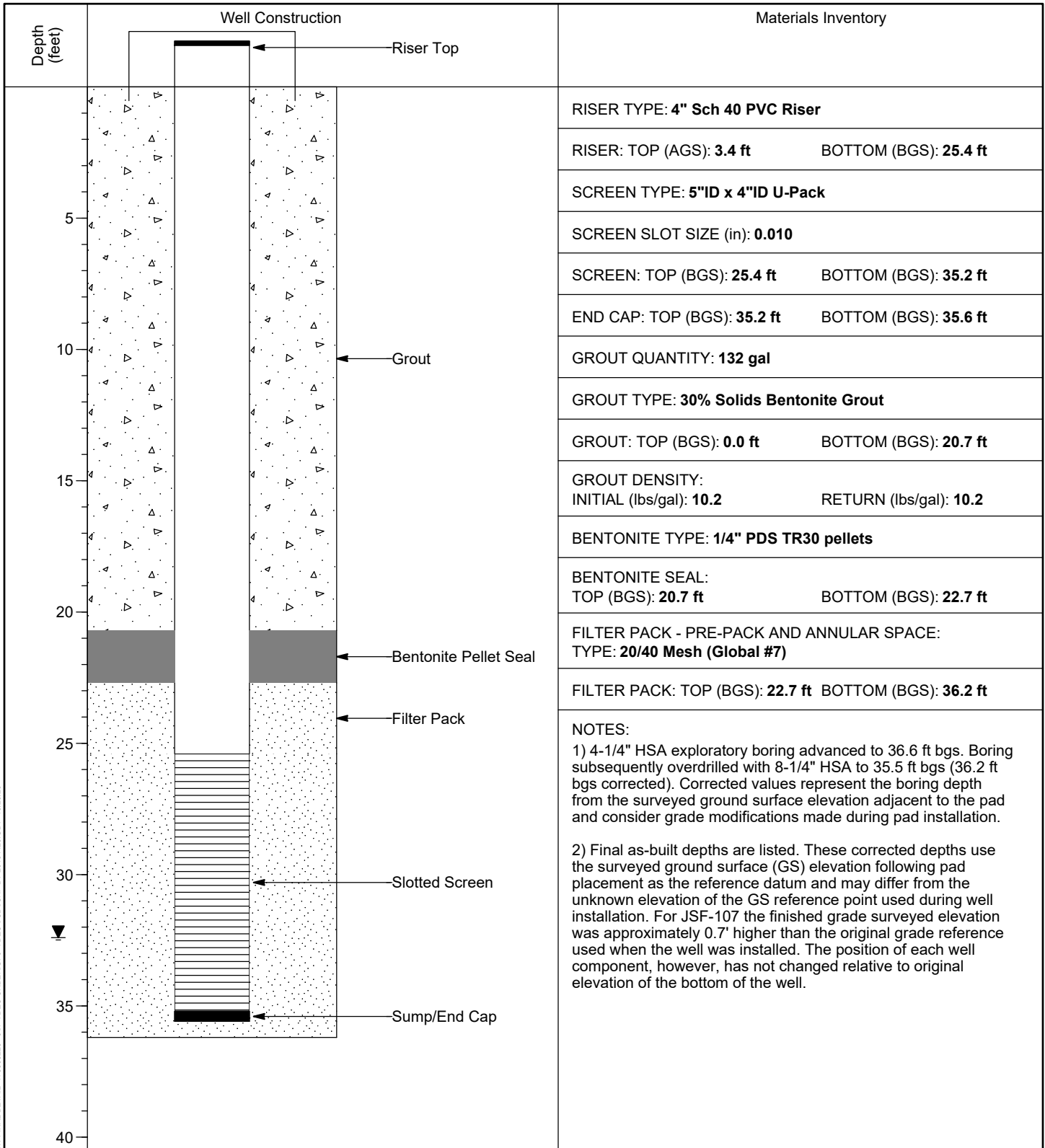


# WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JSF-107 (Boring JSF-107)** PAGE 1 OF 1

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#2, #711**  
 DRILLING METHOD: **8-1/4" HSA**  
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **C. Kocka**  
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **2/27/19** COMPLETED: **2/28/19**  
 LOCATION: **733,849.62 N; 2,887,998.51 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIP: **Ash Disposal Area J, Northeast**  
 LATITUDE: **36° 22' 13.50"** LONGITUDE: **-82° 59' 0.61"**  
 GROUND ELEV (ft): **1106.3** TOC ELEV (ft): **1109.75**  
 ELEVATION DATUM: **NGVD29**  
 WELL DEPTH (ft, bgs): **35.6**  
 DTW AT COMPLETION (ft, bgs): **32.4**  
 BOREHOLE DIA. (in): **13.3** WELL DIA. (in): **4.0**



MW/FINAL DETAIL 175568225 - JSF TDEC ORDER/GPJ TDEC SUBSURF DT 20191120.GDT 10/29/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

