April 29, 2019

Mr. Wally (Walter) Mack
Hydrogeologic Unit Chief
Kansas Department of Health and Environment - Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, KS 66612-1366

Re: Updated Groundwater Monitoring System Certification for the
Kansas City Board of Public Utilities - Nearman Creek Power Station Bottom Ash Pond

Dear Mr. Selm:

On behalf of the Kanas City Board of Public Utilities (BPU), Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) is hereby submitting an updated certification to the groundwater monitoring system at Nearman Creek Power Station's Bottom Ash Pond. Four additional monitoring wells (MW-13, MW-14, MW-15, and MW-16) were installed by Burns & McDonnell in 2018 on behalf of BPU. Details regarding the additional monitoring well installations are provided in the *Alternate Source Demonstration for the Nearman Creek Power Station Bottom Ash Pond* prepared by Burns & McDonnell (dated December 12, 2018).

This letter supersedes the original *Groundwater Monitoring System Certification* prepared by Burns & McDonnell (dated June 15, 2016) and has been prepared to support compliance with the United States Environmental Protection Agency's (EPA's) *Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule* (Final Rule, 40 CFR Parts 257 and 261). The Nearman Creek Power Station Bottom Ash Pond meets the definition of a Surface Impoundment as presented in the Final Rule and is therefore subject to groundwater monitoring requirements identified in 40 CFR §257.91.

The pre-existing groundwater monitoring system and the additional 2018 monitoring well installations are screened and in hydraulic connection within the uppermost alluvial aquifer. Monitoring wells MW-13, MW-14, MW-15, and MW-16 have been added to the pre-existing groundwater monitoring system and will continue to be monitored in accordance with the groundwater monitoring requirements set forth in 40 CFR §257.93 through §257.95. The updated groundwater monitoring system is summarized in the enclosed table and figure. Monitoring well construction diagrams of MW-13, MW-14, MW-15, and MW-16 are provided in Attachment 1.

As set forth herein, and in accordance with 40 CFR §257.91(f), Burns & McDonnell certifies that the groundwater monitoring system for the Nearman Creek Power Station Bottom Ash Pond has been designed and constructed to meet the requirements of section 40 CFR §257.91.

Limitations

This letter has been prepared in accordance with generally accepted environmental engineering practices for groundwater quality assessment and reporting. Conclusions contained herein are Burns & McDonnell's interpretation of readily available data and constitute a professional opinion based on said data. No other warranty, expressed or implied, is made as to the information included in this document. If others make conclusions and recommendations based on data contained herein, such conclusions and recommendations are the responsibility of others.

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Burns & McDonnell has exercised reasonable skill, care, and diligence in preparation of this letter in accordance with customarily accepted standards of good professional practice in effect at the time this report was prepared.

Special risks are inherently associated with the characterization and description of groundwater, including, but not limited to groundwater occurrence, site geology, and site hydrogeology. Even a comprehensive groundwater assessment and/or monitoring program using appropriate equipment, implemented by experienced personnel under the direction of trained professionals, may fail to detect certain conditions.

Changes in subsurface conditions can be influenced by many factors. These factors include but are not limited to management of surrounding areas, seasonal rainfall fluctuations, changes in drainage conditions in and around the site, and groundwater occurrence. Over time, actual conditions discovered are subject to variation because of natural occurrences and/or man-made intervention on or near the site.

If you have questions regarding the information presented herein please contact me at 816-822-3069 or Mr. Brian R. Hoye, PG at 816-823-6257.

