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MEMORANDUM

TO: Erdmann Rogge, P.G., ACEHD
Varinder Oberoi, P.E., ACEHD

FROM: Jeremy Scott, P.E.

DATE: July 2, 2025

SUBJECT: Revised Hydrogeologic Assessment (CPS Case No. RO0003666)

CC: Dilan Roe, ACEHD
Monty Patterson, AUSD
Pedro Mora, AUSD

PROJECT DESCRIPTION

The Alameda High School Swim Center Modernization project, located at 2200 Central Avenue in Alameda, California (Site), includes demolition of an existing pool facility, excavation and grading, and construction of a new pool facility which is proposed to include a shallow pool for swimming competition, a deep pool for diving, an exterior flatwork pool deck, equipment house, site utilities and a new tennis court. The Site location is presented on Figure 1. Construction of the new pools and equipment house will require construction dewatering.

The project is being completed by Alten Construction (Alten) for Alameda Unified School District (AUSD). The Site is under regulatory oversight by Alameda County Environmental Health Department (ACEHD), as Case No. RO0003666. This memorandum is to provide a hydrogeologic assessment of the proposed construction dewatering activities. This hydrogeologic assessment does not include the complete dewatering plan (to be submitted separately), but is being used to address ACEHD questions regarding the scope of the planned dewatering effort and its impact on the adjacent potentially impacted sites.

CONCEPTUAL DEWATERING ASSESSMENT

Kleinfelder performed a screening-level evaluation using a two-dimensional depiction of modeled drawdown based on parameters calculated from a pumping test and available Site and nearby groundwater data. The intent of this work was to provide a scenario of conceptual pumping rates, radius of influence estimate, and well distribution for dewatering assessment, based on existing and estimated groundwater parameters and data.

To complete this assessment, one pumping well was installed at the Site to a depth of 35 feet below ground surface (bgs) and three observations wells were installed to depths ranging from 8 to 35 feet bgs in an array around the pumping well. An approximately 10-hour constant-rate pumping test was performed (following a step-drawdown test to evaluate pumping rates) at an approximate rate of 4

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gallons per minute (gpm). Each well was equipped with a transducer for monitoring the development of the cone of depression induced by pumping and the deterioration of the cone of depression during the recovery phase of the aquifer test. Transducers were set to record at intervals sufficient to capture the effects of pumping and recovery.

Pumping-test data were assessed using the program AQTESOLV® Professional v.4.50.002 (HydroSOLVE, Inc., 2007) and the method of Theis (1935) was used to calculate hydraulic parameters, assuming unconfined conditions. Aquifer pumping test drawdown data were evaluated using derivative analysis (Bourdet et al, 1983 and 1989; Spane and Wurstner, 1993) to confirm unconfined aquifer conditions. An aquifer thickness of 50 feet was estimated from available lithologic information. Following are the assumptions implicit in the Theis (1935) solution:

- Aquifer has infinite areal extent
- Aquifer is homogeneous, isotropic and of uniform thickness
- Pumping well is fully or partially penetrating
- Flow to pumping well is horizontal when pumping well is fully penetrating
- Aquifer is unconfined
- Flow is unsteady
- Water is released instantaneously from storage with decline of hydraulic head
- Diameter of pumping well is very small so that storage in the well can be neglected
- No delayed gravity response in aquifer
- Low velocity is proportional to tangent of the hydraulic gradient instead of the sine (which is actually the case)
- Flow is horizontal and uniform in a vertical section through the axis of the well
- Displacement is small relative to saturated thickness of aquifer.

Observed stabilized groundwater drawdowns after 10 hours of the constant-rate pumping test in PT-01 and observation wells OB-01, OB-02, and OB-03 were approximately 10.4 feet, 0.8 foot, 1.2 feet, and 0.9 foot, respectively (Attachment 1). After the pump was shut off, the aquifer was left to recharge over a weekend. Drawdown and recovery for observation wells OB-02 and OB-03 were used to assess aquifer parameters (well OB-01 was intended to evaluate vertical hydraulic connection only and pumping-well PT-01 may be subject to well inefficiencies, e.g., friction losses, etc.). Calculated transmissivity values are 328 to 418 feet squared per day (feet^2/day) and calculated storativity values are 0.001 to 0.008 (dimensionless). Aquifer-test solutions from AQTESOLV, based on the Theis (1935) solution, are provided in Attachment 1.

The soil boring, laboratory testing results, daily field report, and photo log are presented in Attachment 2.

SUMMARY INPUT PARAMETERS

The model domain was selected as approximately 1 square mile surrounding the Site (see Figure 2). The following input parameters were provided as conditions for modeling:

- Existing ground surface elevation: 31.64 feet above mean sea level (ft amsl) at the test well location
- Groundwater elevation in area of interest: 26.39 ft amsl (i.e., 5.25 ft below current ground surface

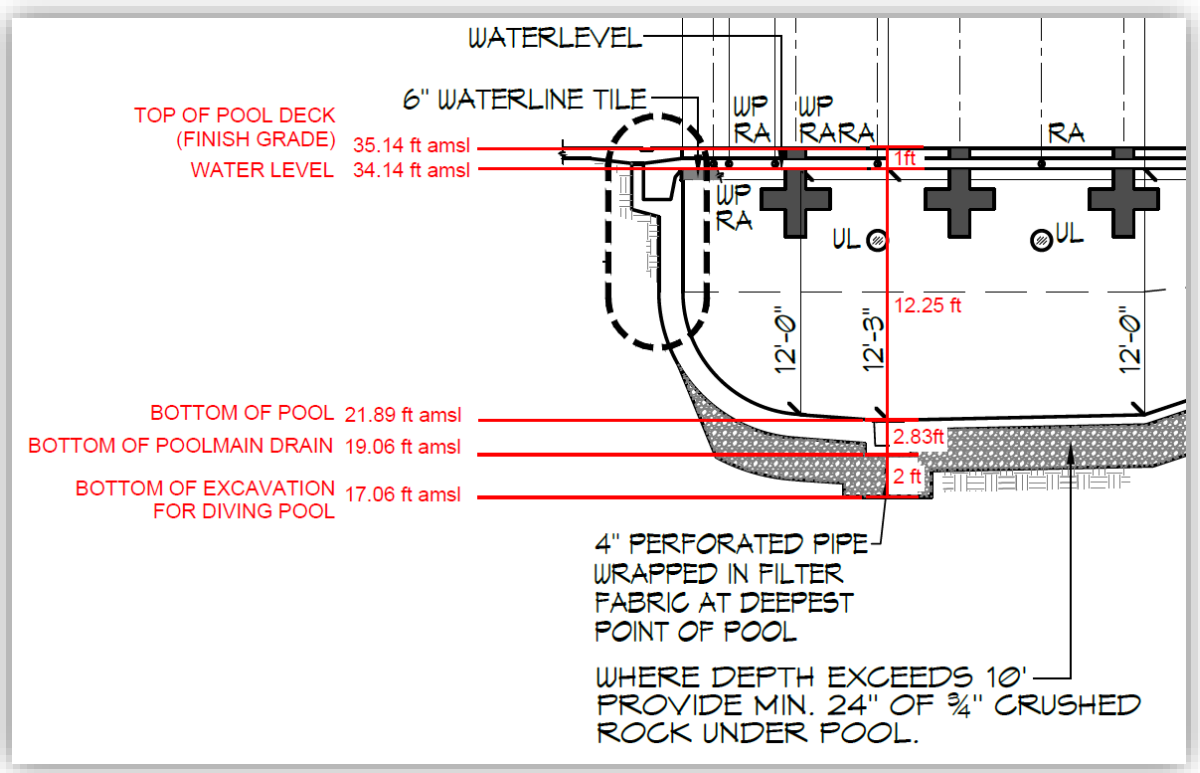
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at the soil boring location)

- Proposed future finish grade surface elevation of 35.14 ft amsl for top of pool deck
- Estimated elevation of bottom of excavation for diving pool: 17.06 ft amsl (i.e., 18.08 ft below proposed future finish grade)
- Estimated elevation of bottom of excavation for the shallow pool and other Site features: 25 ft amsl (i.e., approximately 10 ft below proposed future finish grade); these do not govern the dewatering depths
- Dewatering target elevation: 14.06 ft amsl (i.e., 3 ft below lowest total depth of excavation)
- Dewatering column: up to 12.33 ft of drawdown (i.e., 26.39 ft amsl groundwater depth minus 14.06 ft amsl target elevation)
- Estimated elevation of proposed dewatering well bottom – approximately -4 ft amsl (i.e., greater than 15 feet below target drawdown and approximately 35 feet below rough grade)
- Well screen length – 30 feet

Figure 3 below shows the elevations listed alongside the diving pool design section; the excavation in this area governs the target dewatering depth.

Figure 3: Cross Section of diving pool profile at deep end, showing estimated elevations



METHODOLOGY, MODEL INPUT, AND ASSUMPTIONS

To assess and evaluate the proposed dewatering of the Site, a two-dimensional (2D) groundwater flow model was constructed using Aquifer^{Win32} (version 6.00) modeling platform developed by Environmental Simulations, Inc. (2020). Aquifer^{Win32} is a computer code used to simulate water and solute transport in two dimensions in single-layer saturated porous media based on finite elements. It uses a Microsoft

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Windows-compatible graphical user interface (GUI) and the WinFlow Solver. The WinFlow Solver is an interactive, analytical modeling tool that simulates 2D steady-state and transient groundwater flow. The steady-state module simulates groundwater flow in a horizontal plane using analytical functions developed by Strack (1989). The transient module uses equations developed by Theis (1935) for confined aquifers, Hantush and Jacob (1955) and Hantush (1960) for leaky aquifers, and Neuman (1972) for unconfined aquifers. Each module uses the principle of superposition to evaluate the effects from multiple analytical functions (wells, etc.) in a uniform regional flow field. Transient analysis was performed for this project using the Neuman (1972) equation, based on an assumption of unconfined conditions beneath the Site.

Length, time, and extraction rate units of feet, days, and gallon per minute (gpm), respectively, were specified in the model, and the assigned parameter values were in consistent units.

In Aquifer^{Win32}, the model requires user specification of a problem-specific boundary condition. This is accomplished by introducing a reference point within the model domain at which a reference head is specified to represent groundwater flow into the model. Since this point is introduced for mathematical purposes, and not for hydrological reasons, its location was selected in such a manner that it is as far as possible away from analytical elements such as pumping wells so that it does not influence the modeling results. This selection of a head boundary condition for the Site involves a considerable simplification of the actual hydrogeologic conditions, but imposes an observed condition on the simulation as follows:

- Reference head – The reference head defines a point where the hydraulic head is known. A constant reference head in the far southwest of the model was used to simulate groundwater flow in a transient condition. The reference head is analogous to a constant head in a numerical model.
- Regional gradient and flow direction – Regional gradient and flow direction are used to superimpose a uniform groundwater flow field on the analytical model. A uniform hydraulic gradient of 0.003 foot/foot (ft/ft) with a west-northwestward flow direction was assigned in the model. This achieves a reasonable flow domain across the model area, which is contained within a tidally influenced island in San Francisco Bay.

Hydraulic conductivity is assumed to be homogeneous throughout the aquifer. Based on the pumping test, a hydraulic conductivity value of 8 feet per day (feet/day) was calculated and used in the model, assuming an aquifer thickness of 50 feet. The previously utilized methodology (calculation using grain size analysis and HydrogeoSieveXL) was not utilized for this current evaluation.

A storativity value of 0.10 (dimensionless) was assigned in the flow model. The 2D groundwater flow model input parameters are summarized in the following:

- Hydraulic conductivity – 8 feet/day, based on an assumed aquifer thickness of 50 feet
- Transmissivity – 400 feet^2/day
- Storage coefficient – 0.10
- Horizontal hydraulic gradient – 0.003 ft/ft
- General groundwater flow direction – west-northwest
- Extraction rate – 3 to 8 gpm

The following assumptions were made to simulate the flow field and drawdown using Aquifer^{Win32}:

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- The model is a simplified version of the heterogeneous nature of the aquifer
- The aquifer system is homogenous and isotropic
- Unconfined aquifer
- Uniform regional flow field
- Aquifer is horizontal and has infinite areal extent
- The effect of recharge and evaporation are cancelled out and were not included in the model.

Initially, the extraction wells were placed around the proposed excavation areas based on the dewatering locations specified by Alten; the locations were modified to optimize (i.e., to distribute drawdown more evenly) the overall simulated drawdown beneath the excavations (See Figures 4 and 5). Thirteen wells were simulated, three around the shallow pool, nine around the deep pool, and one northeast of the pools. Note that the pumping test well (located along Oak Street) was not included in the model; this well remains in place and can be utilized for pumping as an optional well.

GROUNDWATER FLOW MODELING RESULTS

Based on the estimated hydraulic parameter values indicated above and the desired drawdown of 3 feet below the planned excavations, potential extraction rates were evaluated to achieve at least the minimum drawdown desired. The simulated extraction rates for a 13-well arrangement are 3 gpm at 3 wells around the shallow competition pool, 5 to 8 gpm at 9 wells around the deeper diving pool, and 5 gpm at 1 well just northeast of the pools. The total pumping rate simulated was 74 gpm to achieve drawdown beneath the proposed excavations.

The pumping rate(s) are anticipated to be higher at the beginning of pumping and decrease over time as the desired drawdown is achieved. Note that calculations of the steady-state dewatering rate range from 79 to 121 gpm, depending on the method utilized and assumptions on the dimensions of the excavation; as such, if the total production rate exceeds the modeled 74 gpm, the likely steady-state dewatering rate will be below the calculated maximum of 121 gpm.

The model is sensitive to storage values as well as hydraulic conductivity and is based on values of these parameters calculated from the pumping test and hydrogeologic knowledge of similar aquifer systems.

The radius of influence produced from the groundwater pumping scenario modeled indicates potential radial impact of approximately 1,000 feet, as measured from the pumping center to the modeled contour of 0.1 foot of groundwater drawdown when approximately 12 feet of drawdown is achieved (see Figure 5). Particle tracking within the model suggests that particles seeded on adjacent properties would not reach the construction area during the time frame of the anticipated dewatering activities (see Figure 6).

Potential dewatering-induced settlement, which is a possibility when groundwater drawdown exceeds seasonal groundwater fluctuations, will be monitored by Alten during dewatering activities. Alten has identified six locations to monitor (see Attachment 3) to be monitored during dewatering activities. The monitoring frequency, as defined by the geotechnical engineer and the Site surveyor, is as follows: baseline readings completed before pumping begins; followup readings taken after two to three days of pumping; if no settlement is observed after the followup readings, then readings will be completed weekly thereafter. Measurements will be made to the nearest 1/100 of a foot. Any settlement observed will be reported to the geotechnical engineer for evaluation and recommendations.

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Additionally, the dewatering activities will be monitored using observation wells located along Oak Street and near the New Tennis Court area (west of the Swim Center excavation area). The dewatering plan specifies the location of the observation well west of the Swim Center; the existing pumping test well along Oak Street will be utilized for this purpose. If Alten elects to use this well for pumping, and a second observation well is needed, a replacement location will be identified on the Oak Street side of the Site.

ENVIRONMENTAL SCREENING EVALUATION

To identify nearby release sites, Kleinfelder used the California Environmental Protection Agency's GeoTracker and EnviroStor websites. The nearby release sites are listed in Attachment 4 with their distance, direction, groundwater depth, and environmental contamination data. The locations of these nearby sites are shown on Figure 5.

Based on the data presented in Attachment 4, the following release sites are listed within the 2.5 ft drawdown radius of influence for the Swim Center Modernization Project. These sites are:

1. Alameda Lock & Glass 2301 Encinal Avenue. This site is 250 feet southeast from the Swim Center. The depth to groundwater ranged from 7.6 to 8 feet bgs. The most recent groundwater data are from 2015 and indicate 0.059 milligrams per liter (mg/L) of total petroleum hydrocarbons (TPH) as gasoline (TPHg). This site received regulatory closure and the low residual concentrations from 10 years ago are unlikely to impact operations at Swim Center. There are no building between this facility and the Swim Center. Based on the 10 year span since closure and low concentrations present in groundwater at closure there is limited potential for residual impacts from this site to reach the dewatering operations at the Swim Center.