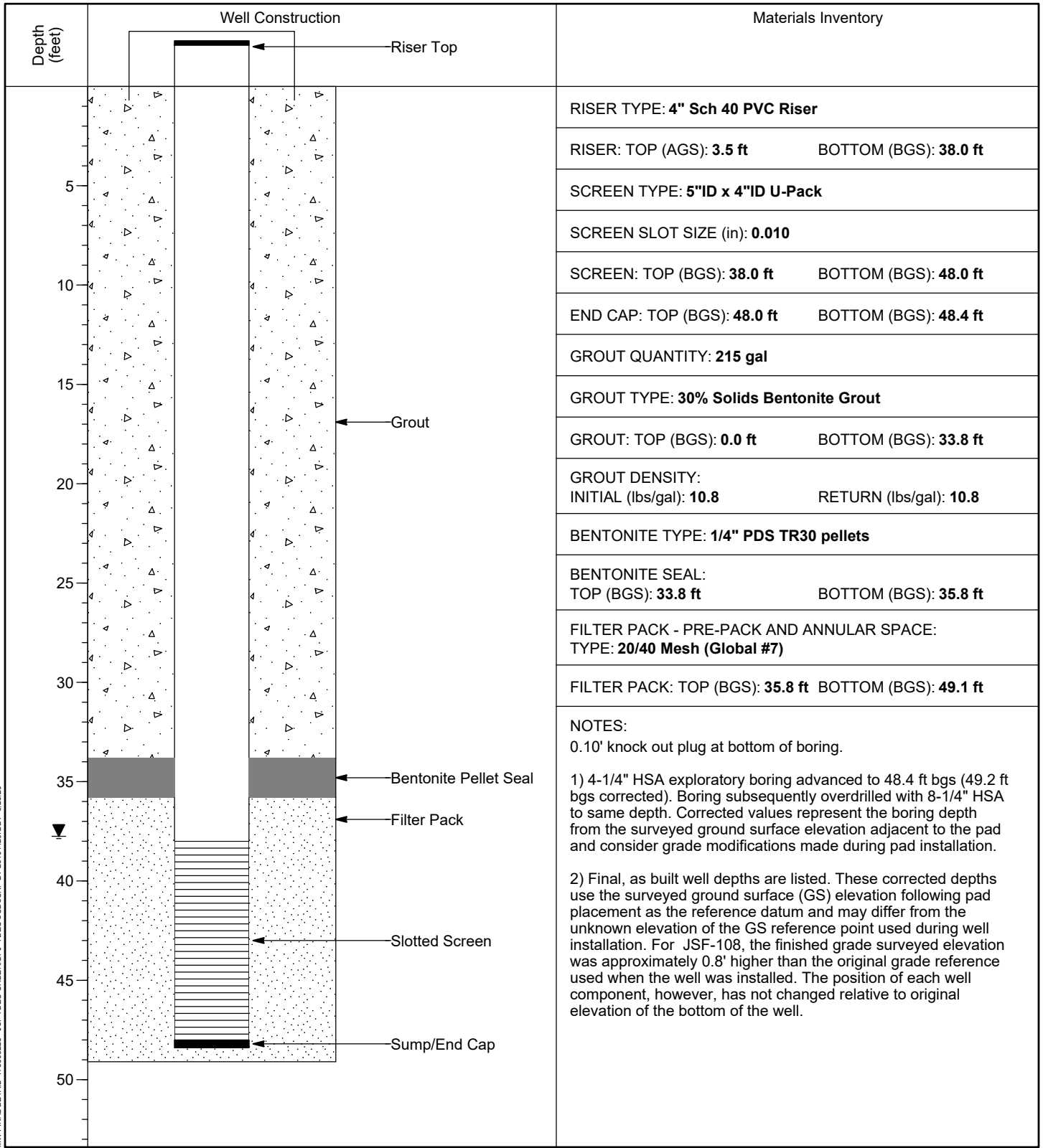


# WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JSF-108 (Boring JSF-108)** PAGE 1 OF 1

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#2, #711**  
 DRILLING METHOD: **8-1/4" HSA**  
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners,**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **C. Kocka**  
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **2/13/19** COMPLETED: **2/15/19**  
 LOCATION: **733,309.62 N; 2,886,321.05 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIP: **Ash Disposal Area J, North**  
 LATITUDE: **36° 22' 8.67"** LONGITUDE: **-82° 59' 21.31"**  
 GROUND ELEV (ft): **1106.0** TOC ELEV (ft): **1109.41**  
 ELEVATION DATUM: **NGVD29**  
 WELL DEPTH (ft, bgs): **48.4**  
 DTW AT COMPLETION (ft, bgs): **37.8**  
 BOREHOLE DIA. (in): **13.3** WELL DIA. (in): **4.0**



MW/FINAL DETAIL 175568225 - JSF TDEC ORDER/GPJ TDEC SUBSURF DT 20191120.GDT 6/29/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