Sincerely,

04/29/19 9:45 AM

Mr. Scott A. Martin, PE
Professional Engineer

Mr. Brian R. Hoye, PG
Project Manager

BRH/sam

Attachments
cc: Ingrid Setzler (BPU), Keith Brown (BPU)
Mike Selm (Kansas Department of Health & Environment)

TABLE

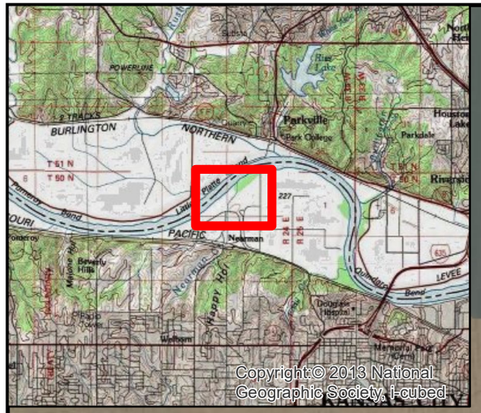
Existing Groundwater Monitoring Well Network
Nearman Creek Power Station
Kansas City, Kansas

Montirong Well ID	Date of Installation	Up or Down Graident of Bottom Ash Pond	Northing	Easting	Top of Casing Elevaiton (ft amsl)	Ground Surface Elevation (ft amsl)	Well Screen			Constructed Well Total Depth		
							Thickness (feet)	Top (ft amsl)	Bottom (ft amsl)	(feet amsl)	(ft bgs)	(ft bTOC)
Groundwater Monitoring Wells												
MW-2A	October 2015	Down (Cross)	323923.39	2937911.60	747.86	744.99	5.00	721.18	715.70	716.18	28.81	31.68
MW-3	September 1982	Up	323434.49	2938160.38	750.48	748.48	20.00	728.48	715.78	715.78	32.70	34.70
MW-4	January 1983	Up	322800.43	2937915.96	746.99	745.69	20.00	725.69	715.24	715.24	30.45	31.75
MW-8A	October 2015	Down	323462.96	2937093.00	750.12	747.59	5.00	719.95	714.47	714.95	32.64	35.17
MW-10	October 2015	Down	323844.68	2937474.63	745.30	742.69	5.00	720.80	715.32	715.80	26.89	29.50
MW-13	September 2018	Up (Cross)	325317.62	2938817.53	747.81	745.06	5.00	719.33	713.85	714.33	30.73	33.48
MW-14	September 2018	Down	324361.67	2936503.71	749.18	746.08	5.00	720.91	715.43	715.91	30.17	33.27
MW-15	September 2018	Up (Cross)	323020.60	2935004.36	752.88	750.20	5.00	725.18	719.70	720.18	30.02	32.70
MW-16	November 2018	Up	322808.22	2939131.62	748.43	745.67	5.00	720.92	715.44	715.92	29.75	32.51

Notes:
amsl - above mean sea level
bgs - below ground surface
bTOC - below top of casing
ft - feet

1. Survey data provided by Atlas Surveyors on *Survey of Monitoring Wells* dated Dec. 4, 2018.

FIGURE



MW-13

MW-14

MW-2A

MW-10

MW-8A

MW-3

MW-15

MW-4

MW-16

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- BA Pond Monitoring Well - Downgradient
- BA Pond Monitoring Well - Upgradient

Notes

1. Upgradient Monitoring Wells MW-13 and MW-15 are also located hydraulically cross-/side-gradient from the Bottom Ash Pond.

0 250 500

Feet

N

Source: ESRI and Burns & McDonnell Engineering.