2. Russi Commercial Property 1347 Park Street. This facility is 560 feet east from the Swim Center. One well was installed on this property and the document lists the presence of light non-aqueous phase liquid (LNAPL) during UST removal in 1995. The depth to groundwater ranged from 7 to 11.75 feet bgs in 2017 and 2018. The most recent groundwater data collected in 2018 show TPHg at less than 0.050 mg/L, TPH as diesel at less than 0.1 mg/L, and TPH as motor oil (TPHmo) at less than 0.5 mg/L. Further, benzene, toluene, ethylbenzene, and xylenes (BTEX) were all below 0.005 mg/L. This Site received regulatory closure. This site is unlikely to impact dewatering operations at the Swim Center.

3. City of Alameda Fire Department 2401 Encinal Avenue. This facility is 580 feet south-southeast of the Swim Center. This site is closed and listed only soil impacts (i.e., no groundwater impacts observed). This site is unlikely to impact dewatering operations at the Swim Center.

4. Arco #2112 1260 Park Street. This facility is 600 feet south-southeast of the Swim Center. Groundwater ranged from 7.38 to 10.11 feet bgs. This site received regulatory closure. The most recent groundwater data show that concentrations of TPHg and BTEX were below 0.0005 mg/L. This site is unlikely to impact dewatering operations at the Swim Center.

5. Video Maniacs 2305 Central Avenue. This facility is 650 feet northeast of the Swim Center, and it received regulatory closure in 2007. The depth to groundwater at this facility was 10.75 to 10.96 feet bgs. The most recent groundwater data from 2007 showed that TPHg was below 0.05 mg/L, TPHd was below 0.028 mg/L, and BTEX compounds were all below laboratory reporting values. This site is unlikely to impact dewatering operations at the Swim Center.

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6. City of Alameda/Alameda High School 2201 Encinal Avenue. This site is 750 feet northwest of the Swim Center. No groundwater data exist for this fuel-oil UST removal. Soil concentrations observed in 2019 ranged from 560 milligrams per kilogram (mg/kg) for TPHg to 13,000 mg/kg for TPH as motor oil. This location is within the Alameda High School property; however, the responsibility for addressing environmental impacts likely lies with an adjacent property owner. This site is unlikely to impact dewatering operations at the Swim Center.

Site 1 above is the only site located within areas of significant or moderate drawdown (i.e., 2 ft or more). This site achieved regulatory closure in 2015 and contained only low levels of petroleum hydrocarbons. The risk of contaminant migration from this site will be mitigated using the dewatering pre-treatment discussed below.

Sites 2 through 5 are sites that have achieved regulatory closure and are at a sufficient distance from the Swim Center that the drawdown in these areas is low (i.e., between 0.1 and 1.1 feet of drawdown). The modeling performed by Kleinfelder included limited particle tracking between the 0.1 foot and 1.1 foot drawdown contours. This limited particle tracking factored in the regional groundwater gradient (moving northwest as per data from adjacent sites). This limited particle tracking indicated limited movement of groundwater towards the Site that is not related to the regional groundwater gradient. As such, the dewatering activities at the Swim Center are not expected to have a significant impact on potential residual contaminant migration from these sites.

Finally, Site 6 is downgradient of the Swim Center. The limited particle tracking in this area of the model domain showed that the expected drawdown below Site 6 was not sufficient to counteract the effects of the regional groundwater gradient. As such, the risk of pulling potential contamination from this area is considered low.

Other release sites are beyond the modeled radius of influence from the Swim Center.

DEWATERING PRE-TREATMENT

Based on the impacts observed in soil and groundwater at the Site as well as the potential to draw low level residual contamination from one nearby site, the water collected during dewatering activities will be pre-treated prior to discharge to the sanitary sewer. The discharge is permitted under a discharge permit from the East Bay Municipal Utilities District Special Discharge Permit No. 11000154 . The maximum permitted discharge rate at one sewer outfall is 145 gpm.

The temporary groundwater treatment system is designed to operate at a flow rate of up to 400 gallons per minute (GPM) over a six-month period. It features a series of filtration and treatment stages engineered to handle site-specific contamination and regulatory requirements. Water enters the system and passes sequentially through a sand filter, parallel bag filters, and a bank of specialty media vessels for contaminant removal. A centrifugal electric pump (30 amps, 3-phase, 480V) circulates the water through the treatment train. The process includes two 8,400-gallon weir tanks for flow equalization and a 5,000-gallon poly tank for settling backwash.

Key instrumentation includes a flow meter for monitoring GPM and total flow, as well as an alarm system with auto dialer for high tank levels and power outages. A sample port is located downstream to collect effluent samples for compliance with EBMUD discharge permit requirements. Filtration system will have

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weekly visits which includes pressure/flow checks and equipment maintenance. The pre-treatment system will be supplied by a vendor subcontracted through Alten Construction.

Should the desired pumping rate exceed the permitted 145 gpm, Alten may seek to obtain permissions to discharge to a separate sewer outfall or pursue a permitted discharge to surface waters. However, the permitting pathways for these alternate options are likely prohibitive from a cost and schedule standpoint; accordingly, restricting the dewatering discharge rate to be at or below the maximum permitted discharge rate will be a key consideration during construction dewatering activities. Note that the calculated maximum steady state pumping rate discussed above is 121 gpm, which is below the permitted discharge rate.

TREATMENT SYSTEM INFLUENT SAMPLING

As discussed above, the temporary dewatering pre-treatment system is equipped with influent and effluent sample ports to allow for sampling of the pre-treated and post-treated water prior to treatment and discharge. ACEHD has requested that an influent sample be collected within 2 days following the start of the dewatering activities to establish a baseline condition.

Particle pathways shown in the model indicate that after approximately 90 days of dewatering activities, groundwater from the nearest impacted site, Alameda Lock & Glass (2301 Encinal Avenue), located approximately 250 feet southeast of the Swim Center, may be drawn to the property boundary. Accordingly, Kleinfelder recommends that samples be collected from the influent of the dewatering pre-treatment system every 15 days during dewatering activities. This sampling frequency may be relaxed after maximum drawdown is achieved; maximum drawdown is expected to be achieved at approximately 45 days.

The influent samples will be collected using laboratory provided containers and submitted for the analysis for total petroleum hydrocarbons (gasoline, diesel, and motor oil), volatile organic compounds, metals, and other discharge permit analytes. Results will be evaluated against the baseline sampling results.

REFERENCES

Bourdet, D., Ayoub, J.A. and Y.M. Pirard, 1989. Use of pressure derivative in well-test interpretation, SPE Formation Evaluation, June 1989, pp. 293-302.

Bourdet, D., Whittle, T.M., Douglas, A.A. and Y.M. Pirard, 1983. A new set of type curves simplifies well test analysis, World Oil, May 1983, pp. 95-106.

Devlin, J.F., 2016, HydrogeoSieveXL, v.2.3., July, 2019, University of Kansas.

Devlin, J.F. 2015. HydrogeoSieveXL: an Excel-based tool to estimate hydraulic conductivity from grain-size analysis. Hydrogeology Journal.

Environmental Simulations, Inc., 2020, Aquifer^{Win32} Software version 6.00

Hantush, M.S. and C.E. Jacob, 1955, Non-Steady Radial Flow in an Infinite Leaky Aquifer, Am. Geophys. Union Trans., v. 36, no. 1, p. 95-100.

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Hantush, M.S., 1960, Modification of the Theory of Leaky Aquifers, Journal of Geophysical Research, v. 65, no. 11, p. 3713-3725.

HydroSOLVE, Inc., 2007. AQTESOLV® v.4.50.

Neuman, S.P., 1972. Theory of Flow in Unconfined Aquifers Considering Delayed Response of the Water Table, Water Resources Research, vol. 8, pp 1031-1045.

Spane, F.A., Jr., and S.K. Wurstner, 1993. DERIV: A computer program for calculating pressure derivatives for use in hydraulic test analysis, Ground Water, vol. 31, no. 5, pp. 814-822.

Strack, O.D.L., 1989. Groundwater Mechanics, Prentice Hall, Englewood Cliffs, New Jersey, 732 p.

Theis, C.V., 1935. The Relation between the Lowering of the Piezometric Surface and the Rate and Duration of Discharge of a Well using Groundwater Storage, Trans. Amer. Geophys. Union, Vol. 16, pp. 519-524.

ATTACHMENTS

Figure 1	Site Vicinity Map
Figure 2	Model Domain
Figure 3	Cross Section of diving pool profile at deep end
Figure 4	Proposed Dewatering Wells – Approximate Locations
Figure 5	Simulated Drawdown and Adjacent Impacted Sites
Figure 6	Modeled Particle Tracking and Simulated Drawdown

Attachment 1	Pumping Test Results
Attachment 2	Soil Boring Results
Attachment 3	Settlement Monitoring Locations
Attachment 4	Adjacent Sites - Environmental Impact Review

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Figures

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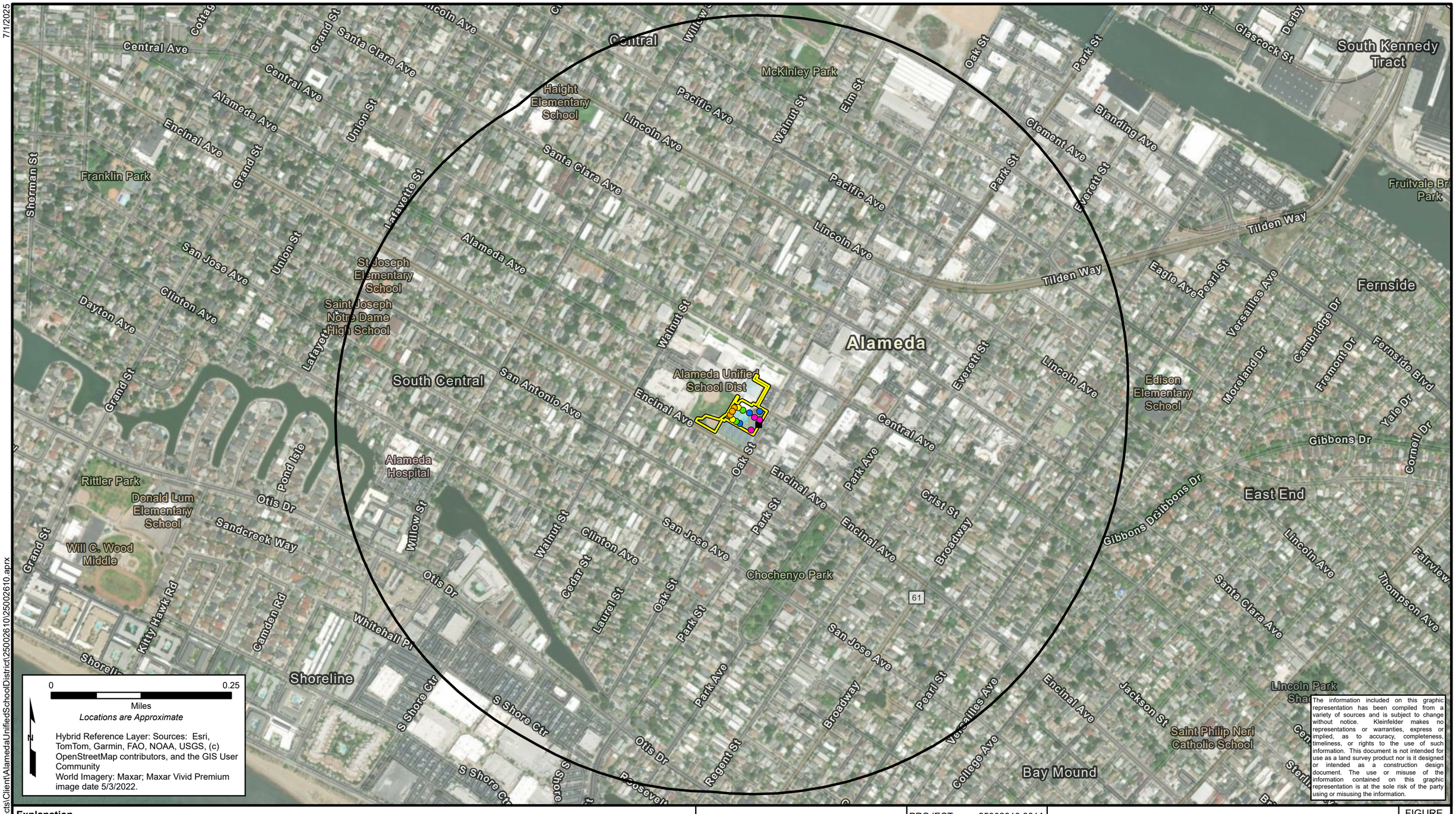
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SITE VICINITY MAP

DEWATERING HYDROGEOLOGIC ASSESSMENT
ALAMEDA HIGH SCHOOL SWIM CENTER PROJECT
2200 CENTRAL AVENUE
ALAMEDA, CALIFORNA

FIGURE

1



0 0.25

Miles

Locations are Approximate

Hybrid Reference Layer: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community
World Imagery: Maxar; Maxar Vivid Premium image date 5/3/2022.

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Explanation

- Pumping Test Well
- Model Dewatering Well (3 gpm)
- Model Dewatering Well (5 gpm)
- Model Dewatering Well (6 gpm)
- Model Dewatering Well (7 gpm)
- Model Dewatering Well (8 gpm)
- Half-mile Radius
- Approximate Site Boundary

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MODEL DOMAIN

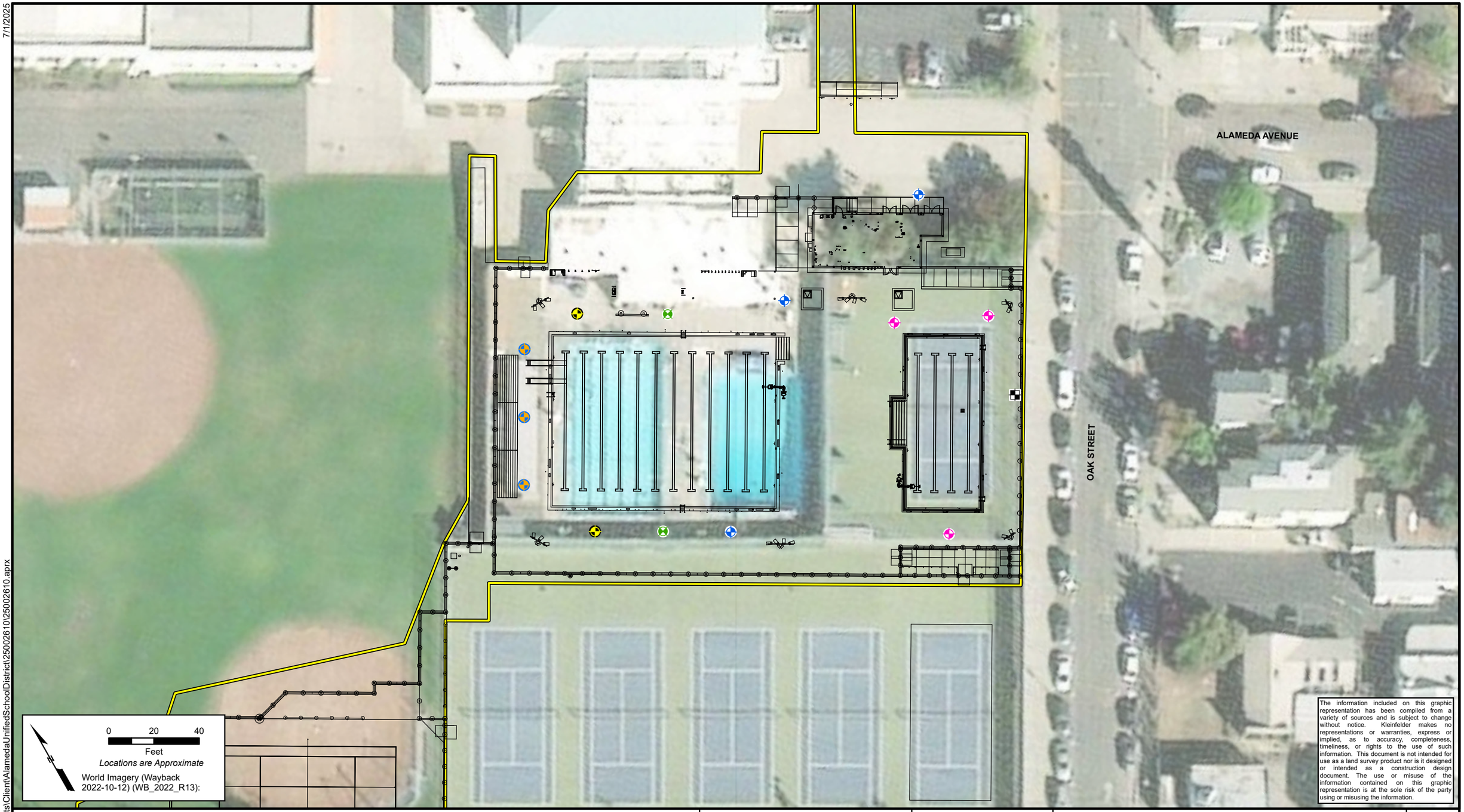
DEWATERING HYDROGEOLOGIC ASSESSMENT
ALAMEDA HIGH SCHOOL SWIM CENTER PROJECT
2200 CENTRAL AVENUE
ALAMEDA, CALIFORNA