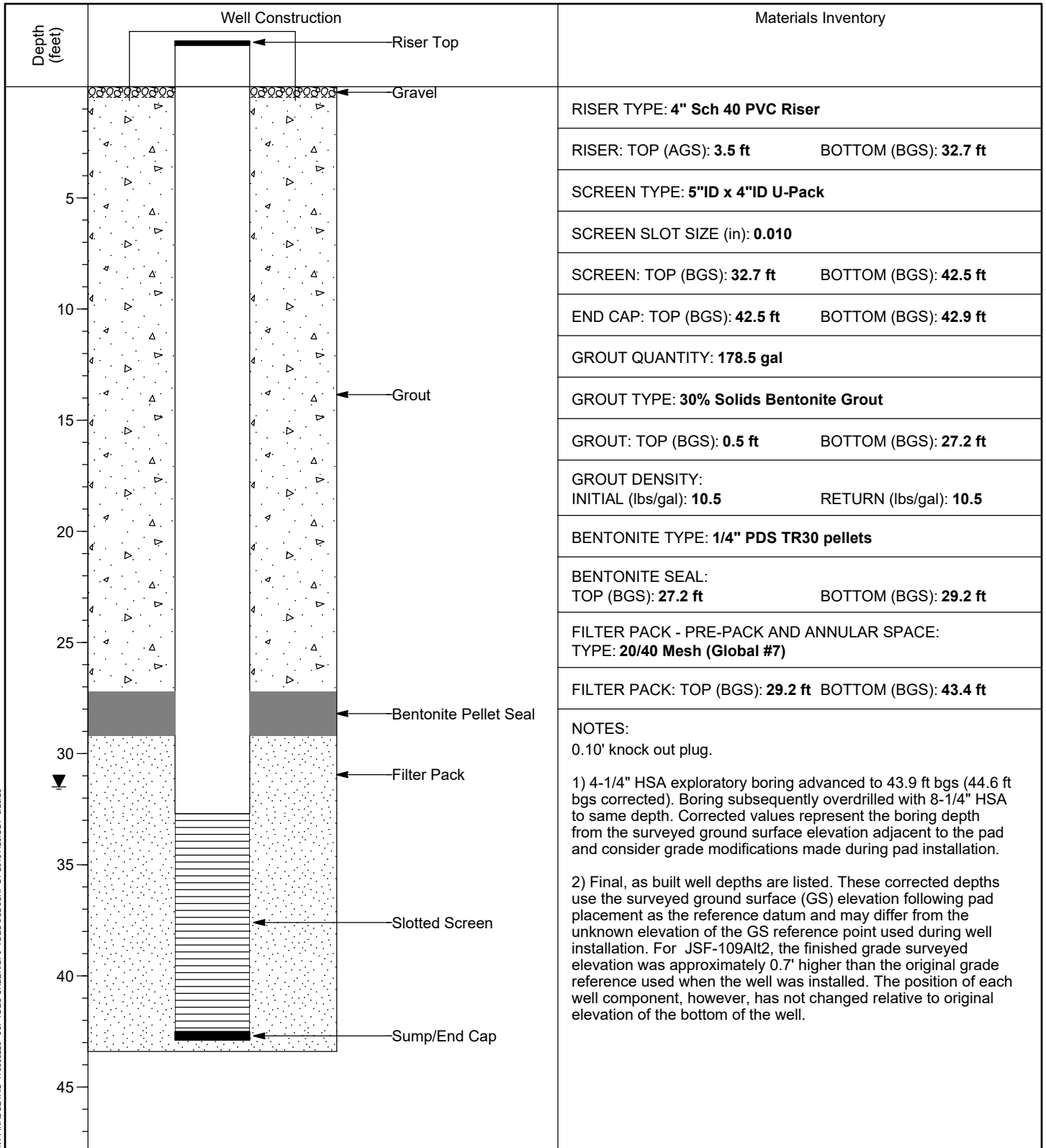


# WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: PAGE 1 OF 1  
**JSF-109 (Boring JSF-109Alt2)**

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 55T#2, #711**  
 DRILLING METHOD: **8-1/4" HSA**  
 SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **C. Kocka**  
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **3/5/19** COMPLETED: **3/5/19**  
 LOCATION: **732,996.05 N; 2,885,961.58 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIP: **Ash Disposal Area J, West downhill**  
 LATITUDE: **36° 22' 5.68"** LONGITUDE: **-82° 59' 25.82"**  
 GROUND ELEV (ft): **1101.2** TOC ELEV (ft): **1104.72**  
 ELEVATION DATUM: **NGVD29**  
 WELL DEPTH (ft, bgs): **42.9**  
 DTW AT COMPLETION (ft, bgs): **31.5**  
 BOREHOLE DIA. (in): **13.3** WELL DIA. (in): **4.0**



MW/FINAL DETAIL 175568225 - JSF TDEC ORDER/GPJ TDEC SUBSURF DT 20191120.GDT 6/29/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

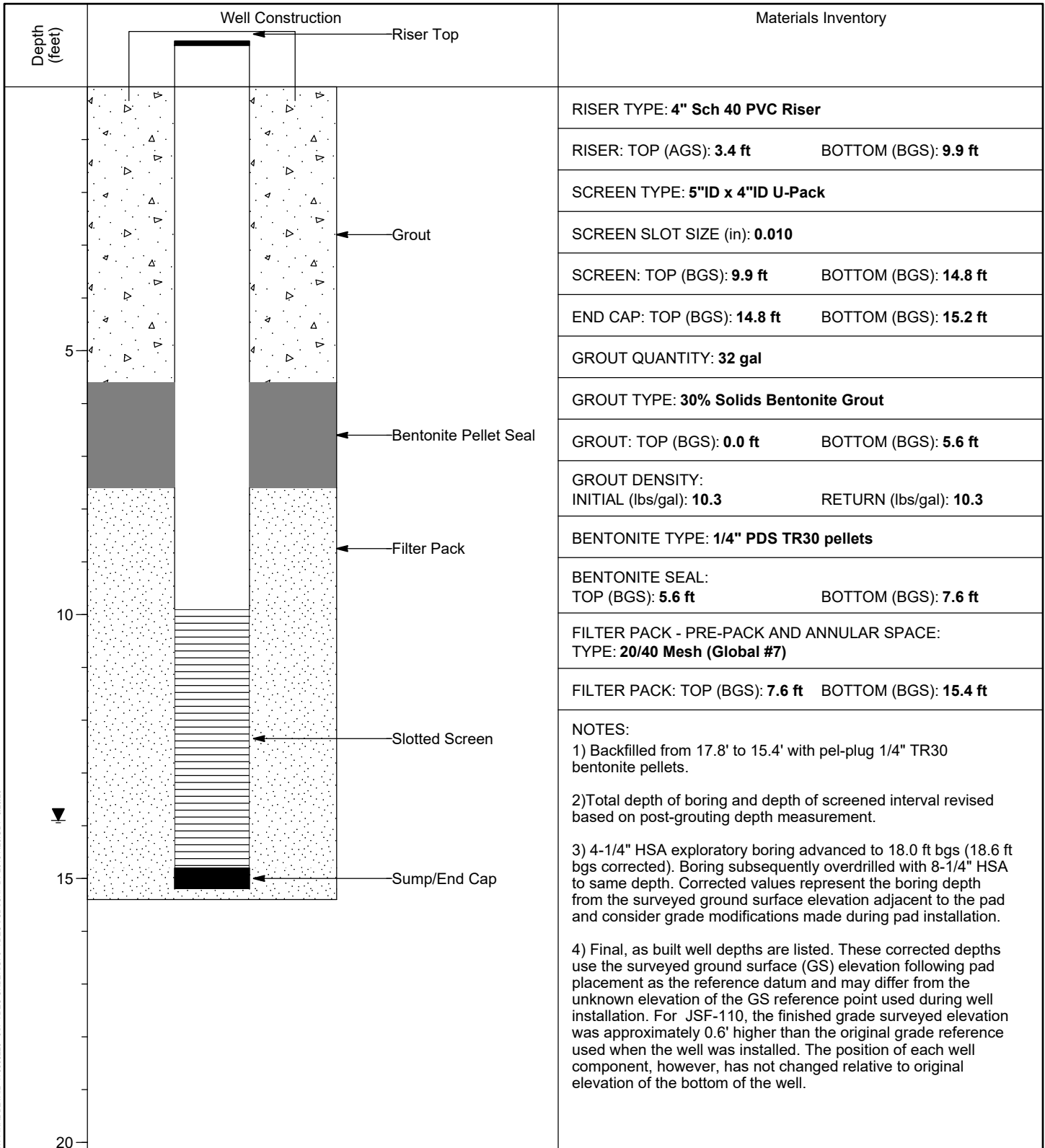


# WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO:

PAGE 1 OF 1

## JSF-110 (Boring JSF-110)

PROJECT: **JSF TDEC Order**  
PROJECT NUMBER: **175568225**DRILLING COMPANY: **Stantec Consulting Services Inc.**DRILLING EQUIPMENT: **CME 55T#2, #711**DRILLING METHOD: **8-1/4" HSA**SAMPLING METHOD: **4-1/4" HSA, 2" and 3" SS w/o liners**OBSERVED BY: **C. Sexton**REVIEWED BY: **C. Kocka**APPROVED BY: **P. Dunne**INSTALLATION: STARTED: **1/29/19**COMPLETED: **1/30/19**LOCATION: **732,649.53 N; 2,889,835.21 E**DATUM: **NAD27 Plant Local**LOC. DESCRIP: **Highway 70 Borrow Area, AE corner**LATITUDE: **36° 22' 1.07"**LONGITUDE: **-82° 58' 38.61"**GROUND ELEV (ft): **1139.0**TOC ELEV (ft): **1142.44**ELEVATION DATUM: **NGVD29**WELL DEPTH (ft, bgs): **15.2**DTW AT COMPLETION (ft, bgs): **13.9**BOREHOLE DIA. (in): **13.3**WELL DIA. (in): **4.0**

MW/FINAL DETAIL: 175568225 - JSF TDEC ORDER/GPJ TDEC SUBSURF DT: 20191120.GDT 6/29/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)