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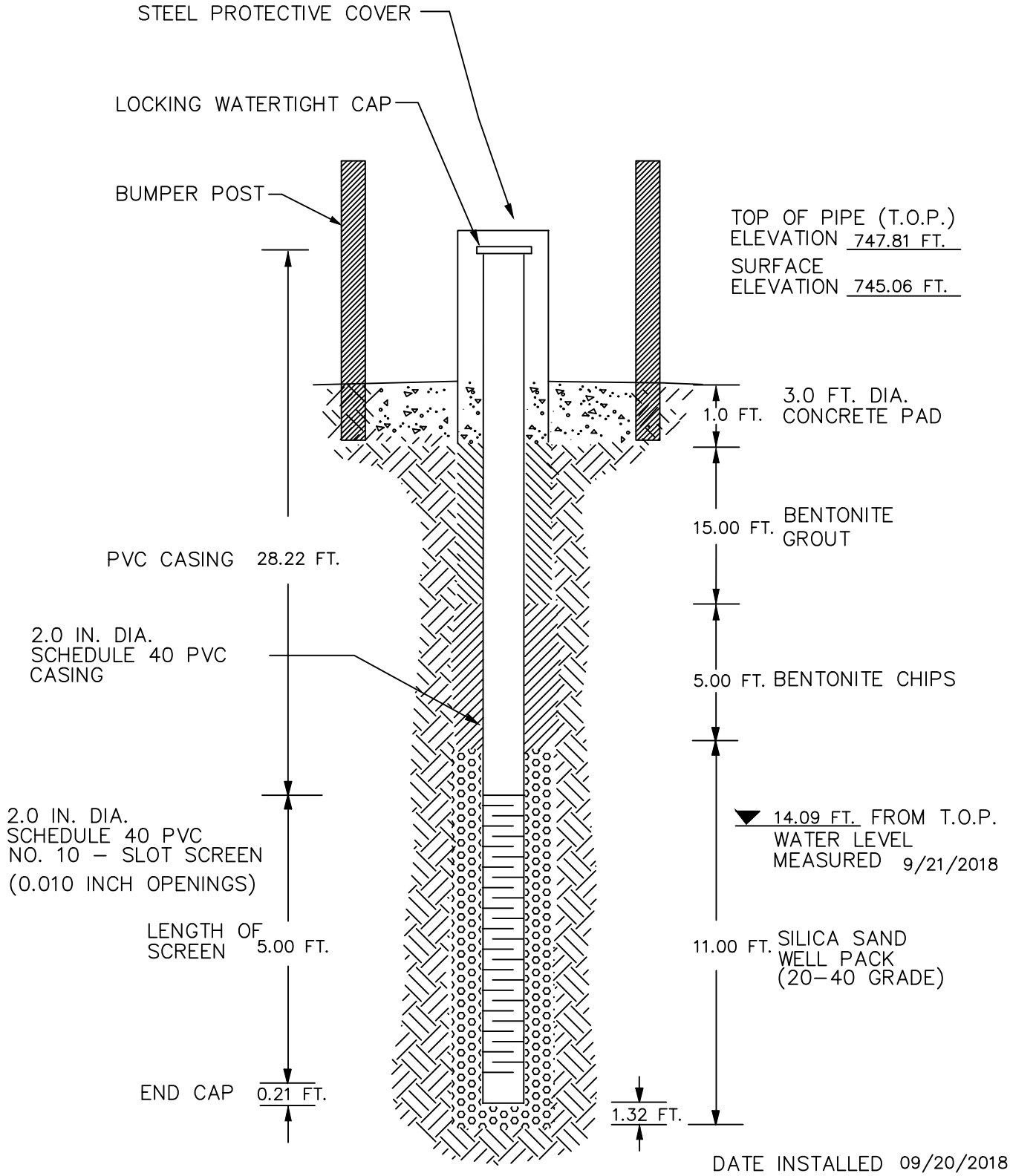
MONITORING WELL LOCATIONS
NEARMAN CREEK POWER STATION
KANSAS CITY BPU
KANSAS CITY, KS

Path: Z:\Clients\EN\KCBPU\88777_CCRGWMON\Studies\Geospatial\ArcDocs\MW Certification_2019 Update\FIGURE 2-1_20190410_CCR Well Locations.mxd