FIGURE
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Explanation

- Pumping Test Well
- Model Dewatering Well (3 gpm)
- Model Dewatering Well (5 gpm)
- Model Dewatering Well (6 gpm)
- Model Dewatering Well (7 gpm)
- Model Dewatering Well (8 gpm)
- Approximate Site Boundary
- AHS Future Construction Plans Linework

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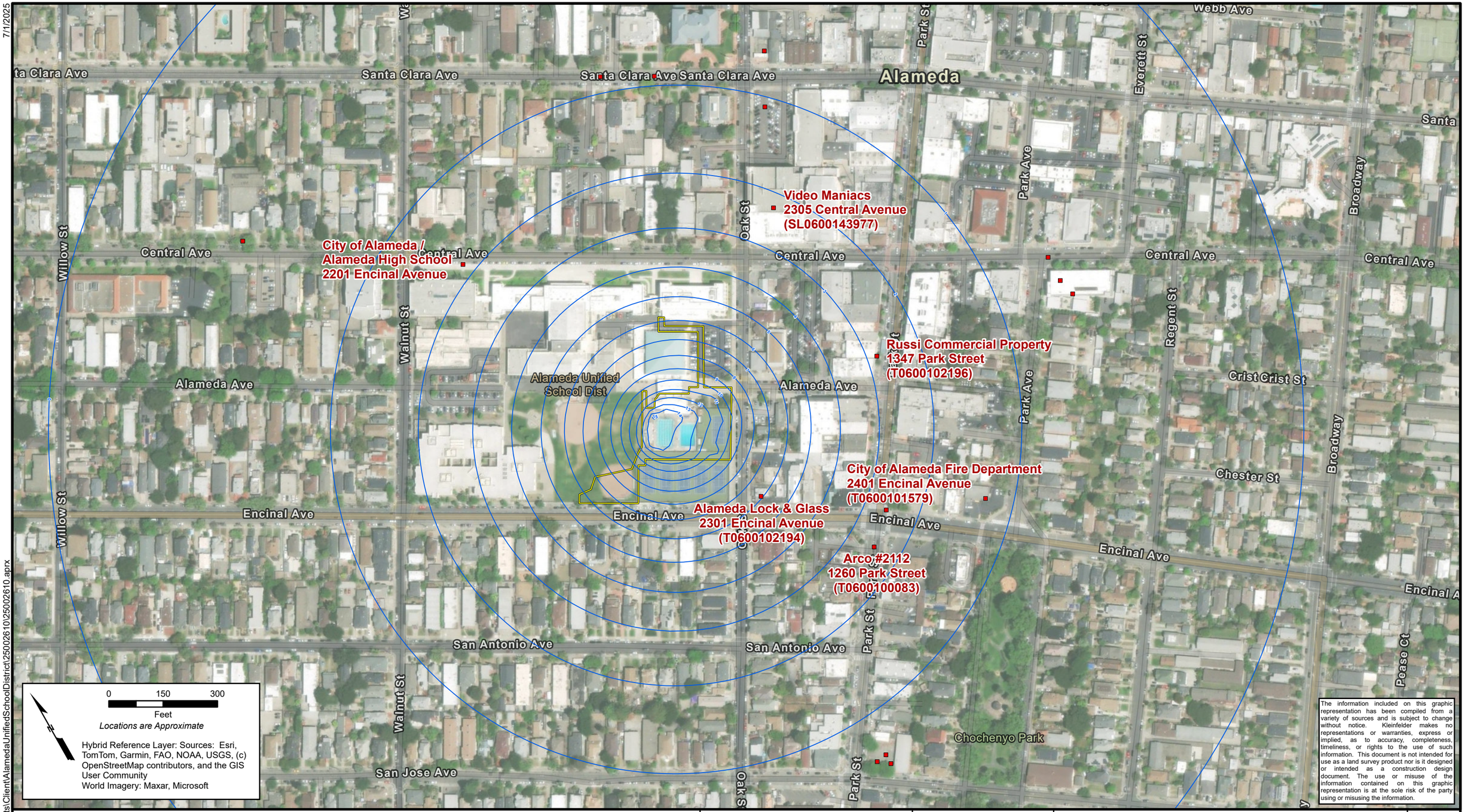
PROPOSED DEWATERING WELLS - APPROXIMATE LOCATIONS

DEWATERING HYDROGEOLOGIC ASSESSMENT
ALAMEDA HIGH SCHOOL SWIM CENTER PROJECT
2200 CENTRAL AVENUE
ALAMEDA, CALIFORNA

FIGURE
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Explanation

- Modeled Groundwater Drawdown (feet)
- Impacted Site (GeoTracker)
- Approximate Site Boundary

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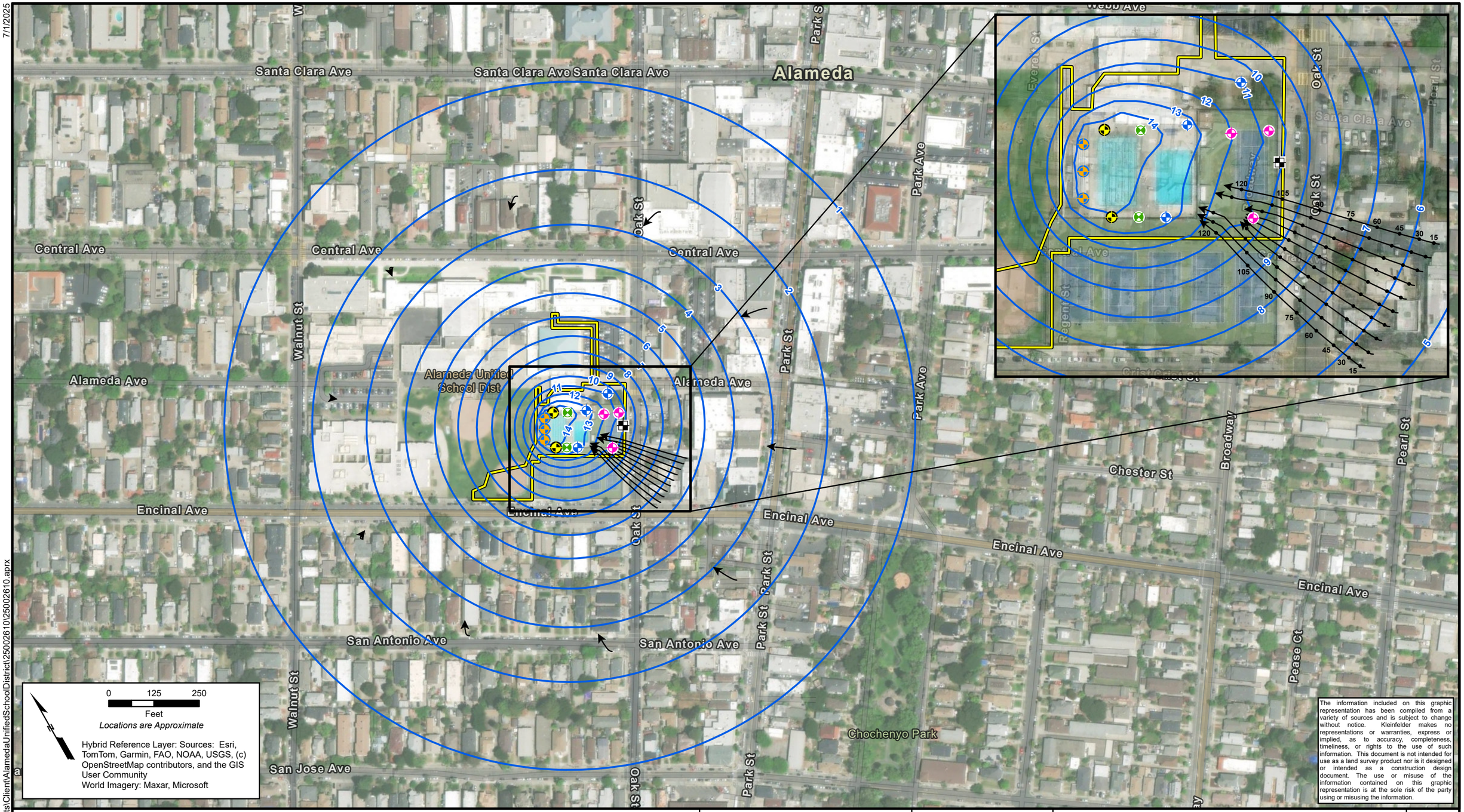
SIMULATED DRAWDOWN AND ADJACENT IMPACTED SITES

DEWATERING HYDROGEOLOGIC ASSESSMENT
ALAMEDA HIGH SCHOOL SWIM CENTER PROJECT
2200 CENTRAL AVENUE
ALAMEDA, CALIFORNA

FIGURE
5

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Explanation

- Modeled Particle Track (time in days)
- Modeled Groundwater Drawdown (feet)
- Approximate Site Boundary
- Pumping Test Well
- Model Dewatering Well (3 gpm)
- Model Dewatering Well (5 gpm)
- Model Dewatering Well (6 gpm)
- Model Dewatering Well (7 gpm)
- Model Dewatering Well (8 gpm)

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Bright People. Right Solutions.

PROJECT:	25002610.001A
DRAWN:	JUL 2025
DRAWN BY:	K. HAGAN
CHECKED BY:	J. SCOTT
FILE NAME:	Model_F6.pagx

MODELED PARTICLE TRACKING AND SIMULATED DRAWDOWN

DEWATERING HYDROGEOLOGIC ASSESSMENT
ALAMEDA HIGH SCHOOL SWIM CENTER PROJECT
2200 CENTRAL AVENUE
ALAMEDA, CALIFORNA

FIGURE
6

\\azrgisstorp03\GIS_Projects\Client\AlamedaUnifiedSchoolDistrict\25002610\25002610.aprx

KLEINFELDER

Bright People. Right Solutions.

Attachment 1

2025												2026											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

6" FILL AT IMPACTED AREA

ROUGH GRADE & COMPACTION

Dewatering

Dewatering

OBSERVATION WELL
2" DIAMETER
8' DEEP

OBSERVATION WELLS
2" DIAMETER
35' DEEP

OB-1

OB-2

OB-3

PT-01

60'-0"

26'-0"

5'-0"

20'-0"

5'-0"

15'-0"

35'-0"

DEWATERING TEST WELL
12" DIAMETER
40' DEEP BELOW (E) GRADE

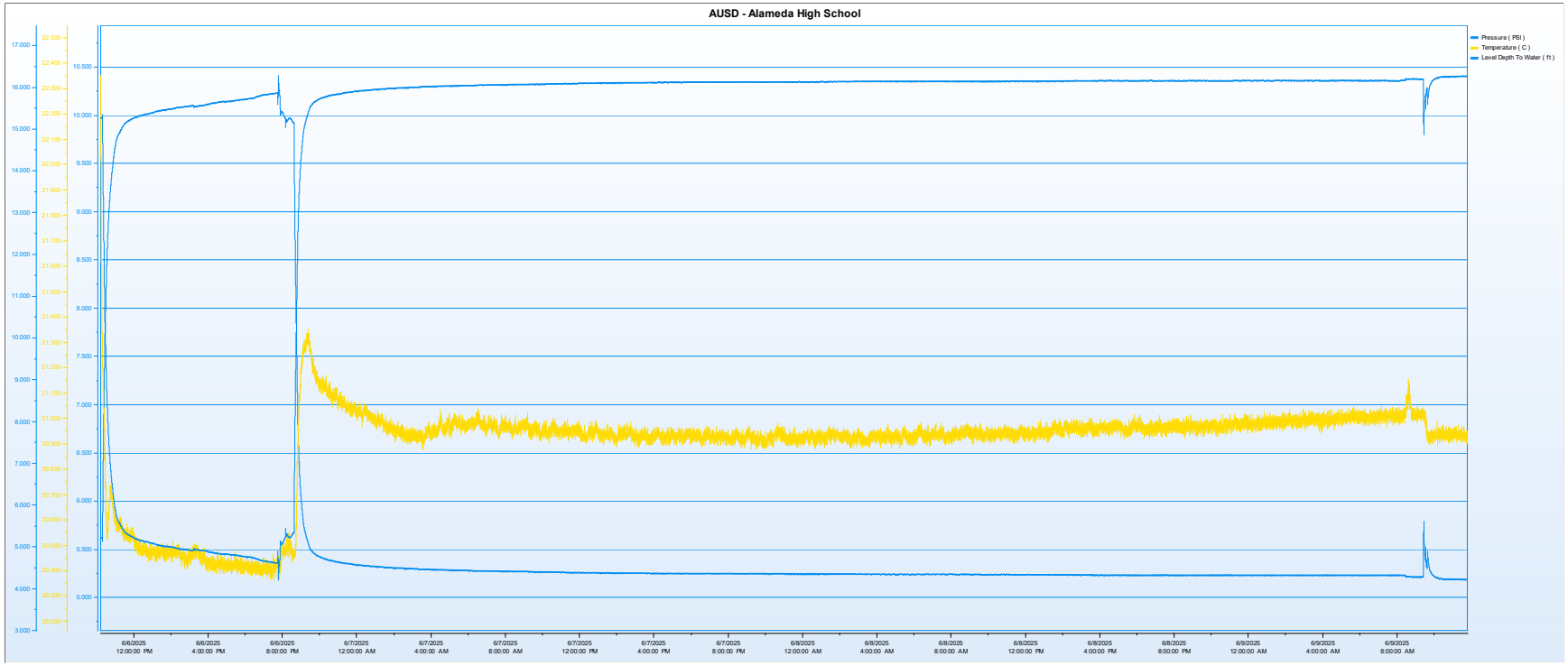
LOGISTICS LEGEND

- IMPACTED SOIL
- UNIMPACTED NATIVE SOIL
- TRENCH PLATE
- CONSTRUCTION FENCE
- PATRON TRAFFIC FLOW
- CONSTRUCTION TRAFFIC FLOW