# Monitoring Well Installation Field Log



|   |  |                                      |
|---|--|--------------------------------------|
| Project Name: <u>JSF Vacatur Project</u>                          | Date Started: <u>12/4/2018</u>             | Date Completed: <u>12/12/2018</u>    |
| Borehole/Monitoring Well No: <u>JSF-200</u>                       | Northing (ft): <u>733226.64</u>            | Easting (ft): <u>2892576.23</u>      |
| Plant Name: <u>John Sevier Fossil Plant</u> JSF                   | Latitude: <u>N36°22'5.94"</u>              | Longitude: <u>W82°58'4.90"</u>       |
| Plant Address: <u>611 Old Highway 70 S, Rogersville, TN 37857</u> | Location Datum: <u>NAD 27</u>              | Elevation Datum: <u>NGVD 29</u>      |
| Project & Task Number: <u>182403368</u> <u>200.6</u>              | Surface/ Ground Elevation: <u>1142.9'</u>  | Stickup (ft, ags): <u>3.6</u>        |
| Goals/Task: <u>Hydrogeologic Investigation</u>                    | Borehole Diameter (in): <u>12.0 / 8.25</u> | Borehole Depth (ft): <u>36.5 BGS</u> |
| Drilling Company: <u>M&amp;W Drilling</u>                         | Well Casing Diameter (in): <u>4</u>        | Well Depth (ft): <u>37.3 BGS</u>     |
| Drilling Equipment/Rig Type: <u>Schramm WTS-450</u>               | Top of Casing elev (ft): <u>1146.51</u>    | Screen length (ft): <u>10</u>        |
| Drilling Method: <u>Hollow Stem Auger / Air Rotary</u>            | Initial DTW (ft, bgs): <u>33.00</u>        | Static DTW (ft, BTOC): <u>22.58</u>  |
| Sampling Method: <u>N/A</u>                                       |  |                                      |
| Prepared By: <u>Matthew Pontier</u>                               |  |                                      |
| FTL/Designee Review By: <u>Christopher Kocka</u>                  |  |                                      |
| DL/SME Review By: <u>Luisa Price</u>                              |  |                                      |

\*Not to Scale

| Depth (feet)* | Well Construction                 | Materials Inventory   |
|---------------|-----------------------------------|---|
| —             | Stick up <u>3.6'</u>              | Stick up: <u>3.6'</u>   |
| —             | Ground surface - 0.0'             |   |
|               | Outer casing                      | Casing Type (steel or PVC, schedule 40 or 80):<br><u>SCH 40 PVC</u> |
|               |                                   | Casing<br>Top: <u>3.6' AGS</u> Bottom: <u>26.0' BGS</u>             |
|               | Grout <u>20.3'</u>                | Screen Type: <u>5"ID x 4"ID U-pack</u>                              |
|               |                                   | Screen Slot Size: <u>0.010"</u>                                     |
|               | 4 inch casing                     | Screen<br>Top: <u>26.0' BGS</u> Bottom: <u>36.0' BGS</u>            |
|               | Bentonite <u>23.3'</u>            | Sump/end cap<br>Top: <u>36.0' BGS</u> Bottom: <u>36.5' BGS</u>      |
|               | GP#1 Sand pack                    | Grout Quantity: <u>NA</u>   |
|               | Top of Screen <u>26.0'</u>        | Grout Type: <u>Type I/II Portland Cement</u>                        |
|               | 0.010" Slot screen                | Grout<br>Top: <u>0.0' BGS</u> Bottom: <u>20.3' BGS</u>              |
|               |                                   | Density<br>Initial: <u>NA</u> Return: <u>NA</u>                     |
|               | Bottom of screen <u>36.0'</u>     | Bentonite Seal<br>Top: <u>20.3' BGS</u> Bottom: <u>23.3' BGS</u>    |
|               | 36.5' End plug                    | Filter Pack Type (manufacturer, size):<br><u>GP#1</u>               |
|               |                                   | Filter Pack<br>Top: <u>23.3' BGS</u> Bottom: <u>37.3' BGS</u>       |
|               | Terminus of borehole <u>37.3'</u> | Notes:  |
|               |                                   |   |
|               |                                   |   |
|               |                                   |   |



# Monitoring Well Installation Field Log



Project Name: JSF Vacatur Project  
 Borehole/Monitoring Well No: JSF-201  
 Plant Name: John Sevier Fossil Plant JSF  
 Plant Address: 611 Old Highway 70 S, Rogersville, TN 37857  
 Project & Task Number: 182603368 200.6  
 Goals/Task: Hydrogeologic Investigation  
 Drilling Company: M&W Drilling  
 Drilling Equipment/Rig Type: Schramm WTS-450  
 Drilling Method: Hollow Stem Auger / Air Rotary  
 Sampling Method: N/A  
 Prepared By: Matthew Pontier  
 FTL/Designee Review By: Christopher Kocka  
 DL/SME Review By: Luisa Price

Date Started: 12/4/2018  
 Northing (ft): 734164.70  
 Latitude: N36°22'15.69"  
 Location Datum: NAD 27  
 Surface/ Ground Elevation: 1117.6'  
 Borehole Diameter (in): 12.0 / 8.25  
 Well Casing Diameter (in): 4  
 Top of Casing elev (ft): 1121.17  
 Initial DTW (ft, bgs): 18.00

Date Completed: 12/11/2018  
 Easting (ft): 2891004.23  
 Longitude: W82°58'23.75"  
 Elevation Datum: NGVD 29  
 Stickup (ft, ags): 3.6  
 Borehole Depth (ft): 39.0 BGS  
 Well Depth (ft): 38.0 BGS  
 Screen length (ft): 10  
 Static DTW (ft, BTOC): 11.71

\*Not to Scale

| Depth (feet)*     | Well Construction   | Materials Inventory   |
|-------------------|---|---|
| ---<br>---<br>--- | Stick up <u>3.6'</u><br>Ground surface - <u>0.0'</u>  | Stick up: <u>3.6'</u>   |
|                   | Outer casing<br>Grout <u>22.0'</u><br>4 inch casing<br>Bentonite <u>25.2'</u><br>GP#1 Sand pack<br>Top of Screen <u>27.5'</u><br>0.010" Slot screen<br>Bottom of screen <u>37.5'</u><br>38.0' End plug<br>Terminus of borehole <u>39.0'</u> | Casing Type (steel or PVC, schedule 40 or 80):<br><u>SCH 40 PVC</u><br>Casing<br>Top: <u>3.6' AGS</u> Bottom: <u>27.5' BGS</u><br>Screen Type:<br><u>5"ID x 4"ID U-pack</u><br>Screen Slot Size:<br><u>0.010"</u><br>Screen<br>Top: <u>27.5' BGS</u> Bottom: <u>37.5' BGS</u><br>Sump/end cap<br>Top: <u>37.5' BGS</u> Bottom: <u>38.0' BGS</u><br>Grout Quantity:<br><u>NA</u><br>Grout Type:<br><u>Type I/II Portland Cement</u><br>Grout<br>Top: <u>0.0'</u> Bottom: <u>22.0' BGS</u><br>Density<br>Initial: <u>NA</u> Return: <u>NA</u><br>Bentonite Seal<br>Top: <u>25.2' BGS</u> Bottom: <u>22.0' BGS</u><br>Filter Pack Type (manufacturer, size):<br><u>GP#1</u><br>Filter Pack<br>Top: <u>25.2' BGS</u> Bottom: <u>39.0' BGS</u><br>Notes:<br><br><br><br> |











