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HYDROGEOLOGY • ENGINEERING

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October 3, 2022

VIA E-MAIL AND FEDERAL EXPRESS

Mr. Steven Rounds
Hazardous Substances Engineer
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL
9211 Oakdale Avenue
Chatsworth, CA 91311-6505

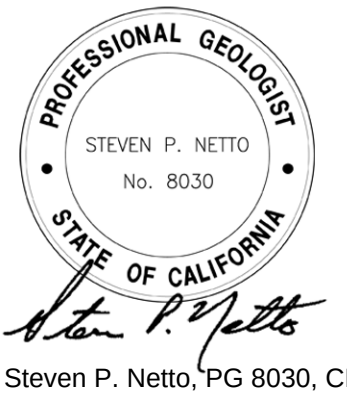
Re: Transmittal of Remedial Design, Extraction and Injection Wells Installation Work Plan, Raytheon Company, (Former Hughes Aircraft Company), 1901 West Malvern Avenue, Fullerton, California

Dear Mr. Rounds:

The above-referenced report was prepared on behalf of Raytheon Company by Hargis + Associates, Inc. Enclosed is one hard copy of the above-referenced report. If you have any questions or require further information, please contact us at 858-455-6500.

Sincerely,

HARGIS + ASSOCIATES, INC.



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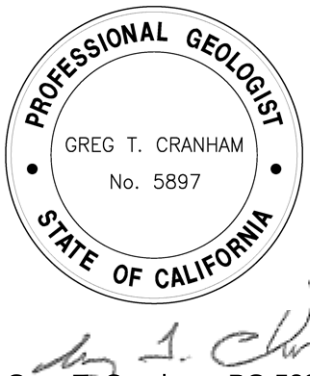

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SPN/GTC/ibj

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Mr. Paul Pongetti, Department of Toxic Substances Control, Cypress
Mr. Dave Mark, Orange County Water District

Via E-Mail and 2 hardcopies
Ms. Delaney Felix, City of Fullerton

Via Email
Mr. Jon Hone, Raytheon Company
Mr. Danny Samorano, Raytheon Company
Mr. Roy Herndon, Orange County Water District
Ms. Kim Buss, Orange County Public Works
Ms. Yvette Hanna, City of Fullerton
Ms. Linda Tsoi, City of Fullerton
Ms. Maile Gee, California RWQCB, Santa Ana Region
Mr. Mike McGee, City of Buena Park
Mr. Eric Silvers, Regency Centers
Mr. Nathan Grant, Regency Centers
Ms. Christie Boniface, Shin Yen Management
Ms. Linda Opperman, Target
Ms. Nicole Subia, Target Properties
Mr. Tom Shapiro, TA Realty
Ms. Kendrick Leckband, TA Realty
Ms. Christine Ehrhardt, Greystar
Ms. Lisa Turturro, Haley & Aldrich, Inc.
Ms. Carol Owens, Greystar
Mr. Paul Rodolf, Hydraflow
Mr. Robinson Sioson, Hydraflow
Mr. Chris Ross, Engineering Analytics, Inc.

OCTOBER 3, 2022

REMEDIAL DESIGN EXTRACTION AND INJECTION WELLS INSTALLATION WORKPLAN

RAYTHEON COMPANY
(FORMER HUGHES AIRCRAFT COMPANY)
1901 WEST MALVERN AVENUE
FULLERTON, CALIFORNIA

PREPARED FOR:
RAYTHEON COMPANY

HARGIS + ASSOCIATES, INC.
ENGINEERING • HYDROGEOLOGY

REMEDIAL DESIGN EXTRACTION AND INJECTION WELLS INSTALLATION WORKPLAN

RAYTHEON COMPANY
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1901 WEST MALVERN AVENUE
FULLERTON, CALIFORNIA

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ACRONYMS AND ABBREVIATIONS

AGAWP	Additional Groundwater Assessment Work Plan
CEQA	California Environmental Quality Act
CMI	Corrective Measures Implementation
CMS	Corrective Measures Study
COC(s)	Compound(s) of concern
DTSC	California Environmental Protection Agency, Department of Toxic Substances Control
EPA	U.S. Environmental Protection Agency
GETS	Groundwater extraction and treatment system
gpm	Gallons per minute
H+A	Hargis + Associates, Inc.
RCRA	Resource Conservation and Recovery Act
the Site	1901 West Malvern Avenue, Fullerton, California
SOP(s)	Standard Operating Procedure(s)
Target Zone	Site Conceptual Groundwater Model Hydrostratigraphic Unit B

REMEDIAL DESIGN EXTRACTION AND INJECTION WELLS INSTALLATION WORKPLAN

RAYTHEON COMPANY
(FORMER HUGHES AIRCRAFT COMPANY)
1901 WEST MALVERN AVENUE
FULLERTON, CALIFORNIA

1.0 INTRODUCTION

This Remedial Design Extraction and Injection Wells Workplan has been prepared by Hargis + Associates, Inc. (H+A), on behalf of Raytheon Company, for the former Hughes Aircraft Company facility located at 1901 West Malvern Avenue, Fullerton, California (the Site) (Figure 1). The proposed installation of extraction and injection wells will be conducted in association with the general requirements of a Resource Conservation and Recovery Act (RCRA) Corrective Action Consent Agreement (California Environmental Protection Agency, Department of Toxic Substances Control [DTSC], 2003). The proposed well installation will be conducted pursuant to the Corrective Measures Implementation (CMI) Work Plan (H+A, 2018; Engineering Analytics, Inc. [EA], 2022), which describes the proposed full-scale groundwater extraction and treatment system (GETS).

Four new groundwater extraction wells and four new treated water injection wells are proposed to support the final groundwater clean-up plan, as described in the Corrective Measures Study (CMS) for the Site (H+A, 2015b). The proposed new extraction wells will be used in conjunction five existing wells (EW-01, EW-02, MW-21, MW-29, and MW-31) to extract groundwater for treatment at the proposed new full-scale GETS. One existing well (MW-40) will be used along with the four proposed new injection wells to return treated groundwater back into the aquifer. Locations of proposed extraction and injection wells are shown in Figure 2. Proposed new extraction wells will be screened across the primary transport zone west of the Site, and near the water table in the vicinity of the former Building 601 source area (H+A, 2015b). For the purposes of this document the primary transport zone will be referred to as the Target Zone (also referred to as Site Conceptual Groundwater Model Hydrostratigraphic Unit B [Unit B]). Proposed injection wells will be screened across the Target Zone.