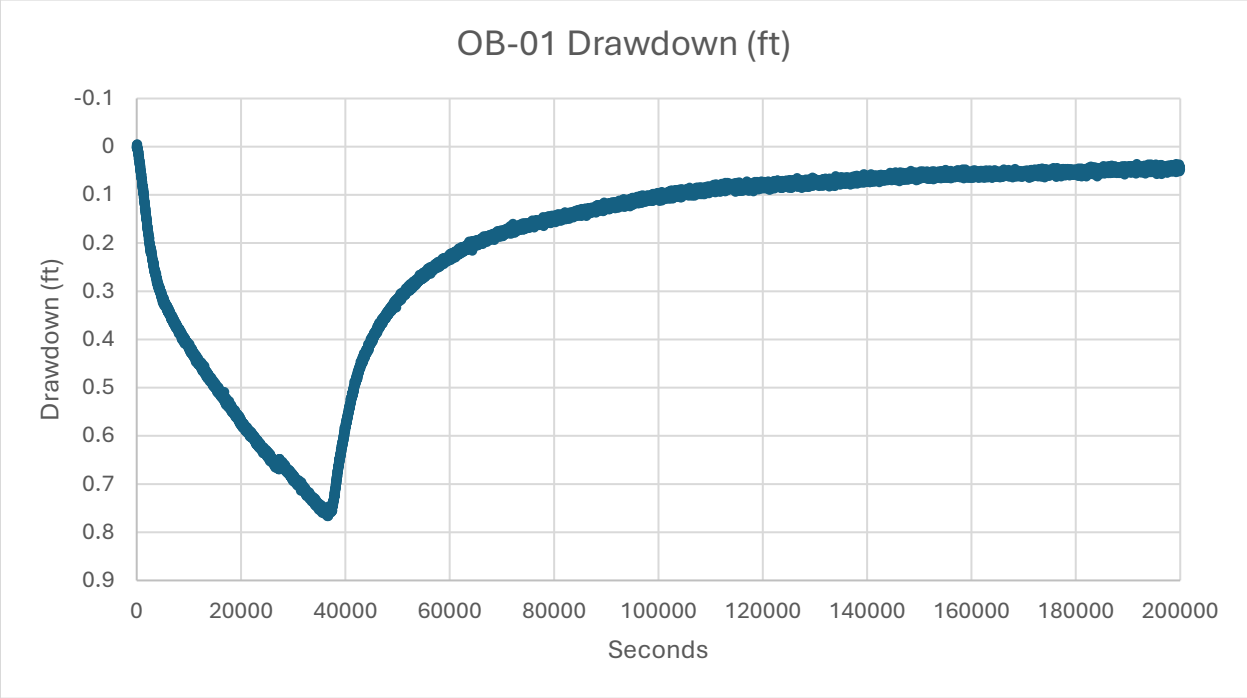
AUSD ALAMEDA UNIFIED SCHOOL DISTRICT
EXCELLENCE & EQUITY FOR ALL STUDENTS

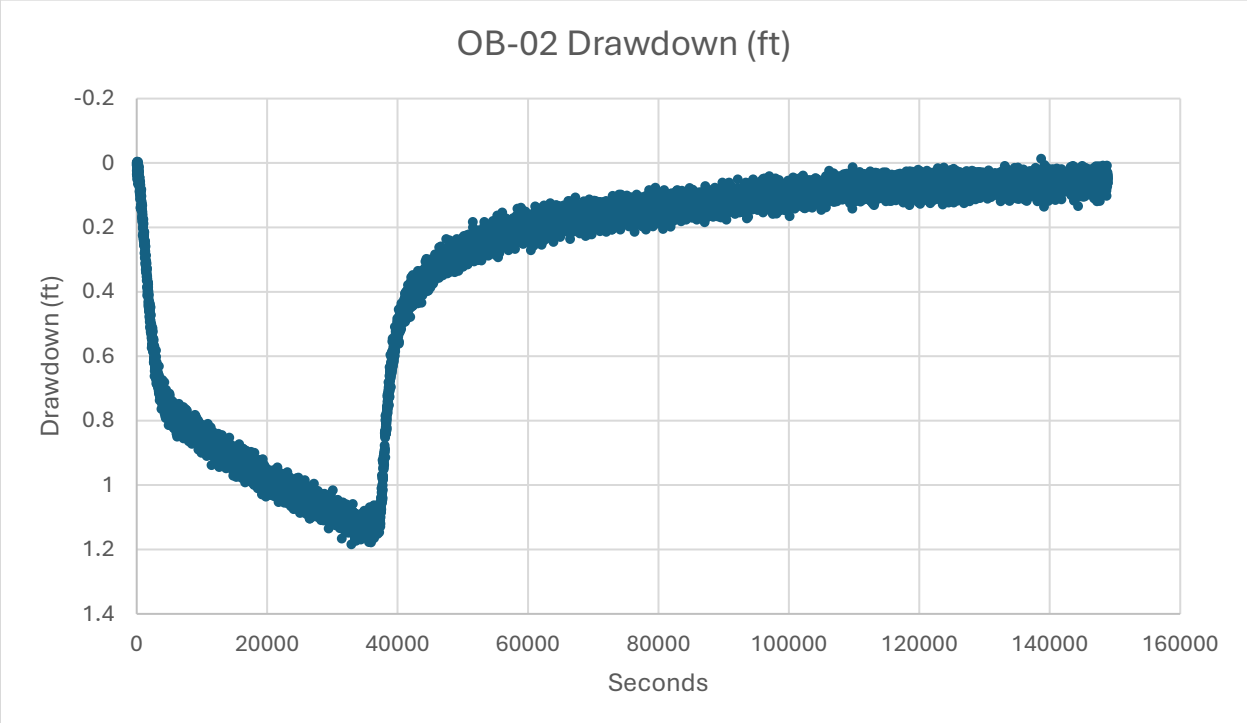
ALAMEDA HIGH SCHOOL SWIM CENTER

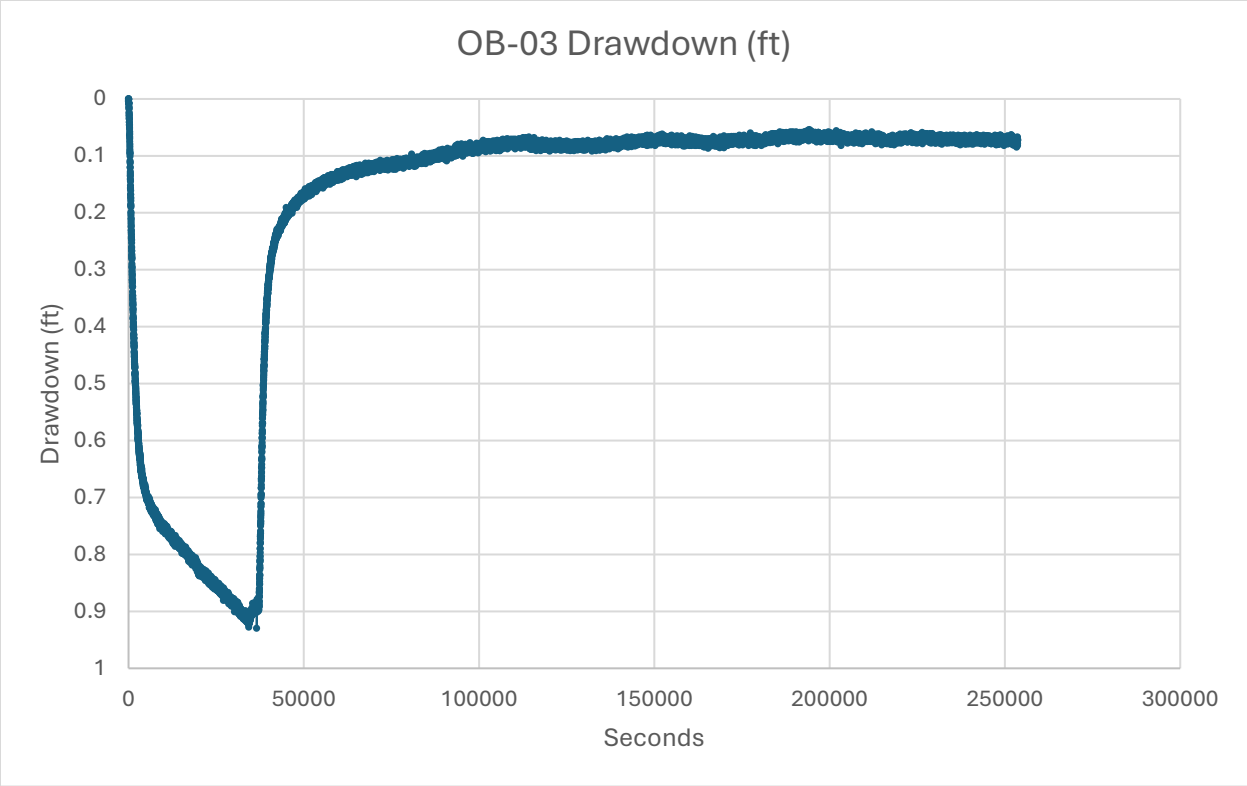
SITE LOGISTICS: DEWATERING TEST & OBSERVATION WELLS

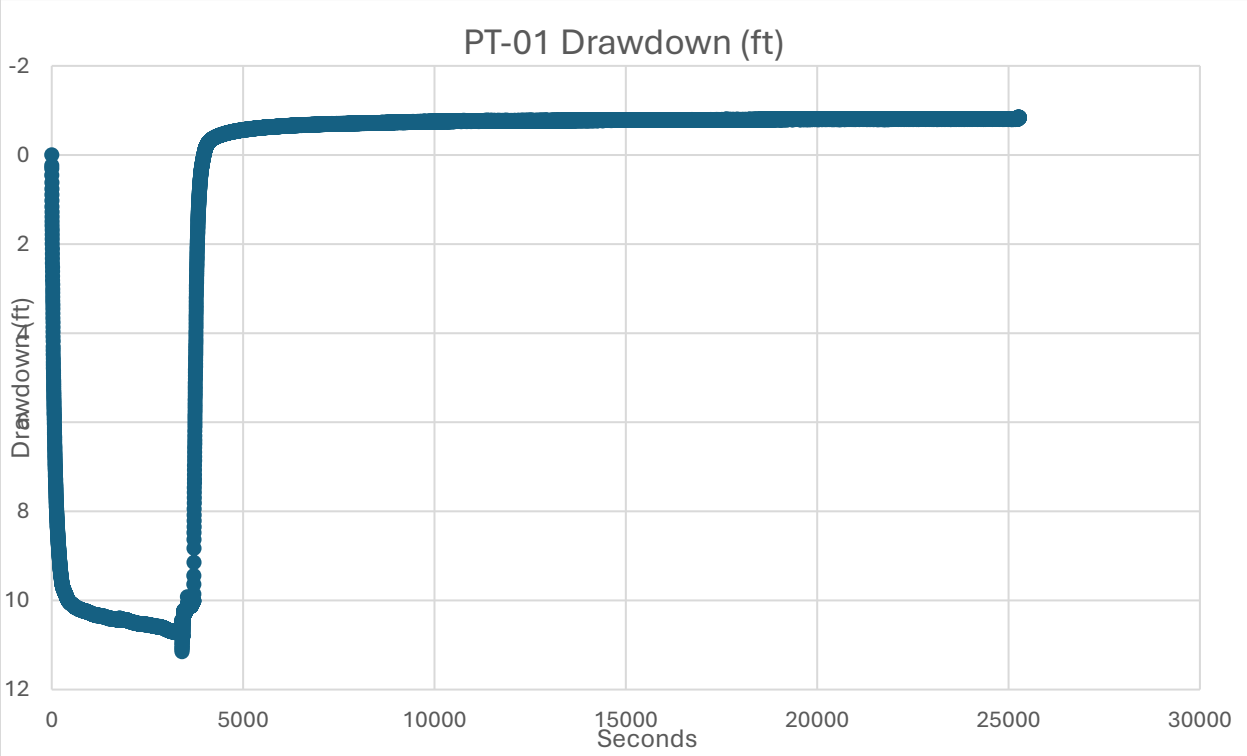

AUSD - Alameda High School
Pressure (PSI)
Temperature (C)
Level Depth To Water (ft)
6/6/2025 12:00:00 PM
6/6/2025 4:00:00 PM
6/6/2025 8:00:00 PM
6/7/2025 12:00:00 AM
6/7/2025 4:00:00 AM
6/7/2025 8:00:00 AM
6/7/2025 12:00:00 PM
6/7/2025 4:00:00 PM
6/7/2025 8:00:00 PM
6/8/2025 12:00:00 AM
6/8/2025 4:00:00 AM
6/8/2025 8:00:00 AM
6/8/2025 12:00:00 PM
6/8/2025 4:00:00 PM
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6/9/2025 12:00:00 AM
6/9/2025 4:00:00 AM
6/9/2025 8:00:00 AM

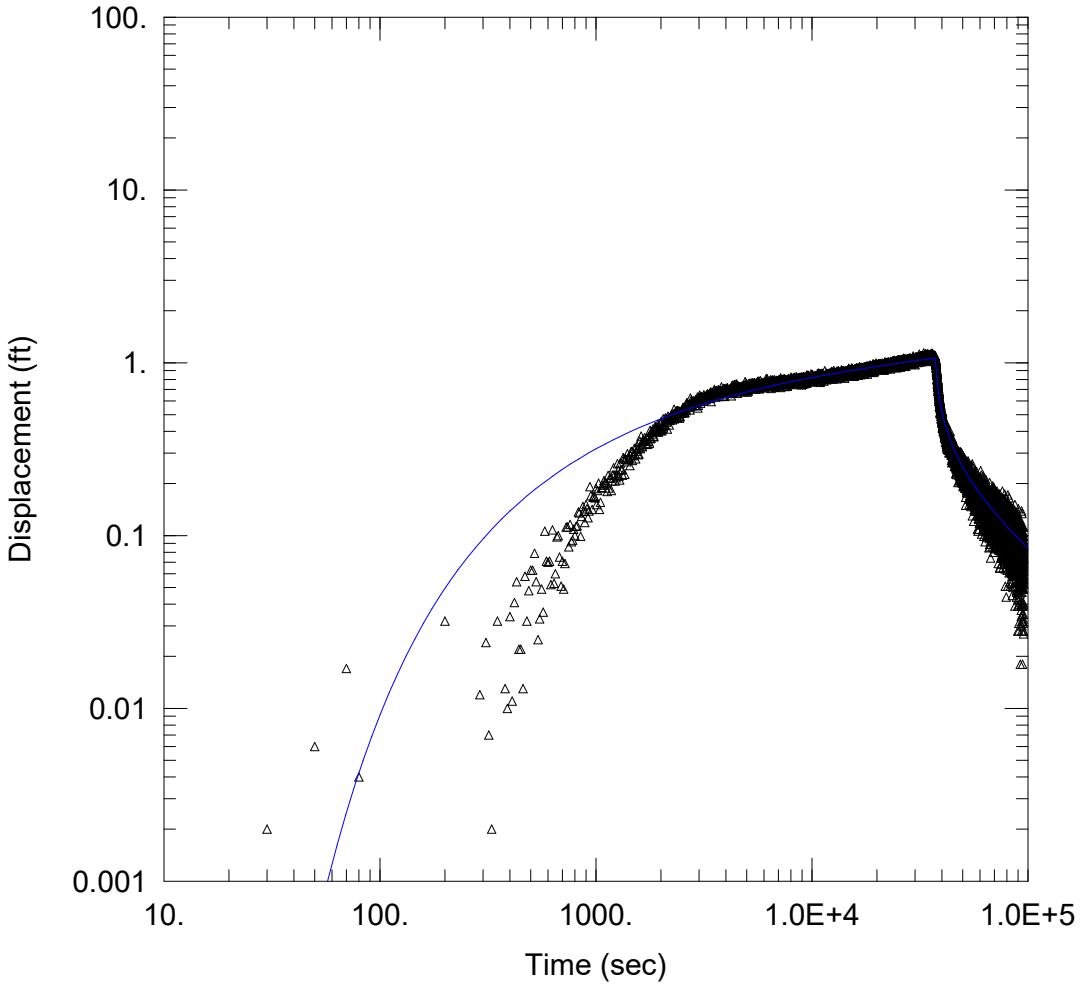
Pumping Test Drawdown Data






OB-03 Drawdown (ft)
Drawdown (ft)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
0
50000
100000
150000
200000
250000
300000
Seconds


PT-01 Drawdown (ft)
-2
0
2
4
8
10
12
0
5000
10000
15000
20000
25000
30000
Seconds



CONSTANT RATE TEST

Data Set: C:\Users\JCrose\OneDrive - Kleinfelder\Desktop\AUSD\AUSD_OB-02_Theis.aqt
Date: 06/16/25 Time: 11:50:27

PROJECT INFORMATION

Company: Kleinfelder
Client: AUSD
Project: 25002610.001A
Location: Alameda, CA
Test Well: PT-01
Test Date: 6/6/2025