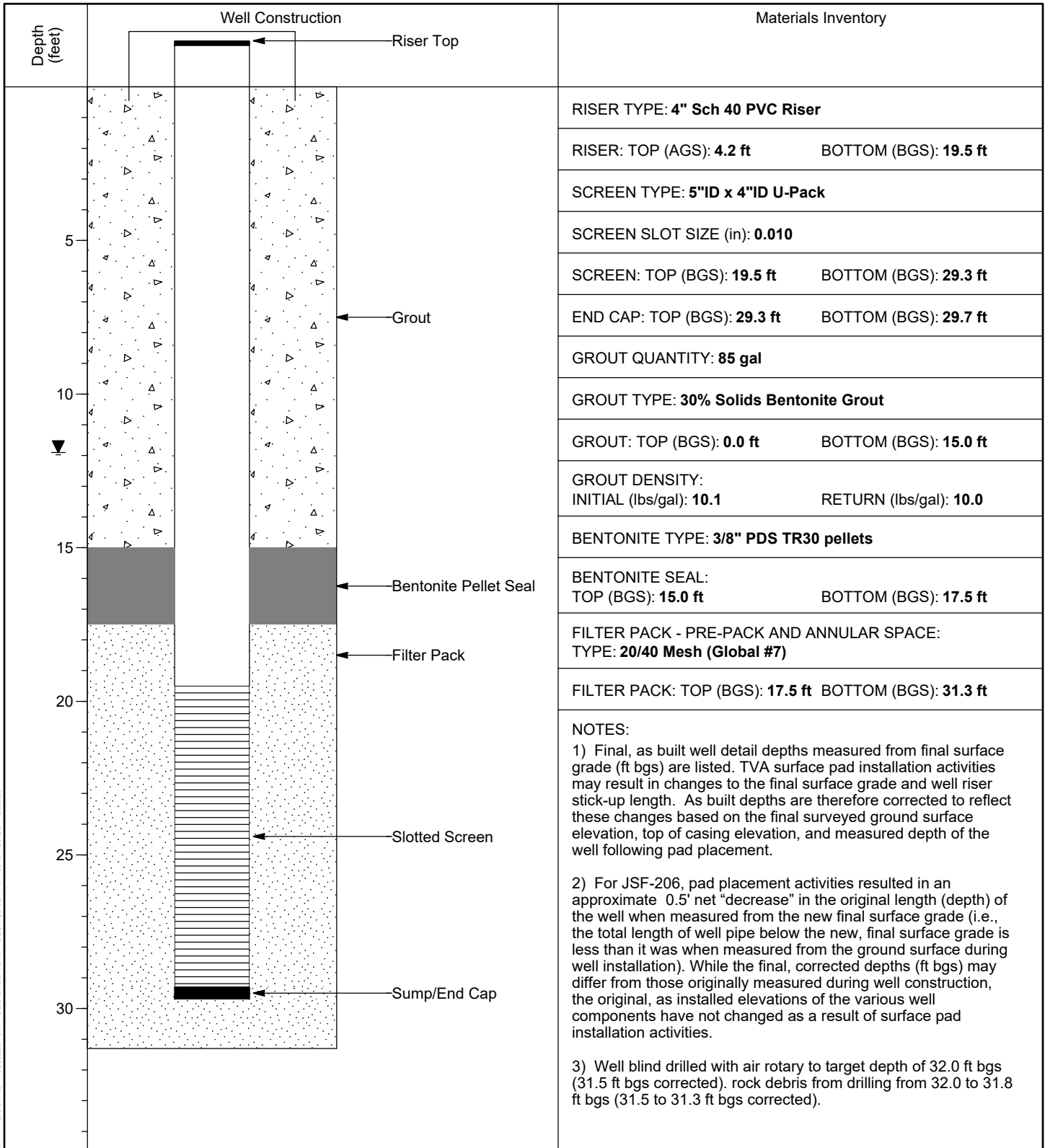


# WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: PAGE 1 OF 1  
**JSF-206 (Boring JSF-206S)**

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **Schramm T450WS Rotodrill**  
 DRILLING METHOD: **8" Air Rotary**  
 SAMPLING METHOD: **8" Air Rotary**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **B. Evans**  
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **6/26/19** COMPLETED: **6/26/19**  
 LOCATION: **732,659.08 N; 2,889,831.52 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIP:  
 LATITUDE: **36° 22' 1.17"** LONGITUDE: **-82° 58' 38.66"**  
 GROUND ELEV (ft): **1138.6** TOC ELEV (ft): **1142.73**  
 ELEVATION DATUM: **NGVD29**  
 WELL DEPTH (ft, bgs): **29.7**  
 DTW AT COMPLETION (ft, bgs): **11.9**  
 BOREHOLE DIA. (in): **8.0** WELL DIA. (in): **4.0**



MW FINAL DETAIL 175568225 - JSF TDEC ORDER GPGJ TDEC SUBSURF DT 20191120.GDT 6/29/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