Proposed extraction well EW-06 is located adjacent to existing monitor well MW-33, where since about mid-2018, the concentrations of Site compounds of concern (COCs) in groundwater

have been below respective drinking water maximum contaminant levels (for 1,1-dichloroethylene and trichloroethylene) and below the notification level (for 1,4-dioxane). Considering the low COC levels at monitoring well MW-33, extraction well EW-06 will not be installed during construction of the corrective measure but may be installed in the future if ongoing monitoring at MW-33 suggests that it is needed (EA, 2022).

1.1 PURPOSE AND SCOPE

This document describes tasks and procedures to install proposed extraction and injection wells.

Field activities described in this Workplan will be conducted in accordance with the Groundwater Monitoring Work Plan and Sampling and Analysis Plan (H+A, 2003a); the Additional Groundwater Assessment Work Plan (AGAWP) Revision 1.0, which includes Standard Operating Procedures (SOPs) (H+A, 2003b); the AGAWP Addendum No. 1, with Amendments A and B (H+A, 2004a, 2004b, and 2004c); applicable subsequent AGAWP addenda, attachments, and technical memoranda (H+A, 2008a, 2008b, 2008c, 2009a, 2009b, 2010a, 2010b, 2011a, and 2011b), specifically DTSC-approved AGAWP Addendum No. 5 (H+A, 2013; DTSC, 2013); Site Health and Safety Plan for Phase 2 RCRA Facility Investigation (H+A, 1996); and the Site Health and Safety Plan for CMS (H+A, 2003c).

This Workplan is organized as follows:

- Section 1 includes the purpose and organization of the report, and background information related to groundwater investigations.
- Section 2 describes the proposed additional extraction and injection wells to complete the full-scale GETS wellfields.
- Section 3 presents the methods and procedures to complete the proposed scope of work.
- Section 4 presents the proposed schedule.
- Section 5 lists the references cited in this Workplan.

1.2 BACKGROUND

This section presents a summary of recent work conducted at the Site that is pertinent to proposed additional GETS wells.

Results of groundwater assessments through 2014 indicate that groundwater assessment was sufficient for the purposes of completing the CMS (H+A, 2022). The CMS Report was prepared to evaluate potential full-scale Groundwater Corrective Measures alternatives and to propose a preferred alternative for the Site and was submitted to DTSC in June 2015 (H+A, 2015b). DTSC reviewed the CMS Report and provided comments (DTSC, 2015a, 2015b and 2015c). Responses to DTSC comments were prepared and submitted to DTSC in November 2015 (H+A, 2015c). DTSC approved the CMS Report in a letter to Raytheon dated December 9, 2015 (DTSC, 2015d), and determined that the CMS Report provided the necessary information for DTSC to select a remedy. A draft California Environmental Quality Act (CEQA) Initial Study was conducted in 2017 which concluded with a Negative Declaration for the proposed groundwater cleanup project. DTSC also prepared a draft Statement of Basis in 2017 which concurred with the recommended remedy proposed in the CMS. A public participation process was conducted in 2017 which included mass mailings and newspaper publication regarding the project, a public review period and a public Open House meeting. In 2018, DTSC responded to public comments, finalized the CEQA Initial Study and Statement of Basis, and provided final approval of the CMS Report (with Addendum) and recommended remedy (DTSC, 2018; H+A, 2017). The CMI Work Plan was prepared and initially submitted to DTSC in 2018 (H+A, 2018). Raytheon has since obtained property access agreements for the

primary properties where groundwater remediation infrastructure is planned. CMI Work Plan Revision 1 was recently prepared to reflect substantial completion of access and relevant updates to the approach outlined in the original version of the CMI Work Plan (EA, 2022). Raytheon has also begun preliminary engineering design for implementation of the selected full-scale groundwater remedy. This includes design considerations for the additional GETS wells, which are addressed in this Workplan.

2.0 PROPOSED ADDITIONAL GETS WELLS

Additional extraction and injection wells are proposed to complete the full-scale GETS wellfield. Locations of proposed wells were presented in the CMI Work Plan, specifically those evaluated for CMS Alternative GW5A (EA, 2022). Proposed additional extraction wells are designated EW-03, EW-04 and EW-07. Proposed additional injection wells are designated IW-1, IW-3, IW-4 and IW-5. Locations and proposed construction of each well have been provided (Table 1; Figures 2 through 5).

Proposed total depths and screened intervals of wells to the west of the Site were selected to incorporate the Unit B Target Zone, based on its projected base elevation at each location and on lithologic and geophysical logs of adjacent existing Unit B monitor wells. Proposed extraction well EW-07 will be a water table well screened between Units B and C, based on the lithology and groundwater impacts observed at adjacent monitor well MW-08 near the former Building 601 secondary source area (Figure 2).

The proposed screen length for extraction well EW-03 is anticipated to be 40 feet, generally consistent with the screen intervals in nearby monitor wells screened within Unit B. The proposed screen length for extraction well EW-04 is 60 feet to cover potential zones of groundwater impacts observed at adjacent monitor well MW-36, which is screened across Unit B in two separate intervals between 934 feet and 994 feet below land surface. The proposed screen length for extraction well EW-07 is 50 feet as described further in Section 3.2.

Proposed extraction wells EW-03 and EW-04 will be installed using mud-rotary drilling methods. Extraction well EW-07 will be installed using rotosonic (sonic) drilling methods. Actual depths and screened intervals may be adjusted based on lithologic characteristics of soils encountered during drilling, geophysical logs of the borehole for each well, and results of zonal groundwater sampling, if conducted. Proposed injection wells will be installed using mud-rotary drilling methods. As with extraction wells, actual depths of screened intervals may be adjusted based on lithologic characteristics of soils encountered during drilling and/or geophysical logs of the borehole for each well.