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PT-01	0	0

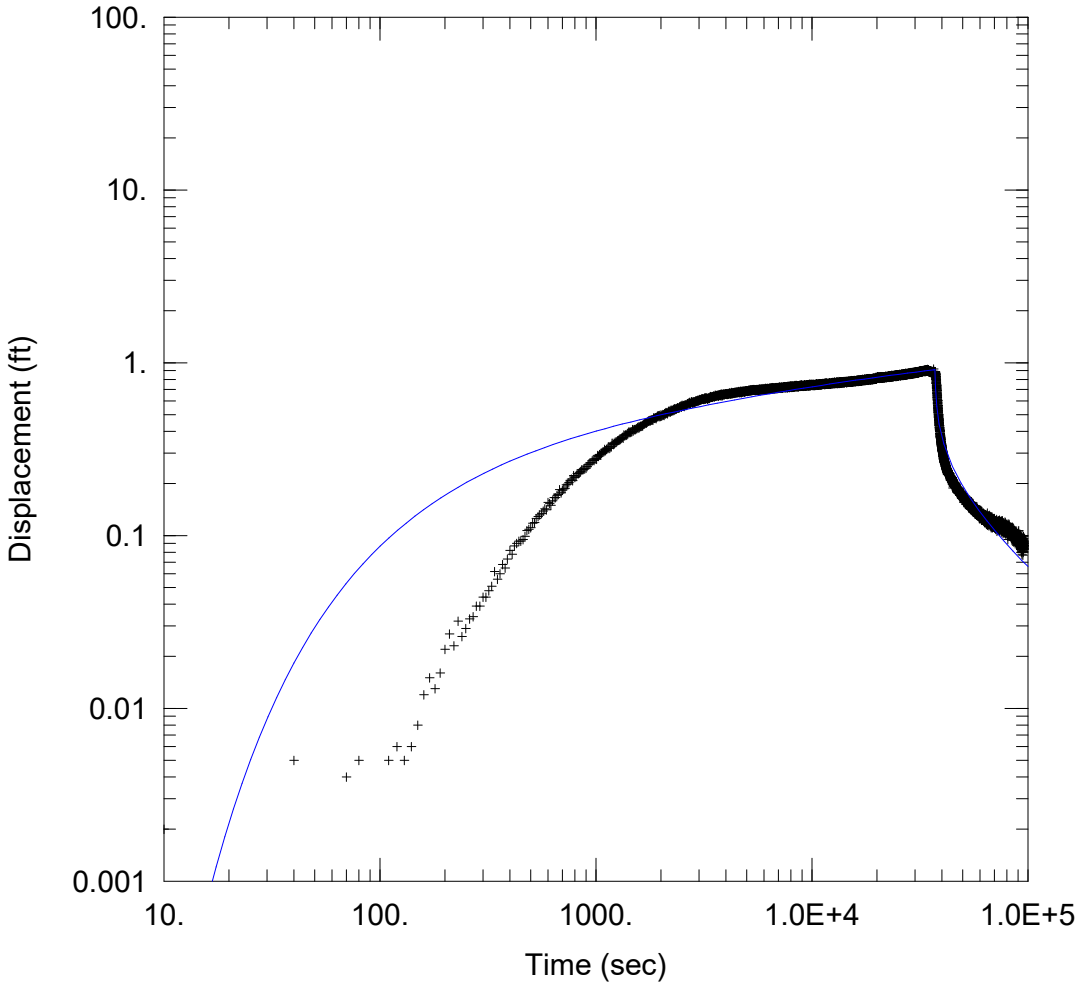
Observation Wells

Well Name	X (ft)	Y (ft)
△ OB-02	20	0

SOLUTION

Aquifer Model: Unconfined
Solution Method: Theis

T = 327.8 ft^2/day
S = 0.008929
Kz/Kr = 0.1
b = 50. ft



CONSTANT RATE TEST

Data Set: C:\Users\JCrose\OneDrive - Kleinfelder\Desktop\AUSD\AUSD_OB-03_Theis.aqt
Date: 06/16/25 Time: 11:53:10

PROJECT INFORMATION

Company: Kleinfelder
Client: AUSD
Project: 25002610.001A
Location: Alameda, CA
Test Well: PT-01
Test Date: 6/6/2025

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PT-01	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
+ OB-03	0	35

SOLUTION

Aquifer Model: Unconfined
Solution Method: Theis

T = 417.8 ft^2/day
S = 0.001021
Kz/Kr = 0.1
b = 50. ft

KLEINFELDER

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Attachment 2

PLOTTED: 06/20/2025 12:40 PM BY: HPerry

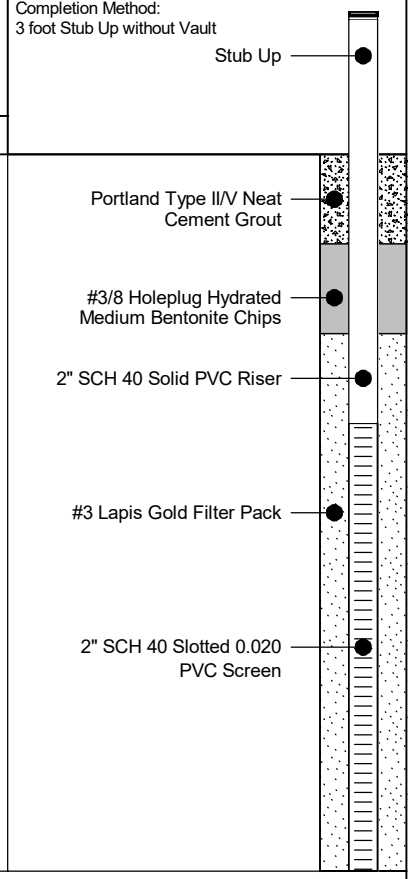
Date Begin - End:	5/30/2025	**Drilling Company:**	Gregg Drilling	**OBSERVATION WELL LOG OB-01**	
Logged By:	H. Perry	**Drill Crew:**	A. Alcaraz		
Hor.-Vert. Datum:	NAVD88	**Drilling Equipment:**	Truck-mounted MARL M10 XLC	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column		
Weather:	Cloudy, 58°F (AM)	**Auger Diameter:**	8 in. O.D.		

FIELD EXPLORATION | OBSERVATION WELL CONSTRUCTION

Latitude: 37.76373° N
Longitude: -122.24506° W
Approximate Ground Surface Elevation (ft.): 31.71
Surface Condition: Soil

Approximate Elevation (feet) / Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID (ppmv)	Graphical Log	Lithologic Description
30	Hand Auger				0.0		**Poorly Graded SAND (SP)**: light brown, no odor, dry, loose, fine-grained sand
					0.0		yellowish brown, moist
5					0.0		wet Samples not collected from 5 to 8 ft. below ground surface.
25	Hollow Stem Auger						
10							
20							

Completion Method:
3 foot Stub Up without Vault



The exploration was terminated at approximately 8 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:
▽ Groundwater was observed at approximately 5 ft. below ground surface during drilling.
▼ Groundwater was measured at 5.16 ft. below ground surface 24 hours after installaton.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by handheld GPS.
A PID (ppmv) was used for environmental field screening.
Observation Well installed to a depth of 8 ft. below ground surface and 3 ft. stub up.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 25002610.001A
DRAWN BY: HNP
CHECKED BY: BH
DATE: 6/18/2025

OBSERVATION WELL LOG OB-01

Alameda High School Swim Center Modernization
2200 Central Avenue
Alameda, CA

OFFICE FILTER: OAKLAND
PROJECT NUMBER: 25002610.001A_AUSD
gINT FILE: Klf_gint_master_2025
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2025.GLB [KLF_ENVIRONMENTAL LOG]

PLOTTED: 06/20/2025 12:40 PM BY: HPerry

OBSERVATION WELL LOG OB-02

Date Begin - End:	5/30/2025	**Drilling Company:**	Gregg Drilling		
Logged By:	H. Perry	**Drill Crew:**	A. Alcaraz		
Hor.-Vert. Datum:	NAVD88	**Drilling Equipment:**	Truck-mounted MARL M10 XLC	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column		
Weather:	Sunny, 60°F (PM)	**Auger Diameter:**	8 in. O.D.		

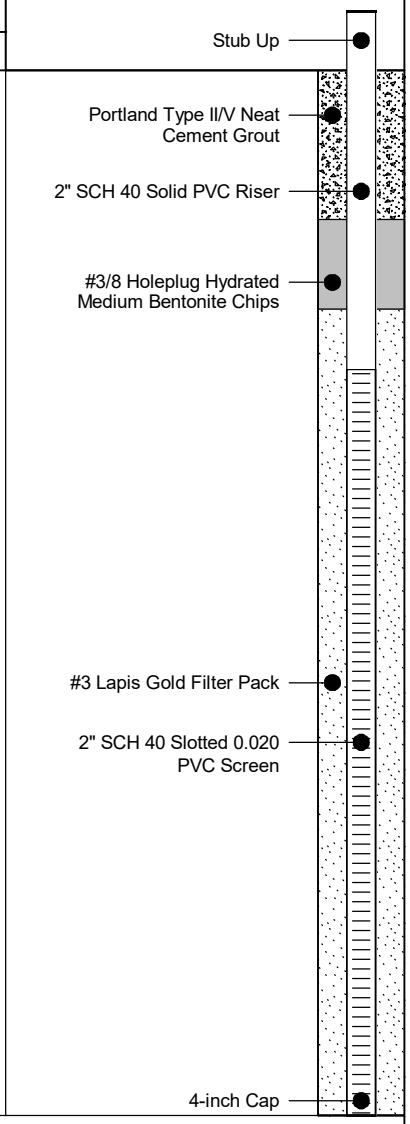
FIELD EXPLORATION

Latitude: 37.76375° N
Longitude: -122.24513° W
Approximate Ground Surface Elevation (ft.): 31.27
Surface Condition: Soil

Approximate Elevation (feet)	Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID (ppmv)	Graphical Log	Lithologic Description
30	0	Hand Auger				0.0		**Poorly Graded SAND (SP)**: light brown, no odor, dry, very loose, fine-grained sand
						0.0		yellowish brown, moist
	5					0.0		wet Samples not collected from 5 to 35 ft. below ground surface.
25	10	Hollow Stem Auger						
20	15							
15	20							
10	25							
5	30							
0	35							
-5	40							
-10								

OBSERVATION WELL CONSTRUCTION

Completion Method:
3 foot Stub Up without Vault



The exploration was terminated at approximately 35 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:
▽ Groundwater was observed at approximately 5 ft. below ground surface during drilling.
▼ Groundwater was measured at 4.58 ft. below ground surface 24 hours after installaton.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by handheld GPS.
A PID (ppmv) was used for environmental field screening.
Observation Well installed to a depth of 35 ft. below ground surface and 3 ft. stub up.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 25002610.001A

DRAWN BY: HNP

CHECKED BY: BH

DATE: 6/18/2025

OBSERVATION WELL LOG OB-02

Alameda High School Swim Center Modernization
2200 Central Avenue
Alameda, CA

gINT FILE: Klf_gint_master_2025
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2025.GLB [KLF_ENVIRONMENTAL LOG]
PROJECT NUMBER: 25002610.001A_AUSD
OFFICE FILTER: OAKLAND

PLOTTED: 06/20/2025 12:40 PM BY: HPerry

OBSERVATION WELL LOG OB-03

Date Begin - End:	5/30/2025	**Drilling Company:**	Gregg Drilling		
Logged By:	H. Perry	**Drill Crew:**	A. Alcaraz		
Hor.-Vert. Datum:	NAVD88	**Drilling Equipment:**	Truck-mounted MARL M10 XLC	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column		
Weather:	Sunny, 60°F (PM)	**Auger Diameter:**	8 in. O.D.		

FIELD EXPLORATION

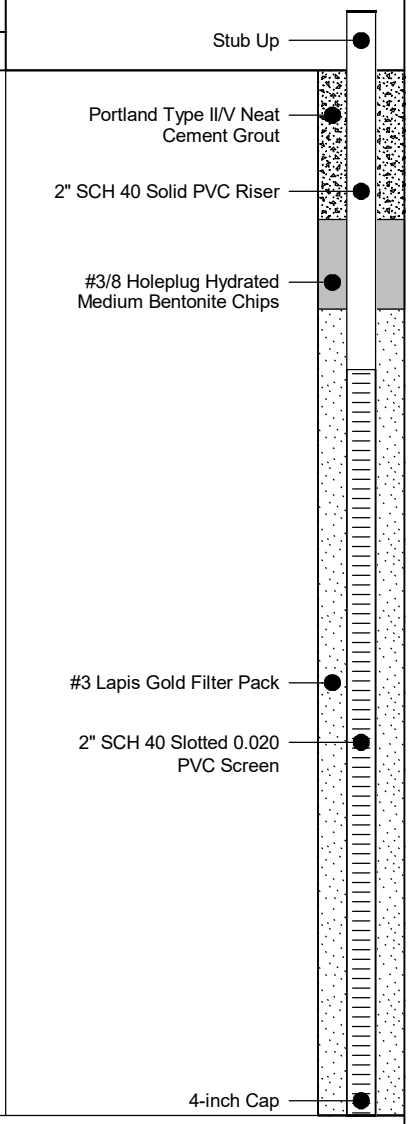
Latitude: 37.76360° N
Longitude: -122.24514° W
Approximate Ground Surface Elevation (ft.): 31.30
Surface Condition: Soil

Approximate Elevation (feet)	Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	PID (ppmv)	Graphical Log	Lithologic Description
30	0	Hand Auger				0.0		**Poorly Graded SAND (SP)**: brown, no odor, dry, very loose, fine-grained sand, trace construction debris (concrete)
						0.0		yellowish brown, moist
	5					0.0		wet
25								Samples not collected from 5 to 35 ft. below ground surface.
	10							
20								
	15	Hollow Stem Auger						
15								
	20							
10								
	25							
5								
	30							
0								
	35							
-5								
	40							
-10								

The exploration was terminated at approximately 35 ft. below ground surface.

OBSERVATION WELL CONSTRUCTION

Completion Method:
3 foot Stub Up without Vault



GROUNDWATER LEVEL INFORMATION:
▽ Groundwater was observed at approximately 5 ft. below ground surface during drilling.
▼ Groundwater was measured at 4.90 ft. below ground surface 24 hours after installaton.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by handheld GPS.
A PID (ppmv) was used for environmental field screening.
Observation Well installed to a depth of 35 ft. below ground surface and 3 ft. stub up.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 25002610.001A

DRAWN BY: HNP

CHECKED BY: BH

DATE: 6/18/2025

OBSERVATION WELL LOG OB-03

Alameda High School Swim Center Modernization
2200 Central Avenue
Alameda, CA

gINT FILE: Klf_gint_master_2025
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2025.GLB [KLF_ENVIRONMENTAL LOG]
PROJECT NUMBER: 25002610.001A_AUSD
OFFICE FILTER: OAKLAND

Date Begin - End:	5/30/2025 - 5/31/2025	**Drilling Company:**	Gregg Drilling	**DEWATERING WELL LOG PT-01**	
Logged By:	H. Perry	**Drill Crew:**	A. Alcaraz		
Hor.-Vert. Datum:	NAVD88	**Drilling Equipment:**	Truck-mounted MARL M10 XLC	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column		
Weather:	Sunny, 68°F	**Auger Diameter:**	18 in. O.D.		

FIELD EXPLORATION

EXTRACTION WELL CONSTRUCTION

Latitude: 37.76371° N
Longitude: -122.24507° W
Approximate Ground Surface Elevation (ft.): 31.64
Surface Condition: Soil

Approximate Elevation (feet) / Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	Blows/6 in.	PID (ppmv)	Graphical Log	Lithologic Description
30 / 0	Hand Auger					0.0		**Poorly Graded SAND (SP)**: light brown, no odor, dry, very loose, fine-grained sand
						0.0		yellowish brown, moist, loose
			TEST-4-5			0.0		
25 / 5								wet
20 / 10	Hollow Stem Auger		TEST-10.0-10.5	18.0"	3 7 11	0.0 0.0 0.0		
15 / 15				18.0"	3 10 10	0.0 0.0 0.0		
10 / 20			TEST-20.0-20.5	18.0"	12 20 20	0.0 0.0 0.0		
5 / 25			TEST-25.0-25.5	18.0"	3 8 16	0.0 0.0 0.0		

Completion Method:
3 foot Stub Up with 36 inch Conductor Casing

- Stub Up
- Portland Type II/V Neat Cement Grout
- #3/8 Holeplug Hydrated Medium Bentonite Chips
- 8" SCH 40 Solid PVC Riser
- 8" SCH 40 Slotted 0.036" PVC Screen
- #3 Lapis Gold Filter Pack

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 25002610.001A

DRAWN BY: HNP

CHECKED BY: BH

DATE: 6/18/2025

DEWATERING WELL LOG PT-01

Alameda High School Swim Center Modernization
2200 Central Avenue
Alameda, CA

PLOTTED: 06/20/2025 12:41 PM BY: HPerry
OFFICE FILTER: OAKLAND
PROJECT NUMBER: 25002610.001A_AUSD
gINT FILE: Klf_gint_master_2025
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2025.GLB [KLF_ENVIRONMENTAL LOG]

Date Begin - End:	5/30/2025 - 5/31/2025	**Drilling Company:**	Gregg Drilling	**DEWATERING WELL LOG PT-01**	
Logged By:	H. Perry	**Drill Crew:**	A. Alcaraz		
Hor.-Vert. Datum:	NAVD88	**Drilling Equipment:**	Truck-mounted MARL M10 XLC	**Hammer Type - Drop:**	140 lb. Auto - 30 in.
Plunge:	-90 degrees	**Drilling Method:**	See Drilling Method Column		
Weather:	Sunny, 68°F	**Auger Diameter:**	18 in. O.D.		