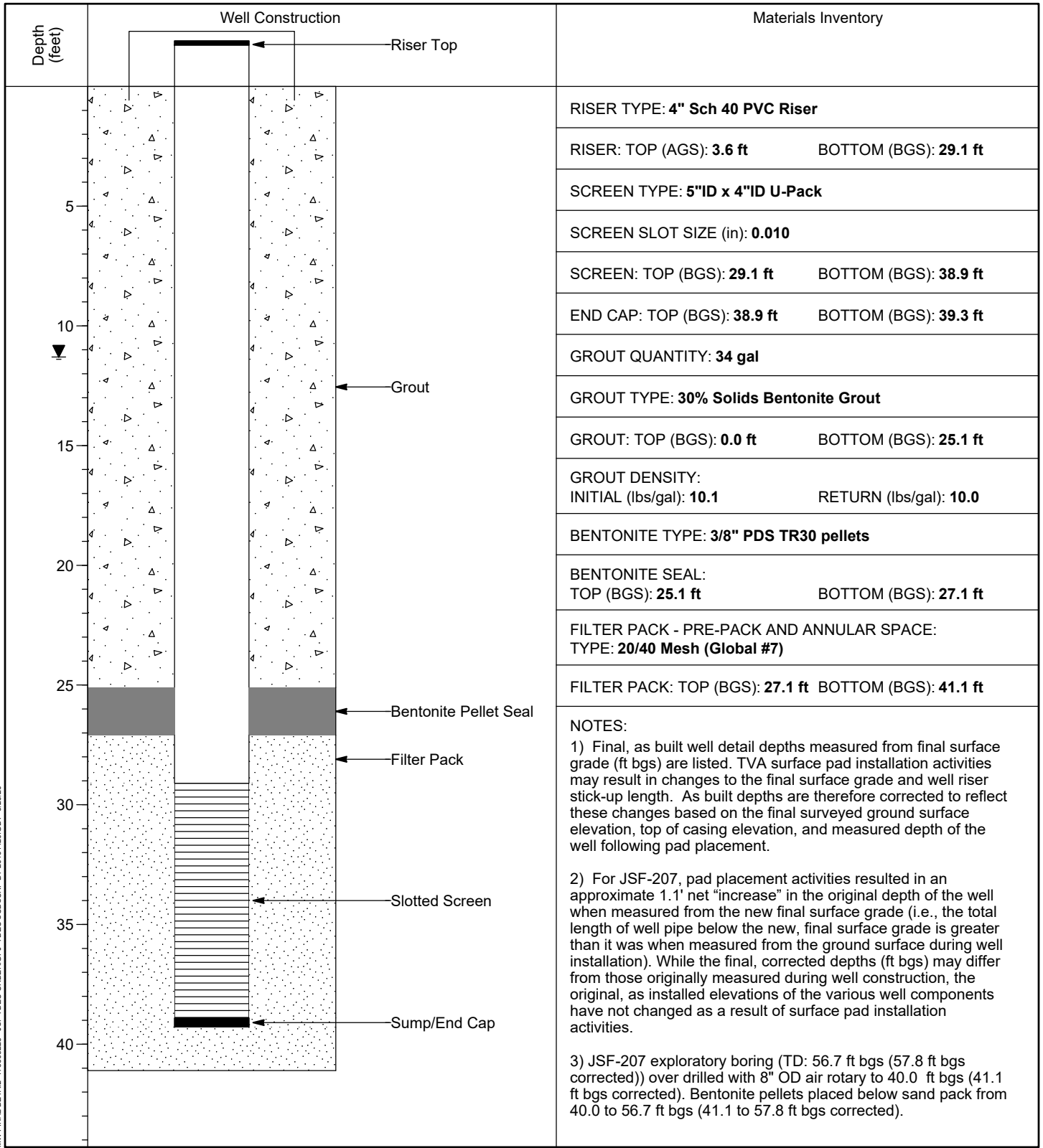


# WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JSF-207 (Boring JSF-207)** PAGE 1 OF 1

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **CME 850XR, #953**  
 DRILLING METHOD: **8" Air Rotary**  
 SAMPLING METHOD: **4-1/4" HSA**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **B. Evans**  
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **6/27/19** COMPLETED: **6/28/19**  
 LOCATION: **733,197.04 N; 2,889,257.88 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIP: **NW corner of hwy 70 borrow area**  
 LATITUDE: **36° 22' 6.66"** LONGITUDE: **-82° 58' 45.46"**  
 GROUND ELEV (ft): **1109.1** TOC ELEV (ft): **1112.71**  
 ELEVATION DATUM: **NGVD29**  
 WELL DEPTH (ft, bgs): **39.3**  
 DTW AT COMPLETION (ft, bgs): **11.3**  
 BOREHOLE DIA. (in): **8.0** WELL DIA. (in): **4.0**



MW/FINAL DETAIL 175568225 - JSF TDEC ORDER/GPJ TDEC SUBSURF DT 20191120.GDT 6/29/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