The borehole diameter for all proposed mud-rotary borings will be at least approximately 8 inches greater than the outer diameter of well casing (Table 1; Figures 3 and 5). An approximate nominal 17-inch to nominal 22-inch diameter mud rotary boring will be advanced for installation of 8-inch well casings alongside nominal 2-inch to 3-inch diameter gravel fill tubes. A sonic drill casing approximately 10 inches to 12 inches in diameter will be used for installation of the planned 6-inch well casing at extraction well EW-07.

Selection of well construction materials (Table 1; Figures 3 through 5) factored: 1) inorganic water quality, 2) potential frequency of development, and 3) strength requirements of the casing and screen. Proposed filter pack and screen slot size and type were determined based on representative sieve analyses of soil samples collected during previous groundwater assessment and well design criteria presented in Williams (1981), Williams (1985) and Driscoll (1986). The methods involved evaluating fundamental concepts of well hydraulics to determine and confirm appropriate filter pack and screen selection.

Annular seal materials above the water table for wells constructed with all steel casings will consist of neat-cement or sand-cement slurry, in accordance with DTSC and California Department of Water Resources Well Standards requirements. Annular seals below the water table will consist of high-solids bentonite grout, neat-cement or sand-cement in all proposed wells.

Each proposed GETS extraction or injection well will be completed at land surface with a temporary traffic-rated utility box set in concrete. As part of construction of the full-scale GETS, the temporary traffic-rated well boxes will be replaced by pre-cast concrete vaults sufficient to house electrical controls, discharge piping, monitoring instruments, valves, and other equipment required for GETS operation.

3.0 METHODS AND PROCEDURES

This section describes methods and procedures to be used in the construction of GETS wells using mud-rotary drilling technology, well construction using sonic drilling technology, zonal groundwater sampling prior to well screen and casing installation, and well development. The methods and procedures herein rely largely on previously DTSC-approved methods and procedures for drilling and well construction at the Site as referenced in the sections below.

3.1 MUD ROTARY WELL DRILLING AND CONSTRUCTION

The proposed GETS extraction and injection wells installed with mud-rotary drilling technology will be single-completions screened within the Target Zone. Proposed wells will be located approximately as shown on Figure 2.

Methods and procedures including standard operating procedures (SOPs) for mud-rotary well drilling and construction will be consistent with those used for monitor and extraction wells previously installed at the Site, and have been described in relevant project documents. SOPs are specified in Appendix A of the AGAWP (H+A, 2003b), and subsequently amended for the deep groundwater program (H+A, 2004c). Depths and materials specific to these GETS wells are provided in Table 1.

The pilot boreholes will be approximately nominal 8-inch to 12-inch diameter and drilled to a depth approximately 30 feet to 50 feet below the projected bottom of the Unit B Target Zone at each location to obtain geophysical logs unobstructed from borehole-bottom interferences through the Target Zone. A suite of geophysical logs will be run in each pilot borehole. The suite of geophysical logs will be the same as previously used for the geophysical logging of exploratory borings and monitor wells, and will be conducted by the same geophysical logging contractor, Pacific Surveys, Claremont, California. After the bottom of the Target Zone and the target screen interval has been confirmed, the portion of the pilot borehole below the target screen interval at each well will be sealed with bentonite pellets (bottom seal). Before sealing the lower portion of each pilot borehole, it will be confirmed that the borehole is clear to the total depth of the boring. Bottom seal material will be installed through a tremie pipe. At extraction wells, zone sampling will be conducted prior to reaming the borehole to final diameter and

constructing the well (Section 3.3). At injection wells, the pilot borehole will be reamed to final diameter and the well will be constructed after the bottom seal is emplaced. All boreholes will be reamed to the top of the bottom seal.

Lithologic logging, geophysical logging, well construction, and annular grouting will be conducted under the supervision of a California Registered Professional Geologist.

3.2 SONIC WELL DRILLING AND CONSTRUCTION

Proposed extraction well EW-07 (Figure 2) will be installed using sonic drilling methods. Extraction well EW-07 will be a water table well screened between Units B and C near the former Building 601 source area, which is at a location where the Unit B is either unsaturated or is not present due to erosional unconformity. Ideally, the bottom of extraction well EW-07 would be at the same elevation as the bottom of the screen at adjacent monitor well MW-08. Given the range in water level elevations measured at MW-08, there would only be approximately 5 feet of saturated screen interval during the observed water level low. From a practical perspective, this is not sufficient to maintain pump submergence. Given this condition, the bottom of the screen at extraction well EW-07 will be approximately 10 feet below the bottom of the screen at monitor well MW-08. The screen length for EW-07 is 50 feet. At this length, the top of the screen at extraction well EW-07 would be similar to the top of monitor well MW-08 and also covers the range in observed water levels at MW-08.

Methods and procedures including SOPs for sonic well drilling and construction will be consistent with those used for monitor wells previously installed at the Site, and have been described in relevant project documents. SOPs for sonic drilling are specified in Appendix A of the AGAWP (H+A, 2003b). Depths and materials specific to extraction well EW-07 are provided in Table 1.

Lithologic logging, geophysical logging, well construction, and annular grouting will be conducted under the supervision of a California Registered Professional Geologist.

3.3 EXTRACTION WELL ZONE SAMPLING

For extraction well boreholes drilled using mud-rotary methods, zone sampling may be conducted within coarser intervals of the Unit B Target Zone to confirm the COC transport zone(s) within thicker sections of Unit B. This will aid in selection of extraction well screen intervals to minimize extraction of groundwater with low COCs concentrations.

The selection process for determining whether and how many zone sample intervals will be conducted at the extraction well pilot boreholes is as follows. The geophysical log will be evaluated to determine the top and bottom of Unit B. If the thickness of Unit B is less than or equal to 50 feet, then no zone sampling will be conducted. If the thickness of Unit B is between 50 and 70 feet, then two zone sampling intervals will be pursued, otherwise a third zone sampling interval may be considered. Conceptually, the zone sampling would target the coarser portions of Unit B based on geophysical logs and would be presented to DTSC the day before implementing zone testing.