Issued: April, 10 2019

ATTACHMENT 1 – MONITORING WELL DIAGRAMS



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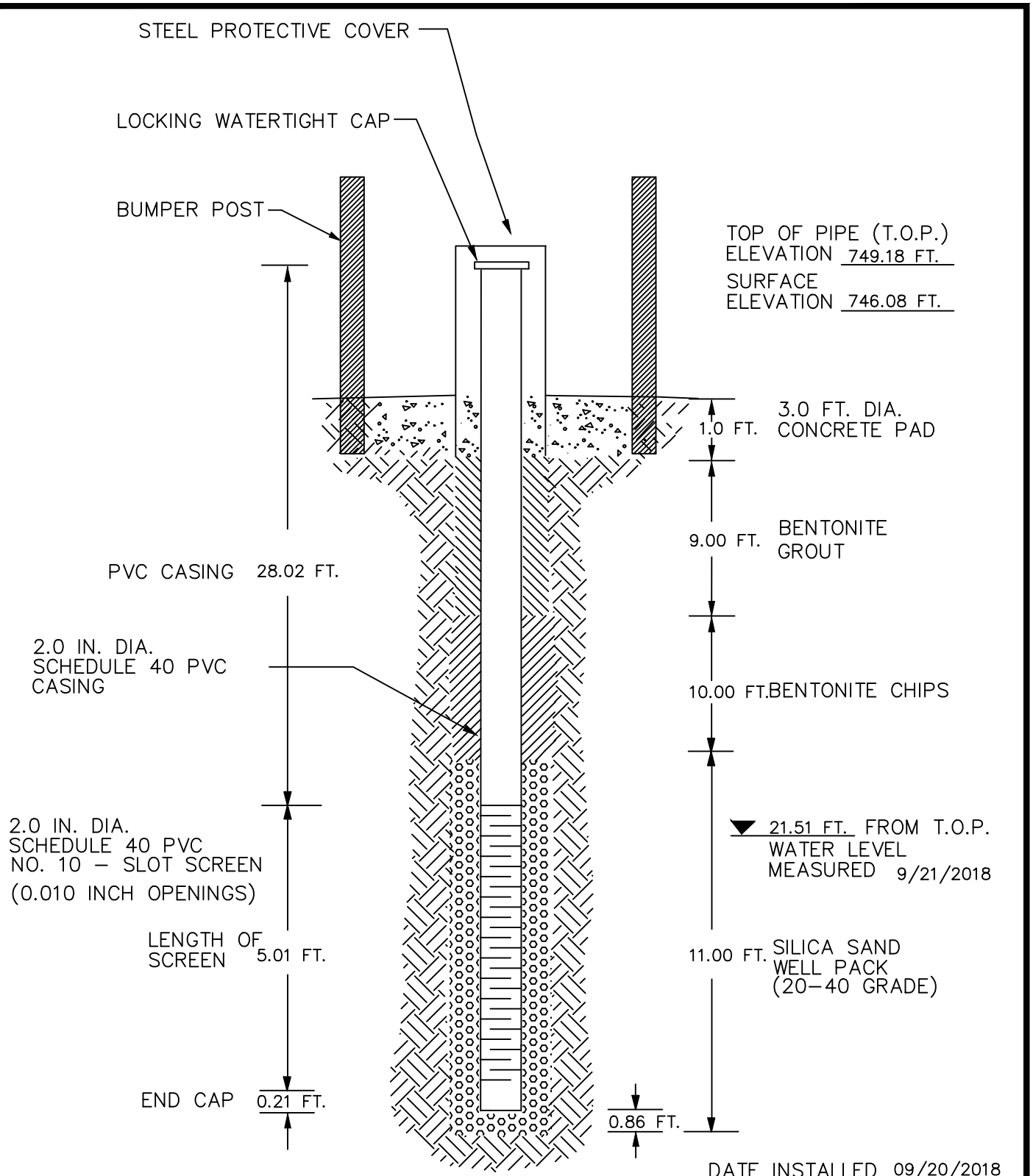