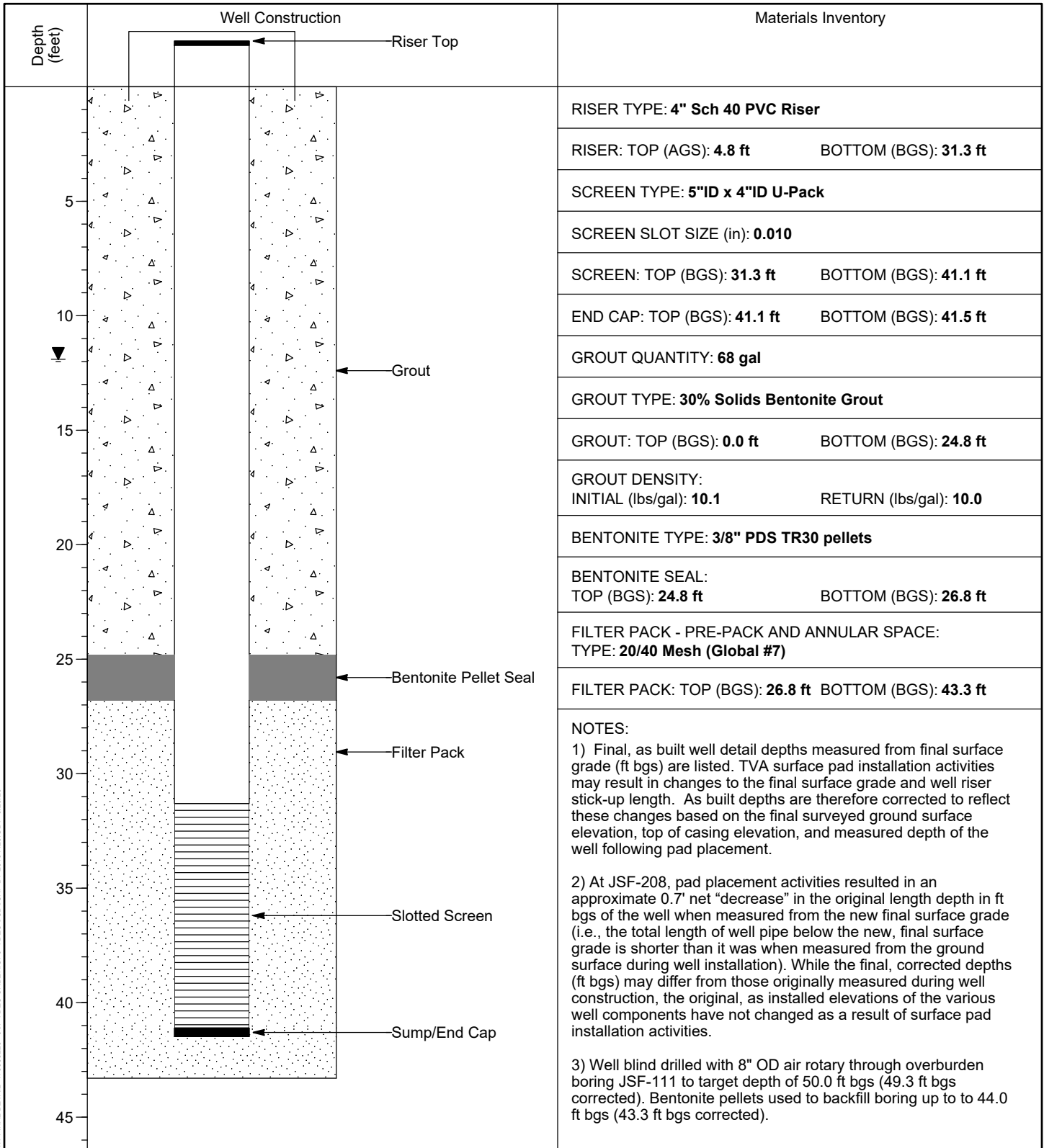


# WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: **JSF-208 (Boring JSF-208)** PAGE 1 OF 1

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **Schramm T450WS Rotodrill**  
 DRILLING METHOD: **8" Air Rotary**  
 SAMPLING METHOD: **See boring log for JSF-111 dated 2/5/19**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **B. Evans**  
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **6/28/19** COMPLETED: **6/28/19**  
 LOCATION: **733,186.14 N; 2,889,595.83 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIP:  
 LATITUDE: **36° 22' 6.45"** LONGITUDE: **-82° 58' 41.34"**  
 GROUND ELEV (ft): **1107.4** TOC ELEV (ft): **1112.22**  
 ELEVATION DATUM: **NGVD29**  
 WELL DEPTH (ft, bgs): **41.5**  
 DTW AT COMPLETION (ft, bgs): **11.9**  
 BOREHOLE DIA. (in): **8.0** WELL DIA. (in): **4.0**



MW/FINAL DETAIL 175568225 - JSF TDEC ORDER/GPJ TDEC SUBSURF DT 20191120.GDT 6/29/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

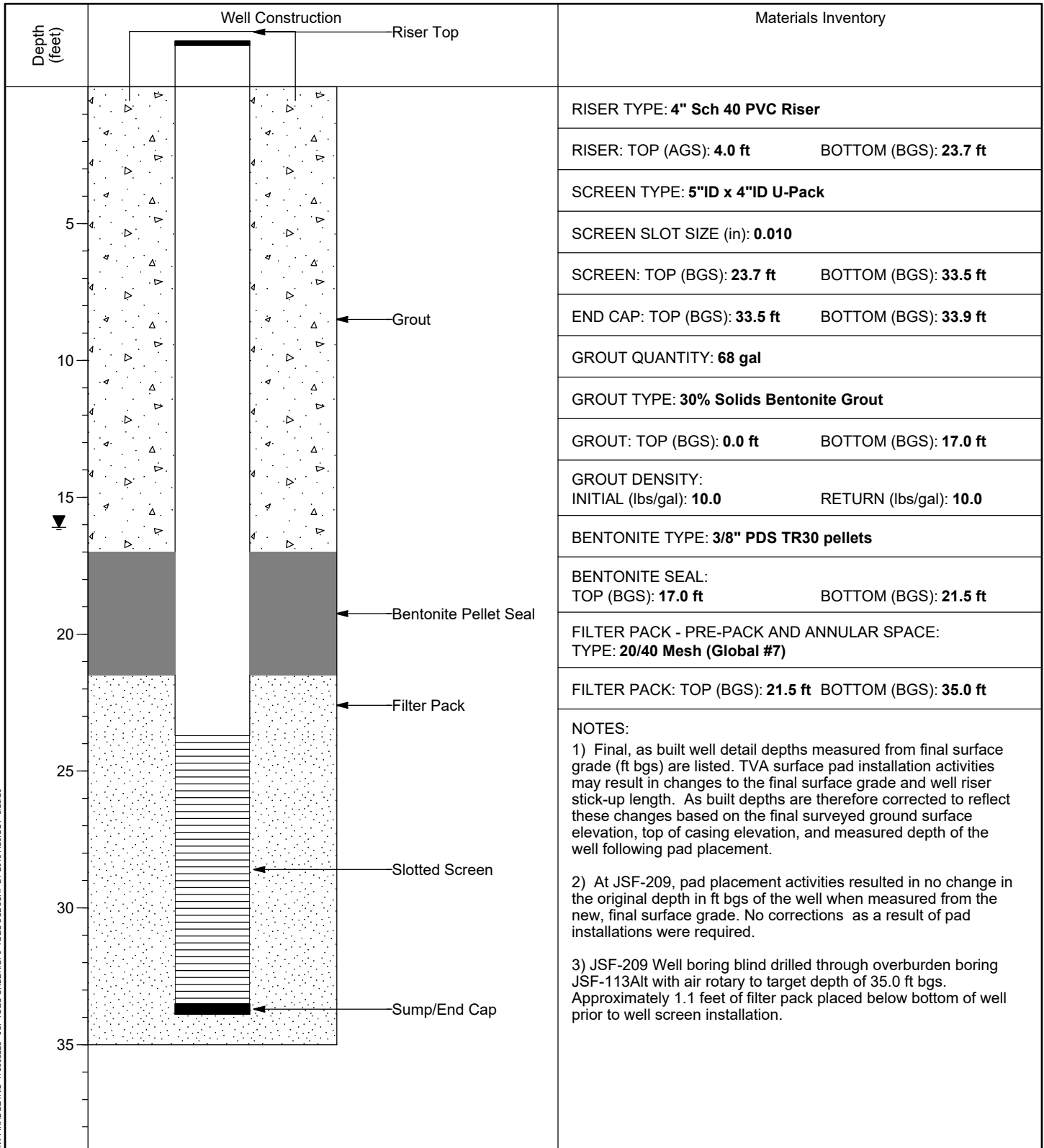


# WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO: PAGE 1 OF 1  
**JSF-209 (Boring JSF-209)**

PROJECT: **JSF TDEC Order**  
 PROJECT NUMBER: **175568225**  
 DRILLING COMPANY: **Stantec Consulting Services Inc.**  
 DRILLING EQUIPMENT: **Schramm T450WS Rotodrill**  
 DRILLING METHOD: **8" Air Hammer**  
 SAMPLING METHOD: **See boring log for JSF-113Alt dated 2/1/19**  
 OBSERVED BY: **C. Sexton**  
 REVIEWED BY: **B. Evans**  
 APPROVED BY: **P. Dunne**