The day after the number and depth intervals for zone testing has been presented to DTSC , the zone sampling tool will be emplaced within the pilot borehole. The sampling tool will consist of approximately 10 feet to 20 feet of capped and perforated steel pipe/drill pipe attached to the bottom of the drill string set within a temporary gravel-pack interval. The top of the temporary gravel-pack will be set to approximately 10 feet above the top of the slotted portion of the sampling tool. Approximately 10 feet or more of bentonite pellets will be placed above the gravel-pack as a temporary seal. Additional bentonite pellets may be added to thicken the seal interval, if needed, to mitigate bentonite seal leakage or blow-out during air lifting. An air-lift pipe will be installed within the drill pipe and air lifting will be initiated no sooner than 12 hours after setting the bentonite pellets. The temporary sample interval will be developed to remove drilling mud prior to final purging and groundwater sample collection.

The air lifting and sampling procedure will be performed as follows:

- Develop the isolated aquifer zone by airlifting methods for a period of approximately 6 hours or 15,000 gallons, whichever is reached first, with a goal to have the discharge water essentially free of drilling mud and sand.
- After the slotted sampling tool has been cleared of drilling mud and sand, the water level

will be measured and then a submersible pump will be installed inside the sampling tool string. The sampling tool string will be pumped (at a rate less than 50 gpm) for a minimum of approximately 10 well casing volumes, with a casing volume being defined as the quantity of water from the static water level to the bottom of the slotted sampling tool.

- After at least 10 well casing volumes have been pumped, samples will be collected from the pump discharge.
- After depth-discrete sampling has been completed for each interval, the sample tool attached to the bottom of the drill string will be raised to the next selected sample interval, and the procedure will be repeated for each target sample zone[1].

The groundwater sample from each depth interval will be analyzed, using 24-hour laboratory turnaround time, for volatile organic compounds using U.S. Environmental Protection Agency Method 8260B.

The sample results will be evaluated prior to determining the final screened interval for each extraction well and presented to DTSC two days prior to initiating construction of the extraction well. In the interim, the pilot borehole will be cleared to the top of the bottom seal (Section 3.1) using the same size drill bit as the original pilot borehole. If needed, bentonite pellets will be placed in the cleared pilot hole to approximately 5 feet below the bottom of the extraction well. The cleared pilot borehole will then be reamed and the extraction well will be constructed.

3.4 WELL DEVELOPMENT

Development of proposed GETS extraction and injection wells will incorporate the following methods:

- Each well will be initially developed using a combination of bailing, swabbing, airlifting and/or simultaneous swabbing with airlifting.
- Development additives that have been previously approved by DTSC to enhance drilling mud removal will be used, if needed.

[1] There is a possibility that the pilot borehole may need to be cleared to accommodate the zone sampling tool in the interval above the prior interval. This can be accomplished by advancing the same size drill bit used to complete the initial pilot borehole to the desired depth.

- Final development will be accomplished by step-wise pumping at consecutively higher pumping rates. The highest flow rate should be equal to or exceed the high contingency-case flow rate for each well, nominally 100 gpm to 200 gpm for wells installed in mud-rotary borings and 10 gpm at EW-07.

SOPs for well development are specified in Appendix A of the AGAWP (H+A, 2003b).

4.0 PROJECT SCHEDULE AND REPORTING

The schedule for installation of additional GETS wells will be contingent on DTSC approval of this Workplan, the CMI Work Plan Revision 1 (EA, 2022), and on the procurement and availability of the drilling and other supporting contractors. Arrangements for access are largely complete, with permitting and contractor availability to be considered when scheduling field work. At this time, it is anticipated that well construction activities will begin in first quarter 2023.

DTSC will be notified of the final schedule for well construction when it is developed. It is anticipated that status calls or meetings with DTSC will be scheduled shortly after each well pilot borehole has been drilled and geophysically logged, in order to obtain concurrence with final extraction or injection well design. Daily status reports will be submitted via email during field activities.

Descriptions and results of field activities, including lithologic logs, geophysical logs, well construction data, field sampling data including well development and groundwater purge parameters, and analytical results of depth-discrete groundwater sampling will be provided in a Well Construction Completion Report. This report will be submitted to DTSC within approximately 90 days of the completion of field activities described in this Workplan.

5.0 REFERENCES

California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), 2003. Corrective Action Consent Agreement, Raytheon Company, 1901 W. Malvern Ave., Fullerton, California 92634, EPA ID No. CAD063109243. Docket HWCA: P3-01/02-001. January 15, 2003.