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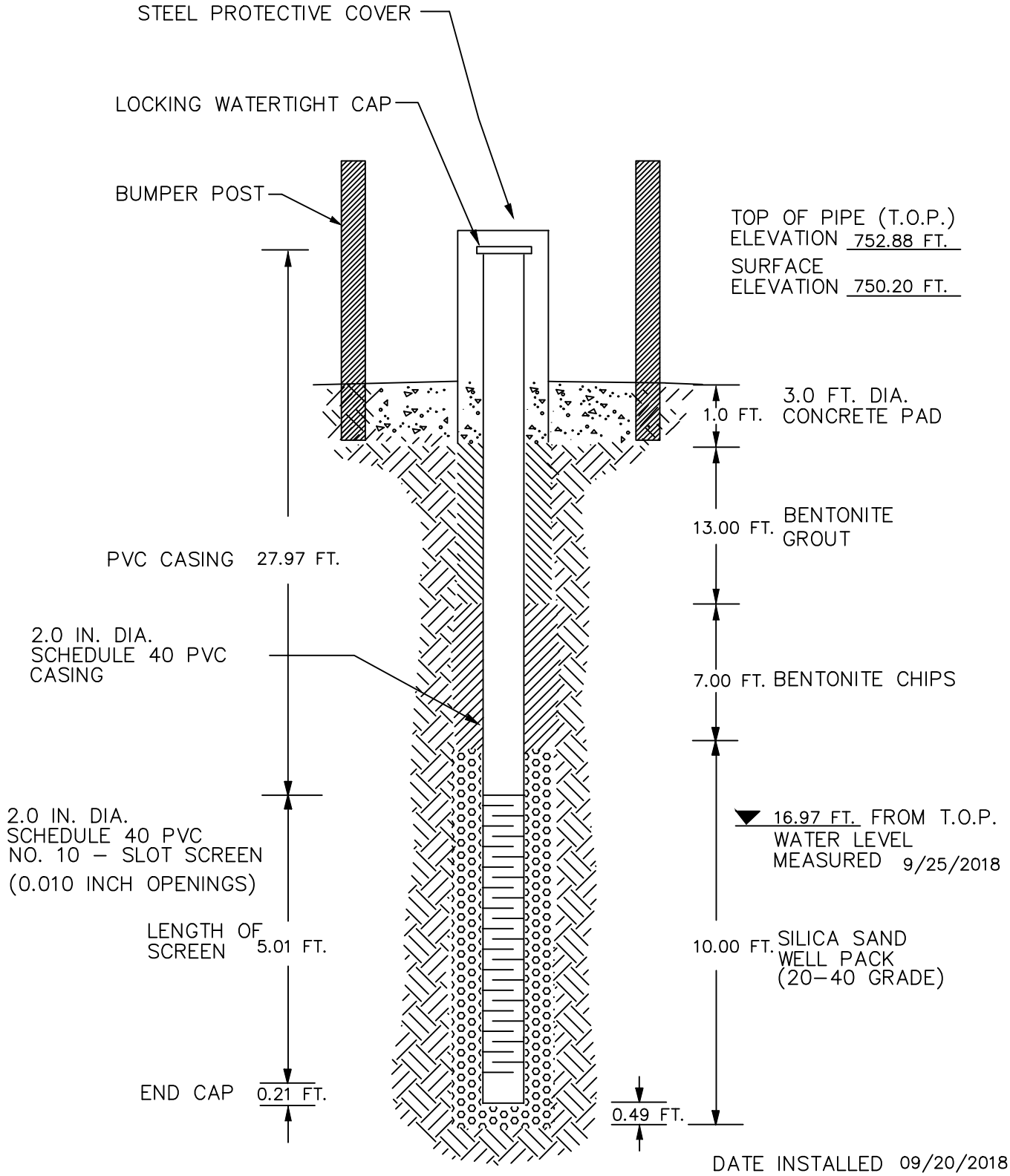

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MONITORING WELL MW-15 CONSTRUCTION RECORD