FIELD EXPLORATION

EXTRACTION WELL CONSTRUCTION

Latitude: 37.76371° N
Longitude: -122.24507° W
Approximate Ground Surface Elevation (ft.): 31.64
Surface Condition: Soil

Completion Method:
3 foot Stub Up with 36 inch Conductor Casing

Approximate Elevation (feet) / Depth (feet)	Drilling Method	Sample Type	Sample Number	Recovery (NR=No Recovery)	Blows/6 in.	PID (ppmv)	Graphical Log	Lithologic Description
0 / 35	Hollow Stem Auger		TEST-30.0-30.5	18.0"	15 27 34	0.0 0.0 0.0		**Poorly Graded SAND (SP)**: yellowish brown, no odor, wet, medium stiff, fine-grained sand
-5 / 40	Hollow Stem Auger			18.0"	14 15 25	0.0 0.0 0.0		
-10 / 45	SPT			18.0"	6 12 29	0.0 0.0 0.0		
-15 / 50								
-20 / 55								
-25								

#3 Lapis Gold Filter Pack

8" SCH 40 PVC Sump

Native

The exploration was terminated at approximately 41.5 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:
- Groundwater was observed at approximately 5 ft. below ground surface during drilling.
- Groundwater was measured at 5.4 ft. below ground surface 24 hours after installaton.

GENERAL NOTES:
An SPT sample was collected from 40 to 41.5 ft. below ground surface for logging purposes.
The bore was reamed out using 18 inch augers to 40 ft. below ground surface prior to installing the well.

Bore TD = 41.5 ft. below ground surface
Well TD = 40 ft. below ground surface

SPT = Split-Spoon Technology
ft. = feet
The exploration location and elevation are approximate and were estimated by handheld GPS.
A PID (ppmv) was used for environmental field screening.
Dewatering Well installed to a depth of 40 ft. below ground surface with 36 inch conductor casing and 3 ft. stub up.

KLEINFELDER
Bright People. Right Solutions.

PROJECT NO.: 25002610.001A

DRAWN BY: HNP

CHECKED BY: BH

DATE: 6/18/2025

DEWATERING WELL LOG PT-01

Alameda High School Swim Center Modernization
2200 Central Avenue
Alameda, CA

PLOTTED: 06/20/2025 12:41 PM BY: HPerry
OFFICE FILTER: OAKLAND
PROJECT NUMBER: 25002610.001A_AUSD
gINT FILE: Klf_gint_master_2025
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2025.GLB [KLF_ENVIRONMENTAL LOG]

Laboratory Test Report

Client:	**Alten Construction, Inc.**	Report No.:	**25-HAY-00668 Rev. 0**	Issued:	**6/6/2025**
Project:	**25002610.001A**			Field ID:	**HL16643**
	AltenConstruction_Soil Handling Protocol	Sampled by:		Date:	**Not Provided**
	07-000L - Lab Testing	Submitted by:	**H. Perry**	Date:	**6/3/2025**

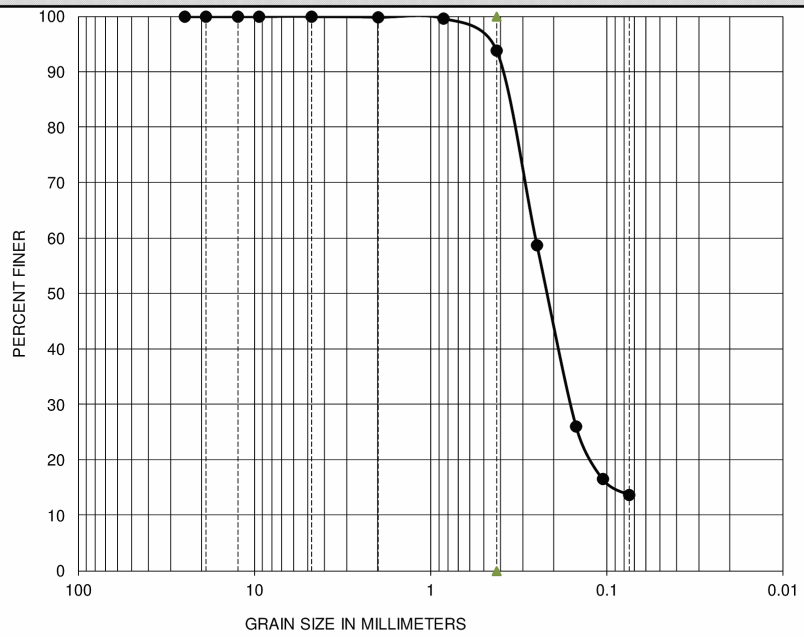
Tested on **6/4/2025** by **C. Pimentel**

Material Description: **Dark Yellowish Brown Silty Sand (SM)**

Location: **PT-01 @ 10'**

Test Method: **ASTM C136 / ASTM C117**

U.S. Standard Sieve Size		% Passing
1 Inch	25-mm	**100**
3/4 Inch	19-mm	**100**
1/2 Inch	12.5-mm	**100**
3/8 Inch	9.5-mm	**100**
No. 4	4.75-mm	**100**
No. 10	2.00-mm	**100**
No. 20	850-um	**100**
No. 40	425-um	**94**
No. 60	250-um	**59**
No. 100	150-um	**26**
No. 140	106-um	**17**
No. 200	75-um	**13.6**



Reviewed on 6/6/2025 by Cindy Pimentel,
Senior Technician

Limitations: Pursuant to applicable building codes, the results presented in this report are for the exclusive use of the client and the registered design professional in responsible charge. The results apply only to the samples tested. If changes to the specifications were made and not communicated to Kleinfelder, Kleinfelder assumes no responsibility for pass/fail statements (meets/did not meet), if provided. This report may not be reproduced, except in full, without written approval of Kleinfelder.

Laboratory Test Report

Client:	**Alten Construction, Inc.**	Report No.:	**25-HAY-00668 Rev. 0**	Issued:	**6/6/2025**
Project:	**25002610.001A**			Field ID:	**HL16643**
	AltenConstruction_Soil Handling Protocol	Sampled by:		Date:	**Not Provided**
	07-000L - Lab Testing	Submitted by:	**H. Perry**	Date:	**6/3/2025**

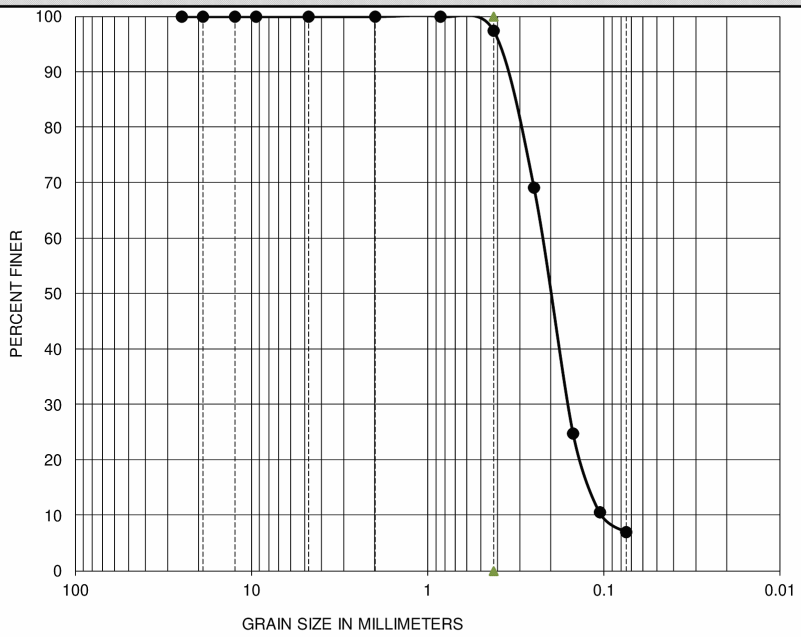
Tested on **6/4/2025** by **C. Pimentel**

Material Description: **Olive Brown Poorly Graded Sand with Silt (SP-SM)**

Location: **PT-01 @ 20'**

Test Method: **ASTM C136 / ASTM C117**

U.S. Standard Sieve Size		% Passing
1 Inch	25-mm	**100**
3/4 Inch	19-mm	**100**
1/2 Inch	12.5-mm	**100**
3/8 Inch	9.5-mm	**100**
No. 4	4.75-mm	**100**
No. 10	2.00-mm	**100**
No. 20	850-um	**100**
No. 40	425-um	**97**
No. 60	250-um	**69**
No. 100	150-um	**25**
No. 140	106-um	**11**
No. 200	75-um	**7.0**



d60	**0.229**		
d30	**0.162**	Cu	**2.278**
d10	**0.101**	Cc	**1.134**

Reviewed on 6/6/2025 by Cindy Pimentel,
Senior Technician

Limitations: Pursuant to applicable building codes, the results presented in this report are for the exclusive use of the client and the registered design professional in responsible charge. The results apply only to the samples tested. If changes to the specifications were made and not communicated to Kleinfelder, Kleinfelder assumes no responsibility for pass/fail statements (meets/did not meet), if provided. This report may not be reproduced, except in full, without written approval of Kleinfelder.

Laboratory Test Report

Client:	**Alten Construction, Inc.**	Report No.:	**25-HAY-00668 Rev. 0**	Issued:	**6/6/2025**
Project:	**25002610.001A**			Field ID:	**HL16643**
	AltenConstruction_Soil Handling Protocol	Sampled by:		Date:	**Not Provided**
	07-000L - Lab Testing	Submitted by:	**H. Perry**	Date:	**6/3/2025**

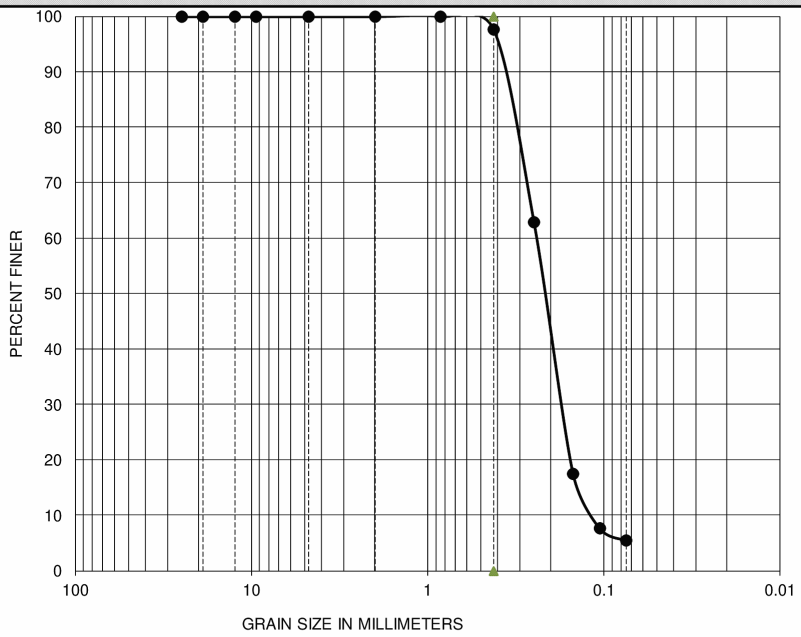
Tested on **6/4/2025** by **C. Pimentel**

Material Description: **Olive Brown Poorly Graded Sand with Silt (SP-SM)**

Location: **PT-01 @ 25.0'**

Test Method: **ASTM C136 / ASTM C117**

U.S. Standard Sieve Size		% Passing
1 Inch	25-mm	**100**
3/4 Inch	19-mm	**100**
1/2 Inch	12.5-mm	**100**
3/8 Inch	9.5-mm	**100**
No. 4	4.75-mm	**100**
No. 10	2.00-mm	**100**
No. 20	850-um	**100**
No. 40	425-um	**98**
No. 60	250-um	**63**
No. 100	150-um	**17**
No. 140	106-um	**8**
No. 200	75-um	**5.5**



d60	**0.244**		
d30	**0.178**	Cu	**2.096**
d10	**0.116**	Cc	**1.113**

Reviewed on 6/6/2025 by Cindy Pimentel,
Senior Technician

Limitations: Pursuant to applicable building codes, the results presented in this report are for the exclusive use of the client and the registered design professional in responsible charge. The results apply only to the samples tested. If changes to the specifications were made and not communicated to Kleinfelder, Kleinfelder assumes no responsibility for pass/fail statements (meets/did not meet), if provided. This report may not be reproduced, except in full, without written approval of Kleinfelder.

Laboratory Test Report

Client:	**Alten Construction, Inc.**	Report No.:	**25-HAY-00668 Rev. 0**	Issued:	**6/6/2025**
Project:	**25002610.001A**			Field ID:	**HL16643**
	AltenConstruction_Soil Handling Protocol	Sampled by:		Date:	**Not Provided**
	07-000L - Lab Testing	Submitted by:	**H. Perry**	Date:	**6/3/2025**

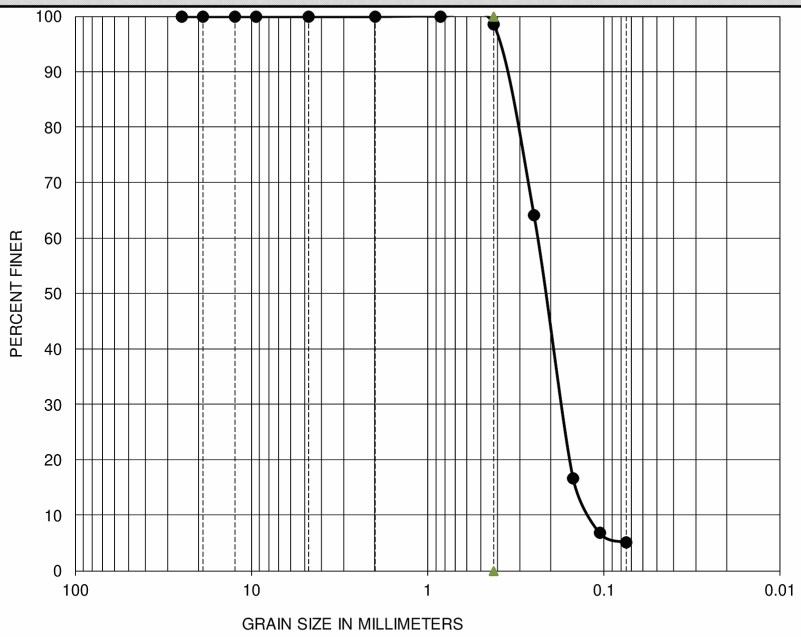
Tested on **6/4/2025** by **C. Pimentel**

Material Description: **Olive Brown Poorly Graded Sand with Silt (SP-SM)**

Location: **PT-01 @ 30'**

Test Method: **ASTM C136 / ASTM C117**

U.S. Standard Sieve Size		% Passing
1 Inch	25-mm	**100**
3/4 Inch	19-mm	**100**
1/2 Inch	12.5-mm	**100**
3/8 Inch	9.5-mm	**100**
No. 4	4.75-mm	**100**
No. 10	2.00-mm	**100**
No. 20	850-um	**100**
No. 40	425-um	**99**
No. 60	250-um	**64**
No. 100	150-um	**17**
No. 140	106-um	**7**
No. 200	75-um	**5.2**



d60	**0.241**		
d30	**0.178**	Cu	**2.009**
d10	**0.120**	Cc	**1.095**

Reviewed on 6/6/2025 by Cindy Pimentel,
Senior Technician

Limitations: Pursuant to applicable building codes, the results presented in this report are for the exclusive use of the client and the registered design professional in responsible charge. The results apply only to the samples tested. If changes to the specifications were made and not communicated to Kleinfelder, Kleinfelder assumes no responsibility for pass/fail statements (meets/did not meet), if provided. This report may not be reproduced, except in full, without written approval of Kleinfelder.