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TABLES

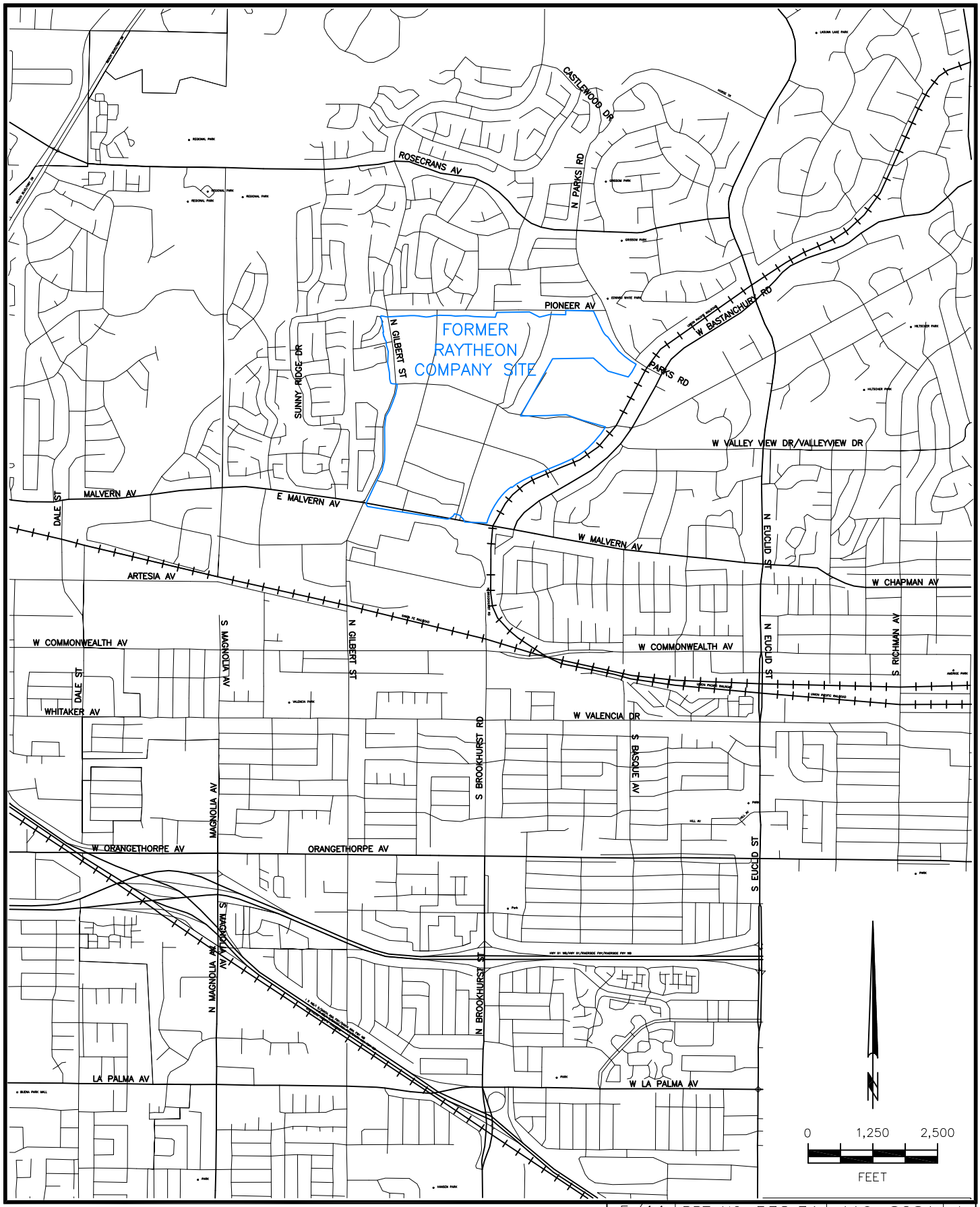
TABLE 1

PROPOSED WELL CONSTRUCTION SUMMARY

WELL IDENTIFIER	DRILLING METHOD	TOTAL DEPTH OF BOREHOLE (feet bgs)	BOREHOLE DIAMETER (inches)	SCREENED INTERVAL (feet bgs)	SCREEN TYPE AND SLOT SIZE	RECOMMENDED FILTER PACK	FILTER PACK INTERVAL (feet bgs)	CASING TYPE	CASING QUANTITY (feet)	GRAVEL PACK FILL PIPE DEPTH[1] (feet bgs)	BOTTOM SEAL INTERVAL[2] (feet bgs)	INTERMEDIATE SEAL INTERVAL[2] (feet bgs)	ANNULAR SEAL INTERVAL[3] (feet bgs)	CONDUCTOR CASING DEPTH (feet bgs)
EW-03	Mud-Rotary	1,000	Nominal 17-inch to 22-inch	905 - 945	Nominal 8-inch diameter Type 304 Stainless-Steel Louvered screen 0.060-inch slot size	Tacna 8x16	895 - 950	Nominal 8-inch diameter Type 304 Stainless-Steel 0.25-inch wall thickness	910	898	950 - 1,000	885 - 895	7 - 885	60
EW-04		1,050		935 - 995			925 - 1,000		940	928	1,000 - 1,050	915 - 925	7 - 915	
EW-07	Rotosonic	180	Nominal 12-inch	125 - 175	Nominal 6-inch diameter Type 316 Stainless-Steel Louvered screen 0.045-inch slot size	Nominal #3 or similar	115 - 180	Nominal 6-inch diameter Type 316 Stainless-Steel 0.1875-inch wall thickness	130	NONE	NONE	105-115	7 - 105	NONE
IW-01	Mud-Rotary	900	Nominal 17-inch to 22-inch	800 - 860	Nominal 8-inch diameter Type 316 Stainless-Steel Louvered screen 0.060-inch slot size	Tacna 8x16	790 - 865	Nominal 8-inch diameter Type 316 Stainless-Steel 0.25-inch wall thickness	805	793	865 - 900	780 - 790	7 - 780	50
IW-03		600		500 - 560			490 - 565		505	493	565 - 600	480 - 490	7 - 480	
IW-04		950		860 - 920			850 - 925		865	853	925 - 950	840 - 850	7 - 840	
IW-05		750		660 - 720			650 - 725		665	653	725 - 750	640 - 650	7 - 640	

NOTES:
bgs = below ground surface
(1) Gravel pack fill pipe: nominal 2-inch to 3-inch diameter Type 304 stainless-steel
(2) Bottom and Intermediate Seals: bentonite pellets
(3) Annular Seals: sand/cement slurry or neat cement; note upper approximate 7-feet of annular space will be filled with 2- to 3-feet of concrete underlain by 4- to 5-feet of pea gravel during installation of well manhole vaults and temporary PVC sleeve with locking cover over well casings and grave