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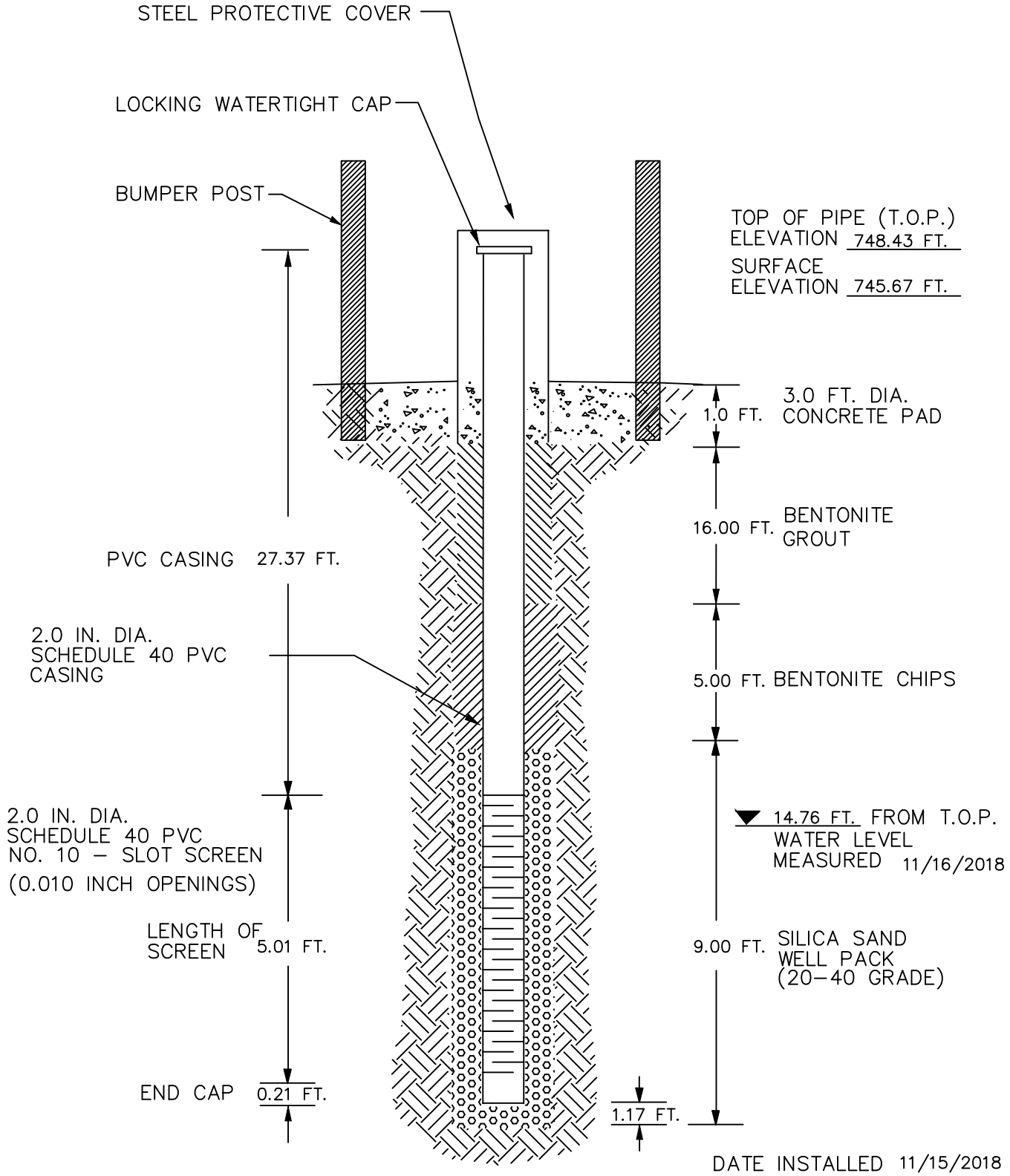

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