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Daily Field Report

Project Name: Alameda High School Swim Center Modernization
Date: 5/30/2025

Project No: 25002610.001A
Case No: CPS Case No. RO0003666
DFR/Report No.:

Project Address: 2200 Central Avenue, Alameda, CA 94501
Time Arrived: 07:00

Client: Alten Construction / AUSD
Contractor: Kleinfelder / Gregg Drilling
Time Departed: 17:30

Equipment Observed: Truck-Mounted MARL M10 XLC Rig, PID, Horiba DTW Tape, Hand Auger
Travel Time: N/A

Weather: Cloudy 58*F (AM); Sunny 79*F (PM)
Mileage: ~150 mi RT

Reviewed By:
Date Reviewed:

Types of Tests/Observations:

☐ AC Pavement	☐ Fabrication Plant	☐ Masonry	☐ Sample Pick-Up	☑ Other, please specify:
☐ Anchor Bolts	☐ Fireproofing	☐ Metal Decking	☐ Soil / Aggregates	Drilling, Well Installation, SPT Soil Sampling
☐ Batch Plant	☐ Foundations	☐ Pre-Post Tension	☐ Steel Erection	
☐ Concrete	☐ HS Bolting	☐ Reinforcing Steel	☐ Welding	

Documents Referenced:

ACPWA Permit Nos. W2025-0260 to W2025-0262

Observations/Remarks:

05:30 Depart from Santa Rosa KLF office to Eco-Rentals (Emeryville) to Site
07:00 Arrive on-Site. Check-in with Alten and gain access to the Site. Conduct H&S tailgate meeting and conduct site walk with Gregg drilling (3). Discuss scope-of-work (SOW) and site-specific hazards and requirements, including metals presence within soils and requirement to rinse tires prior to leaving site.

07:30 Gregg mobilizes to Site and begins hand auger clearing all 4 locations.
Note: Location OB-02 shifted approx. 2' towards the Alten trailer and away from abandoned clay pipe remnant.
All 4 locations cleared to 5' bgs via hand auger. KLF geologist logs soil and collects Geotech sample from Test well location (name changed to PT-01 after field work).

08:00 Gregg sets up to drill at OB-02. Advances OB-02 to 35 ft. bgs - no samples collected.
Gregg begins installing OB-02.
Note: Cannot cut well screen into small increments, so well screen will be installed from 10 ft. - 35 ft. bgs, sand from 8 ft. -35 ft. bgs, bentonite from 5 ft.-8 ft. bgs, and grout from 0 ft.-5 ft. bgs, per permit requirements.
Note: Sands are liquified, casing is sinking as they pour sand, but Gregg is able to adjust well casing as they set the well and pull it up.

10:00 Tony, grout inspector with ACPWA, on-Site. Confirm well construction plan for all three observation wells. Tony confirms no well vaults are needed with the expectation to destroy the wells soon per upcoming construction plans. Gregg troubleshoots well install. Tony will leave site and will return later.

☐ Report Items Comply ☐ Report Items Do Not Comply ☐ Report items comply with exceptions ☐ In Progress / Not Complete

Acknowledged By *Signature*

Representing *Print Name*

Kleinfelder Representative *Signature*

Haley Perry
Kleinfelder Representative *Print Name*

HNP
Initials

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Daily Field Report

Observations/Remarks:

10:20 Tony off-Site
11:15 OB-02 installed to 35 ft. bgs. Gregg mobilizes to OB-03.
11:30 Drillers break for lunch. KLF prepares log forms for logging and sampling additional locations.

12:00 Return to work. Gregg begins advancing OB-03 to 35 ft. bgs via hollow-stem auger (HSA). Well installation will be the same as in PB-02 and is summarized on the boring log.
13:45 OB-03 drilled and installed. Mobilize to OB-01.
14:30 OB-01 drilled via HSA to 8 ft. bgs and installed. See log for well construction details - Note: 5 foot grout seal is not required for this well as it is shallow, per verbal confirmation from Tony.
Mobilize to Test well (PT-01) and begin advancing to 40 ft. bgs. SPT samples for geotechnical analysis collected every 5 ft. bgs in baggies. KLF logs and collects samples.
16:45 PT-01 advanced to 40 ft. bgs with 8" augers. Will return tomorrow to advance the bore with 18" augers and begin install.
Gregg begins cleaning up and securing rig and equipment for the day. Alten off-Site, KLF will lock-up and secure Site.

17:30 All personnel off-Site. Site and parking lot gates secured.
19:00 Arrive back at SR KLF office. Work done for the day.

Acknowledged By *Signature*

Representing *Print Name*

Kleinfelder Representative *Signature*

Haley Perry
Kleinfelder Representative *Print Name*

HNP
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Daily Field Report

Photos:



OB-01 hand auger clearance to 5' bgs. Soil laid out on visqueen for logging.



Sump length on observation wells - 4" length. Additional photos of materials used available upon request.



OB-02 Well Install



OB-03 Well Install



OB-01 Well Install



PT-01 SPT sample collection from 25 ft. to 26.5 ft. bgs. Note: 2 ft. of soils pictured, but sampler only advanced 1.5 ft. Assume top 0.5 ft. of material is from caving, bottom of sampler on right.

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Daily Field Report

Project Name: Alameda High School Swim Center Modernization
Date: 5/31/2025

Project No: 25002610.001A
Case No: CPS Case No. RO0003666
DFR/Report No.:

Project Address: 2200 Central Avenue, Alameda, CA 94503
Time Arrived: 07:00

Client: Alten Construction / AUSD
Contractor: Kleinfelder / Gregg Drilling
Time Departed: 15:15

Equipment Observed: Truck-Mounted MARL M10 XLC Rig, PID, Horiba DTW Tape, Hand Auger
Travel Time: N/A

Weather: Clear, Sunny 60 *F - 75 *F
Mileage: ~150 mi RT

Reviewed By:
Date Reviewed:

Types of Tests/Observations:

☐ AC Pavement	☐ Fabrication Plant	☐ Masonry	☐ Sample Pick-Up	☑ Other, please specify:
☐ Anchor Bolts	☐ Fireproofing	☐ Metal Decking	☐ Soil / Aggregates	Drilling, Well Installation, Surface Soil Sampling
☐ Batch Plant	☐ Foundations	☐ Pre-Post Tension	☐ Steel Erection	
☐ Concrete	☐ HS Bolting	☐ Reinforcing Steel	☐ Welding	

Documents Referenced:

Observations/Remarks:

05:30 Depart from SR KLF office to Site
07:00 Arrive on-Site. Organize equipment and prepare field forms.
07:30 Gregg on-Site. Conduct H&S tailgate and discuss SOW. Discuss safety with working with 18-inch augers, highlight efficient communication between crew members and working in tight quarters.
Gregg begins setting up to drill PT-01 (pump test) well
08:00 Gregg begins advancing PT-01 using 18-inch augers.
KLF performs LPO safety observation.

KLF samples 8 locations to analyze for Lead STLC:
- SS-SC-03-0.0-0.5
- SB-SC-04-0.0-0.5
- SB-SC-05-0.0-0.5
- SB-SC-07-0.0-0.5
- SB-SC-08-0.0-0.5
- SB-SC-09-0.0-0.5
- SB-SC-10-0.0-0.5
- SB-SC-12-0.0-0.5

Note: Samples will be packed and shipped to Enthalpy laboratory for Monday delivery. Per lab directive, samples shipped in a box with a lot of bubble wrap (no ice preservation required).

☐ Report Items Comply ☐ Report Items Do Not Comply ☐ Report items comply with exceptions ☐ In Progress / Not Complete

Acknowledged By *Signature*

Representing *Print Name*

Kleinfelder Representative *Signature*

Haley Perry
Kleinfelder Representative *Print Name*

HNP
Initials

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Daily Field Report

Observations/Remarks:

Gregg advances PT-01 to 40 ft. bgs with 18-inch augers. Gregg begins preparing 8-inch well materials for installation.

10:30 Gregg begins installing 8-inch PT-01 well: Screen 5-35 ft. bgs; Blank casing 0-5 ft. bgs; Sump from 35-40 ft. bgs; Sand from 3-40 ft. bgs; Bentonite from 1-3 ft. bgs; grout from 0-1 ft. bgs
KLF completes log, notes and collects photos of install.

12:30 Gregg installed bentonite layer and hydrates, then breaks for lunch to allow time to hydrate. KLF to FedEx to ship samples to laboratory.
13:00 Return to work. Begin cleaning up Site - pick-up trash, load drums onto support truck with forklift and drum-lift, etc. Gregg sets 36" conductor casing and sets in grout at surface.
KLF collects depth-to-water readings at all locations (adjusted to ground surface):

PT-01 - 5.4 ft. bgs
OB-01 - 5.16 ft. bgs
OB-02 - 4.58 ft. bgs
OB-03 - 4.90 ft. bgs

Alten to collect elevation data next week.
KLF collects final site photos.
KLF assists Gregg with staging and labelling drums at adjacent parking lot, within gated area.
17 total soil drums generated during this event + 3 soil drums from previous events = 20 total soil drums at Site.
Gregg stages forklift rental inside Site for pick-up on Monday. Notify Alten.
KLF cleans tires as Gregg leaves Site. KLF secures parking lot and Site.
15:15 Off-Site to KLF Oakland office to drop-off meter rentals for reuse at another site and SPT samples for delivery to Hayward lab. Drive from KLF Oakland to SR KLF office.
17:00 Arrive at SR KLF office. Demobilize. Work done for the day.

Acknowledged By *Signature*

Representing *Print Name*

Kleinfelder Representative *Signature*

Haley Perry
Kleinfelder Representative *Print Name*

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Daily Field Report

Photos:



18-inch Augers with Bit



Drillers utilized winch and teamwork to move augers into place for bore advancement. Prioritize no-one in the line-of-fire while auger is suspended.



8-inch well screen with 5 ft. sump for the bottom of well construction



PT-01 during well installation



PT-01 well completion with 36-inch protective casing



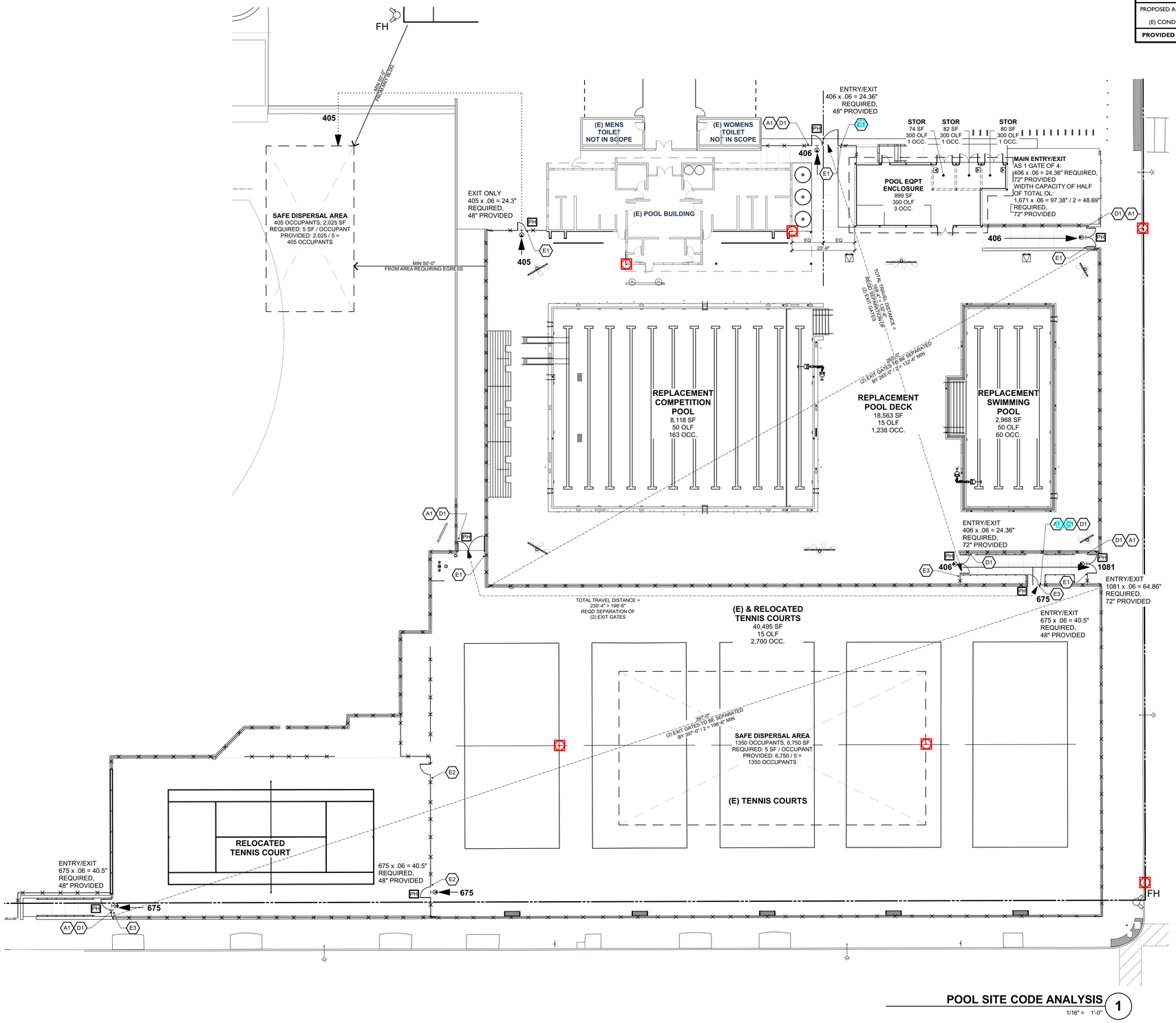
Location of PT-01 and observation wells along the eastern edge of the Site.

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Attachment 3

ATTACHMENT 2: SETTLEMENT MONITORING LOCATIONS



POOL SITE CODE ANALYSIS 1

1/16" = 1'-0"

FIXTURE COUNT

	MALE				FEMALE			DRINKING
	TOILET	URINAL	LAV	SHOWER	TOILET	LAV	SHOWER	FOUNTAIN
CALCULATED REQ'TS.	**5**	**5**	**5**	**7**	**5**	**5**	**8**	**4**
PROPOSED ADDITIONS	0	0	0	7	0	0	7	4
(E) CONDITIONS	6	5	9	10	7	5	10	3
PROVIDED (N) + (E)	**6**	**5**	**9**	**17**	**7**	**5**	**17**	**7**

CODE ANALYSIS

POOLS AREA

OCCUPANT LOAD (CBC TABLE 1004.5, CBC 1004.6)
DECK: 1,238 OCCUPANTS (18,563 SF/15 OCC)
POOLS: 223 OCCUPANTS (11,086 SF/ 50 OCC)
BLEACHERS: 162 OCCUPANTS (1 OCC/1.5 LF OF BLEACHER SEATING)
BENCH SEATS: 150
18" COMPANION SPACES: 6
34" WC SPACES: 6

TOTAL 1,623 OCCUPANTS

NUMBER OF EXITS (CBC 1006.2.1.1 THREE OR MORE EXITS)
OL > 1,000 OCCUPANTS
REQUIRED: 4 EXITS
PROVIDED: 4 EXITS

EXIT WIDTH (CBC 1030.6.3 OPEN-AIR ASSEMBLY SEATING)
FACTOR: 0.06/OCCUPANT
WIDTH REQUIRED: 100.3"
WIDTH PROVIDED: 240"

BATHER LOAD CALCULATION:
COMPETITION POOL: 8,118 SF
SWIMMING POOL: 2,968 SF
TOTAL WATER SURFACE AREA 11,086 SF

TOTAL BATHER LOAD* 740
BATHERS, MEN 370
BATHERS, WOMEN 370

*BATHER LOAD/FIXTURE COUNT CALCULATIONS BASED ON PROVISIONS WITHIN CBC SECTION 3116B & 3117B, REQUIRED FIXTURES ARE CALCULATED BASED ON POOL WATER SURFACE AREA.
1. ONE (1) BATHER FOR EVERY 15 SF OF POOL WATER SURFACE AREA.
2. ONE (1) TOILET AND ONE (1) URINAL FOR EVERY 75 MEN.
3. ONE (1) TOILET FOR EVERY 60 WOMEN.
4. ONE (1) LAVATORY FOR EVERY 80 BATHERS (EITHER SEX).
5. ONE (1) SHOWER FOR EVERY 50 BATHERS (EITHER SEX).
6. ONE (1) DRINKING FOUNTAIN FOR THE FIRST 250 BATHERS; ONE (1) ADDITIONAL DRINKING FOUNTAIN FOR EVERY 200 BATHERS THEREAFTER.