FIGURES



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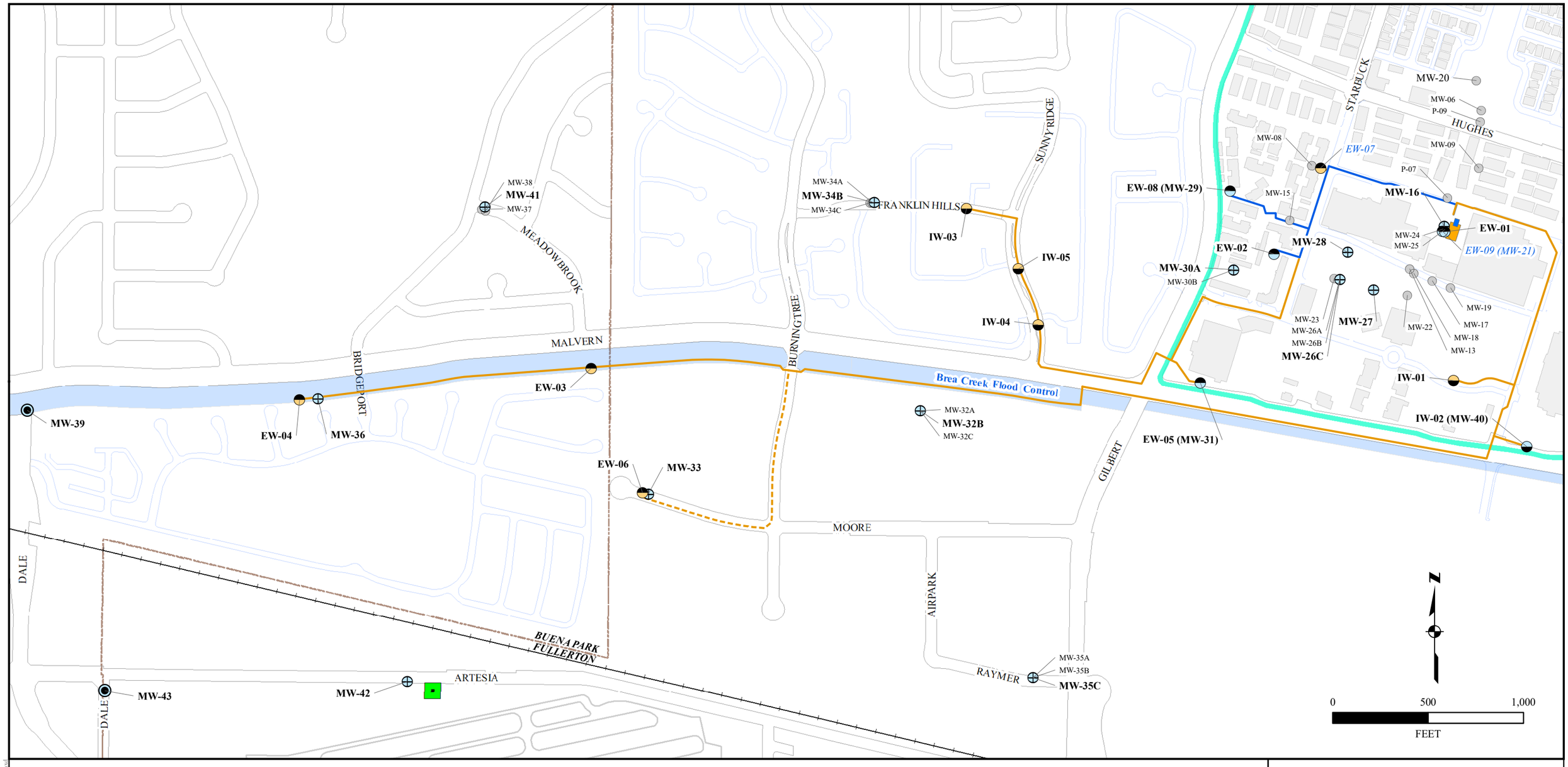
Hydrogeology/Engineering

5/11	RPT NO. 532.31	410-8281	A

FIGURE 1. SITE LOCATION



City Boundaries
Former Hughes Aircraft Company Property
Flood Control Channel Parcels
On Property Current Buildings
Fullerton Airport Well

Site Related Wells
- Existing Extraction
- Future Extraction
- Existing Injection
- Future Injection
- Existing Point of Compliance
- Existing Performance Monitoring
- Existing Monitoring Other

Pipelines
- Existing
- Future
- Potential Future

Treatment Building
- Existing Pilot
- Future Full Scale

NOTES:

1. Light blue colored streets are private.
2. Bold well IDs completed in Unit B
3. Blue italicized well IDs are extraction wells completed in Unit BC
4. Small well IDs completed in units other than B
5. Piezometer P-07 and P-09 completed in perched zone
6. Extraction well EW-06 may be installed at future time based on performance monitoring results.
7. Dashed line on Burning Tree and Moore is pipeline for EW-06, would be installed if EW-06 is installed.

FIGURE 2. WELL AND PIEZOMETER LOCATIONS

CORRECTIVE MEASURES IMPLEMENTATION WORK PLAN

FORMER HUGHES AIRCRAFT COMPANY
1901 WEST MALVERN AVE, FULLERTON, CA

Engineering Analytics, Inc.