INSTALLATION: STARTED: **6/24/19** COMPLETED: **6/26/19**  
 LOCATION: **732,777.44 N; 2,889,195.49 E** DATUM: **NAD27 Plant Local**  
 LOC. DESCRIP:  
 LATITUDE: **36° 22' 2.53"** LONGITUDE: **-82° 58' 46.38"**  
 GROUND ELEV (ft): **1136.4** TOC ELEV (ft): **1140.39**  
 ELEVATION DATUM: **NGVD29**  
 WELL DEPTH (ft, bgs): **33.9**  
 DTW AT COMPLETION (ft, bgs): **16.1**  
 BOREHOLE DIA. (in): **8.0** WELL DIA. (in): **4.0**



MW/FINAL DETAIL 175568225 - JSF TDEC ORDER/GPJ TDEC SUBSURF DT 20191120.GDT 6/29/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)

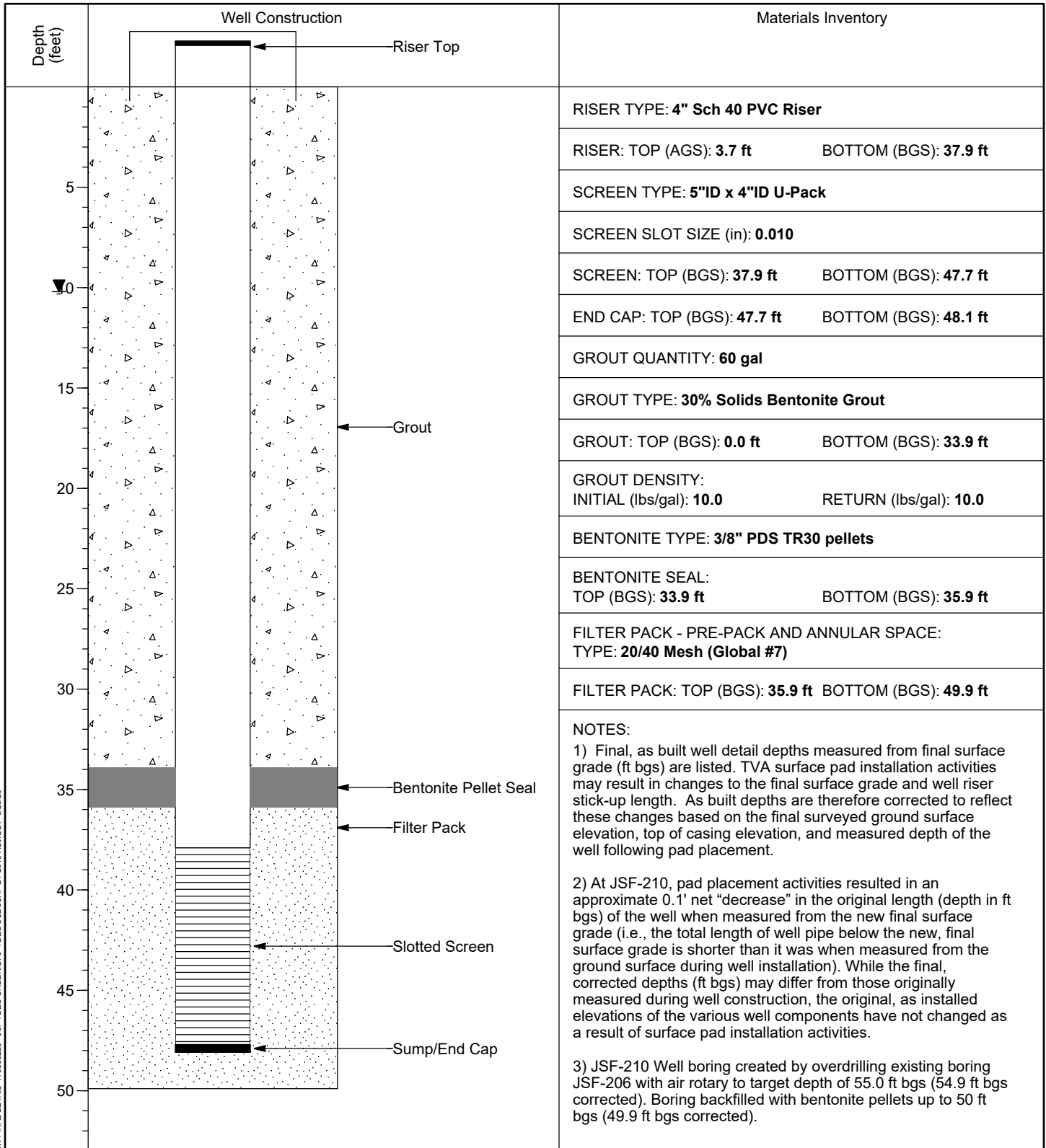


# WELL INSTALLATION DETAIL

WELL / PROBEHOLE / BOREHOLE NO:

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## JSF-210 (Boring JSF-206)

PROJECT: **JSF TDEC Order**PROJECT NUMBER: **175568225**DRILLING COMPANY: **Stantec Consulting Services Inc.**DRILLING EQUIPMENT: **CME 850XR, #953**DRILLING METHOD: **8" Air Rotary**SAMPLING METHOD: **4-1/4" HSA, 2" SS w/o liners, 3" Shelby Tubes**OBSERVED BY: **C. Sexton**REVIEWED BY: **B. Evans**APPROVED BY: **P. Dunne**INSTALLATION: STARTED: **6/25/19**COMPLETED: **6/28/19**LOCATION: **732,667.53 N; 2,889,831.36 E**DATUM: **NAD27 Plant Local**LOC. DESCRIP: **South east corner of hwy 70 borrow area**LATITUDE: **36° 22' 1.25"**LONGITUDE: **-82° 58' 38.65"**GROUND ELEV (ft): **1139.0**TOC ELEV (ft): **1142.75**ELEVATION DATUM: **NGVD29**WELL DEPTH (ft, bgs): **48.1**DTW AT COMPLETION (ft, bgs): **10.2**BOREHOLE DIA. (in): **8.0**WELL DIA. (in): **4.0**

MW FINAL DETAIL 175568225 - JSF TDEC ORDER GPGJ TDEC SUBSURF DT 20191120.GDT 6/29/20

VERTICAL SCALE: AS SHOWN. HORIZONTAL SCALE: NOT TO SCALE (EXAGGERATED TO SHOW DETAIL)