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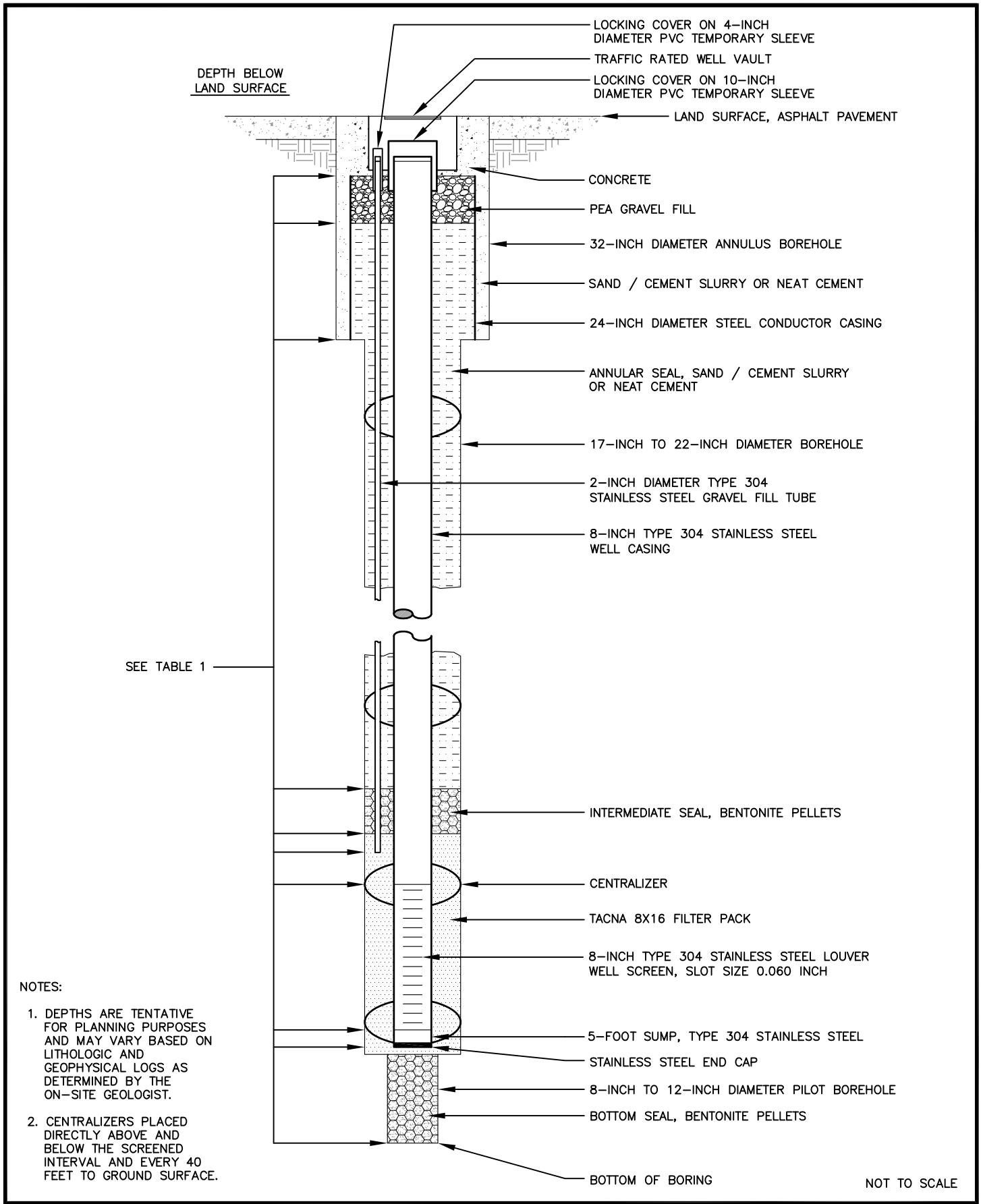

NOTES:

1. DEPTHS ARE TENTATIVE FOR PLANNING PURPOSES AND MAY VARY BASED ON LITHOLOGIC AND GEOPHYSICAL LOGS AS DETERMINED BY THE ON-SITE GEOLOGIST.
2. CENTRALIZERS PLACED DIRECTLY ABOVE AND BELOW THE SCREENED INTERVAL AND EVERY 40 FEET TO GROUND SURFACE.

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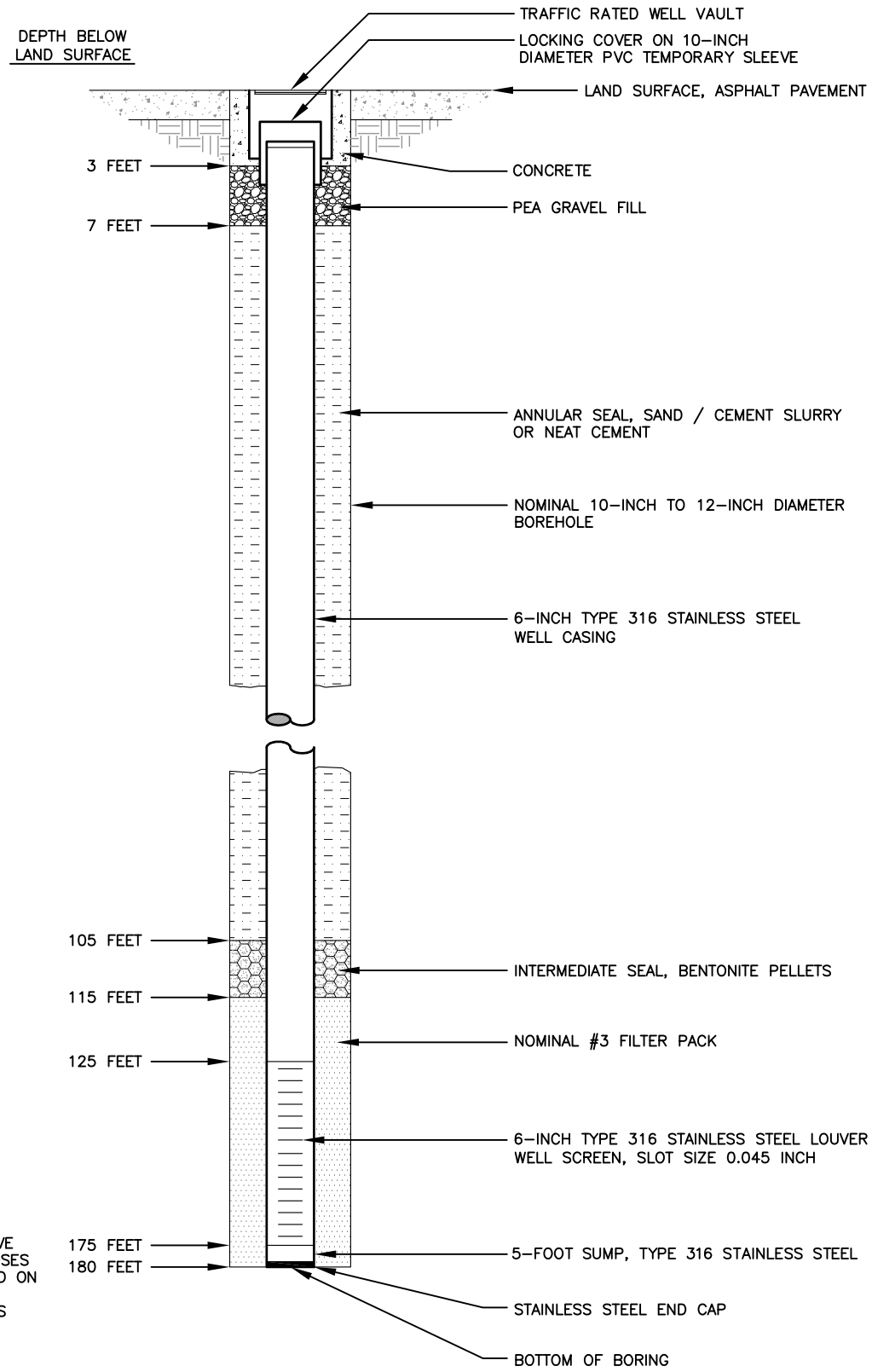
FIGURE 3.

PROPOSED MUD ROTARY EXTRACTION WELL SCHEMATIC



NOTES:

1. DEPTHS ARE TENTATIVE FOR PLANNING PURPOSES AND MAY VARY BASED ON LITHOLOGIC AND GEOPHYSICAL LOGS AS DETERMINED BY THE ON-SITE GEOLOGIST.
2. CENTRALIZERS PLACED DIRECTLY ABOVE AND BELOW THE SCREENED INTERVAL AND EVERY 40 FEET TO GROUND SURFACE.

NOT TO SCALE

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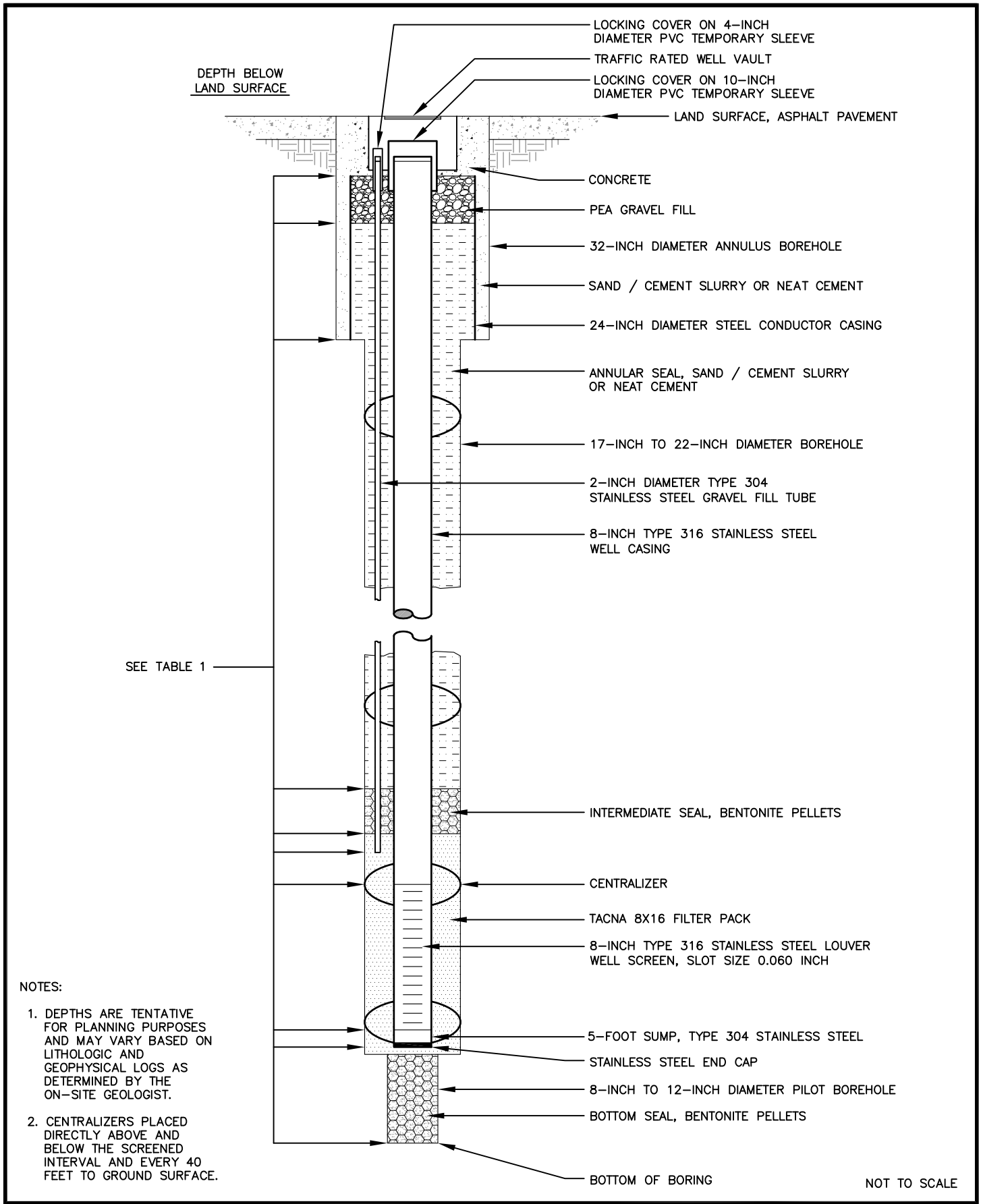
FIGURE 4.
PROPOSED SONIC EXTRACTION WELL EW-07 SCHEMATIC



NOTES:

1. DEPTHS ARE TENTATIVE FOR PLANNING PURPOSES AND MAY VARY BASED ON LITHOLOGIC AND GEOPHYSICAL LOGS AS DETERMINED BY THE ON-SITE GEOLOGIST.
2. CENTRALIZERS PLACED DIRECTLY ABOVE AND BELOW THE SCREENED INTERVAL AND EVERY 40 FEET TO GROUND SURFACE.

Sep 30, 2022 - 11:44am ESS - T:\2022\500-599\532 Raytheon\Hydogeology\Well Diag\710-0971.dwg

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FIGURE 5.
PROPOSED MUD ROTARY INJECTION WELL SCHEMATIC