NOTE: THE TRAVEL DISTANCE IS NOT MORE THAN 300 FEET FROM THE POOL TO THE PUBLIC TOILET FACILITIES AT THE GYMNASIUM, AS REQUIRED BY 3116B.1 EXCEPTION 2.

TENNIS COURTS

OCCUPANT LOAD (CBC TABLE 1004.5)
COURTS: 2,623 OCCUPANTS (39,349 SF/15 OCC)
BLEACHERS: N/A
TOTAL 2,623 OCCUPANTS

NUMBER OF EXITS (CBC 1006.2.1.1 THREE OR MORE EXITS)
OL > 1,000 OCCUPANTS
REQUIRED: 4 EXITS
PROVIDED: 4 EXITS

EXIT WIDTH (CBC 1030.6.3 OPEN-AIR ASSEMBLY SEATING)
FACTOR: 0.06/OCCUPANT
WIDTH REQUIRED: 100.3"
WIDTH PROVIDED: 240"

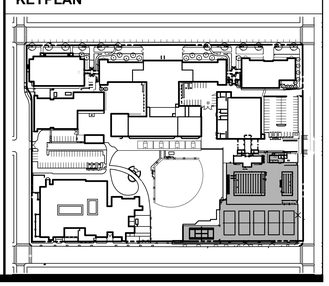
CODE ANALYSIS NOTES

1. SEE G-0.3 FOR ACCESSIBLE PATH OF TRAVEL AND FOR FIRE DEPARTMENT ACCESS.
2. THE NUMBER OF REQUIRED EXITS, THEIR LOCATIONS, AND DISPERSAL ARE PER CBC 1007.1.1.1 & 1007.1.2.
3. NO SEPARATION BETWEEN OCCUPANCIES PER CBC 508.4.
4. S.L.D. FOR ADDITIONAL FENCING & GATES INFORMATION.

LEGEND

- (E) PROPERTY LINE
- IMAGINARY PROPERTY LINE
- MAIN EGRESS LOCATION
- FH (E) FIRE HYDRANT

KEYPLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121390 INC:
REVIEWED FOR
SS ☐ FLS ☐ ACS ☐
DATE: 5/29/2024

QUATTROCCHI KWOK ARCHITECTS
Main:
636 Fifth Street, Santa Rosa, CA 95404
East Bay:
55 Harrison Street, Suite 525,
Oakland, CA 94607
(707) 576-0829

LICENSED ARCHITECT
MARK QUATTROCCHI
LICENSE # C-30654
EXP. JUNE 30, 2025
STATE OF CALIFORNIA

SIGNED: MAY 24, 2024

ALAMEDA HIGH SCHOOL

SWIM CENTER MODERNIZATION

2200 CENTRAL AVE,
ALAMEDA, CA 94501

ALAMEDA UNIFIED SCHOOL DISTRICT

DSA APP NO. 01-121390

ARCH PROJECT NO:	2112.00
DRAWN BY:	BSC, TF
DRAWING SCALE:	1/16" = 1'-0"
PTN: 61119-160	FILE NO: 1-H1

CD

MAY 24, 2024

SHEET TITLE

POOL SITE CODE ANALYSIS & EXITING PLAN

SHEET NUMBER

G-0.4

BIMcloud: archiserver - BIMcloud Basic for Archicad 25/2112.00 AHS SWIM CTR/2112.00 AHS SWIM CENTER SITE.5/17/2024 1:46 PM

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Attachment 4

Attachment 4 - Alameda High School Swim Center Modernization
Table 1 - Nearby Sites, Case Numbers, Regulatory Status, Distance and Direction
Hydrogeologic Assessment for Site Dewatering

Case No.	Site Name	Distance (ft from site center)	Direction from Site	Depth to GW (ft bgs)	GW Elevation (ft AMSL)	Gradient	Site status (open, etc.)	Site History
T0600102194	Alameda Lock & Glass	250	S-SE	7.66-18.43 (GeoTracker)	No survey data	W, NW (GeoTracker)	Closed 2016	USTs, gas station
	2301 Encinal Ave.			7-9 (6/2/2015 boring log)		W-SW (6/2/2015)		
				6 (3/7/96 boring log)				
T0600102196	Russi Commercial Property	560	E	7.0-11.75	One well, no survey data	Not provided	Closed 2018	UST, heating oil
	1347 Park Street				LNAPL present in limited extent in 1995			
T0600101579	City of Alameda Fire Department 2401 Encinal Ave	580	S-SE		No survey data		Closed 1993	UST
T0600100083	Arco #2112	600	S-SE	7.38-10.11 (2/8/2011)	19.49-22.82 (2/8/2011)	NW 0.014 ft/ft (4/29/2011)	Closed 2014	USTs, gas station
	1260 Park Street				TOC 29.531-32-229			
SL0600143977	Video Maniacs	650	NE	10.75-10.96 (1/25/05 boring logs)	No survey data	E	Closed 2008	USTs, gas station, paint stripping
	2305 Central Ave							
NA	City of Alameda / Alameda HS UST	750	NW		No survey data	Not provided	NA	UST, heating oil
	2201 Encinal Ave.				No GW data			
Beyond Modeled Radius of Influence								
T0600100034	Alameda Cellars	850	SW	18.6-23	No survey data	SW (1997)	Closed 1998	UST
	2425 Encinal Ave							
T0600102197		910	NE	8-9.5	No survey data	N to NE	Closed 2001	UST, gas station
	2300 Santa Clara Ave							
T0600101978	City of Alameda	990	N		No survey data		Closed 1996	UST
T0600100607	Fowler-Anderson Mortuary 2244 Santa Clara ave	995	N		No survey data		Closed 1992	UST, heating oil
T10000020706	1200 Park Street Property	1,030	S-SE	5.92-10.73 (bTOC)	18.9-19.55 (1/24/2022)	N-NE 0.007 ft/ft (1/24/2022)	Open	Dry cleaners, gas station & USTs, auto shop, metal fabrication
				6.4-11.2 (bgs)	TOC 26.1-27.56			
T10000009401	1200 Park St	1,030	S-SE	5.92-10.73 (bTOC)	18.9-19.55 (1/24/2022)	N-NE 0.007 ft/ft (1/24/2022)	Closed 2024	Dry cleaners, gas station & USTs, auto shop, metal fabrication
				6.4-11.2 (bgs)	TOC 26.1-27.56			
	(same site above, split into 2 cases)							
T0600100980	Bill Chun Service Station	1,050	N-NE	7.93-10.02 (7/22/2021)	18.71-19.49 (7/22/2021)	NE 0.004 ft/ft (7/22/2021)	Open	USTs, gas station, auto shop

Attachment 4 - Alameda High School Swim Center Modernization
Table 1 - Nearby Sites, Case Numbers, Regulatory Status, Distance and Direction
Hydrogeologic Assessment for Site Dewatering

Case No.	Site Name	Distance (ft from site center)	Direction from Site	Depth to GW (ft bgs)	GW Elevation (ft AMSL)	Gradient	Site status (open, etc.)	Site History
	2300 Santa Clara Ave						Eligible for closure 2022	
T10000010519	Auto service Garage Building	1,060	S-SE	9 (11/13/18 boring log)	25 (11/13/2018)	W, NW (2008-2011)	Closed 2019	UST, auto shop
	2407 San Jose Ave			5.7-9.7 (1/10/18 boring	25 (1/10/2018)			
				log)	No survey data			
T0600101711	Chevron #20-6516 / Stahl Woodridge Construction	1,150	N-NE	10.5-14.5 (7/7/2011 boring log)		NW 0.003 ft/ft (9/26/98)	Closed 2001	UST, gas station, elevator
	2428 Central Ave.			4.38-8.94	No survey data			
					1998 map shows GW elevation 21.22-20.99 flowing North			
T10000003048	Alameda Islander Hotel	1,110	E	8.5 (9/13/2012 boring log)	No survey data	NW 0.003 ft/ft (9/26/98)	Closed 2013	UST, gas station, elevator
				4.66-9.8 (historical)	1998 map shows GW elevation 21.22-20.99 flowing North			
	(same site above, additional case opened)							
T0600100129	Automotive Auto Repair 2425 Central Ave.	1,100	E		No survey data		Closed 1996	UST, auto shop
T10000003362	Bell Cleaners / Wittenau Property	1,570	NE	6.24-11.29	20.96-21.95 4/10/23	NW 0.025 ft/ft (3/13/2023)	Open	Dry cleaner
	1534 Park Street			7.27-9.15 (4/20/2023)	TOC 29.11-29.73			
						E 0.02 ft/ft (2010)		
						Varies 0.003-0.02 ft/ft		

TOC = Top of casing
bgs = below ground surface
N = North
E = East
S = South
W = West
UST = Underground Storage Tank

Attachment 4 - Alameda High School Swim Center Modernization
Table 2 - Data Summary
Hydrogeologic Assessment of Site Dewatering

Case No.	Site Name	Distance (ft from site center)	Direction	COC	Most recent sample (highest concentration)				Highest Concentration(s) (mg/kg, mg/L, ug/m3)
					Name	Date	Depth (ft bgs)	Type	
T0600102194	Alameda Lock & Glass	250	S-SE	TPH-g	B-1,B-2,B-3,B-4,B-5	6/2/2015	6-7.5	SO	< 0.25
	2301 Encinal Ave.				B-2	6/2/2015	7-9	GW	0.059
				Lead (dissolved)	B-2	6/2/2015	7-7.5	SO	6.9
					B-1,B-2,B-3,B-4,B-5	6/2/2015	7-9	GW	<0.0005
T0600102196	Russi Commercial Property	560	E	TPH-g	MW-1	12/25/2017		GW	0.18
	1347 Park Street				B-1,2,3	2/28/2018		GW	< 0.05
					B-1,2,3	2/28/2018	5-10	SO	< 1
					SS-1,2	3/2/2018	8.5	SV	< 720
				TPH-d	MW-1	12/25/2017		GW	130
					B-1,2,3	2/28/2018		GW	< 0.1
					B-1,2,3	2/28/2018	5-10	SO	< 1
				TPH-o	MW-1	12/25/2017		GW	210
					B-1,2,3	2/28/2018		GW	< 0.5
					B-1,2,3	2/28/2018	5-10	SO	< 5
				Benzene	MW-1	12/25/2017		GW	0.00059
					B-1,2,3	2/28/2018		GW	< 0.0005
					B-1,2,3	2/28/2018	5-10	SO	< 0.005
					SS-2	3/2/2018	8.5	SV	2.5
				Ethylbenzene	MW-1	12/25/2017		GW	0.00068
					B-1,2,3	2/28/2018		GW	< 0.0005
					B-1,2,3	2/28/2018	5-10	SO	< 0.005
					SS-2	3/2/2018	8.5	SV	13
				Toluene	MW-1	12/25/2017		GW	< 0.0005
					B-1,2,3	2/28/2018		GW	< 0.0005
					B-1,2,3	2/28/2018	5-10	SO	< 0.005
					SS-2	3/2/2018	8.5	SV	33
				Xylenes	MW-1	12/25/2017		GW	0.0016
					B-1,2,3	2/28/2018		GW	< 0.0005
					B-1,2,3	2/28/2018	5-10	SO	< 0.005
					SS-2	3/2/2018	8.5	SV	74
				Naphthalene	MW-1	12/25/2017		GW	< 0.0005
					B-1,2,3	2/28/2018		GW	< 0.0005
					B-1,2,3	2/28/2018	5-10	SO	< 0.005
					SS-1,2	3/2/2018	8.5	SV	< 5.3
T0600101579	City of Alameda Fire Department 2401 Encinal Ave	580	S-SE	TPH-d				SO	
T0600100083	Arco #2112	600	S-SE	TPH-g	SG-1A,1B,1,2A,2B,Ambient	6/28/2012	3.5-5.5	SV	< 38,000
	1260 Park Street				B-8	6/10/2009	11	SO	2,000
					A-1 to A-5, AR-1, AR-2	2/8/2011		GW	< 0.050
				Benzene	SG-1A	6/28/2012	3.5	SV	2.2
					Ambient	6/28/2012	--	IA/OA	1.7
					B-8	6/10/2009	11	SO	0.23
					A-1 to A-5, AR-1, AR-2	2/8/2011		GW	< 0.0005
				Ethylbenzene	SG-2A	6/28/2012	3.5	SV	3.1
					Ambient	6/28/2012	--	IA/OA	2.4
					B-8	6/10/2009	11	SO	18
					A-1 to A-5, AR-1, AR-2	2/8/2011		GW	< 0.0005
				Toluene	SG-1B	6/28/2012	5.5	SV	3.3
					Ambient	6/28/2012	--	IA/OA	11
					B-8	6/10/2009	11	SO	14
					A-1 to A-5, AR-1, AR-2	2/8/2011		GW	< 0.0005
				Xylenes	SG-1A,1B,1,2A,2B,Ambient	6/28/2012	3.5-5.5	SV	< 8.7
					B-8	A	11	SO	210
					A-1 to A-5, AR-1, AR-2	2/8/2011		GW	< 0.0005
SL0600143977		650	NE	TPH-g	INF-008, EFF-008	3/2/2007		GW	<0.05
	2305 Central Ave				SB-1 to SB-8	1/25/2005	5.5-11.5	SO	< 1
				TPH-d	INF-008, EFF-008	3/2/2007		GW	<0.028
					SB-1 to SB-8	1/25/2005	5.5-11.5	SO	< 1
				TPH-o	INF-008, EFF-008	3/2/2007		GW	<0.015
					SB-1 to SB-8	1/25/2005	5.5-11.5	SO	< 5
				Benzene	INF-008, EFF-008	3/2/2007		GW	ND
					SB-1 to SB-8	1/25/2005	5.5-11.5	SO	< 0.005

Attachment 4 - Alameda High School Swim Center Modernization
Table 2 - Data Summary
Hydrogeologic Assessment of Site Dewatering

Case No.	Site Name	Distance (ft from site center)	Direction	COC	Most recent sample (highest concentration)				Highest Concentration(s) (mg/kg, mg/L, ug/m3)
					Name	Date	Depth (ft bgs)	Type	
	Video Maniacs (cont)			Ethylbenzene	INF-008, EFF-008	3/2/2007		GW	ND
					SB-1 to SB-8	1/25/2005	5.5-11.5	SO	< 0.005
				Toluene	INF-008, EFF-008	3/2/2007		GW	< 0.0005
					SB-1 to SB-8	1/25/2005	5.5-11.5	SO	< 0.005
				Xylenes	INF-008, EFF-008	3/2/2007		GW	< 0.0015
					SB-1 to SB-8	1/25/2005	5.5-11.5	SO	< 0.005
NA	City of Alameda / Alameda HS UST	750	NW	TPH-g	P1	6/28/2019		Oil	33,000
	2201 Encinal Ave.				BT-02-E	10/24/2019	8	SO	560 B
				TPH-d	P1	6/28/2019		Oil	740,000
					BT-02-E	10/24/2019	8	SO	12,000
				TPH-o	P1	6/28/2019		Oil	550,000
					BT-02-E	10/24/2019	8	SO	13,000
				TPH-ho	P1	6/28/2019		Oil	520,000
Beyond Modeled Radius of Influence									
T0600100034	Alameda Cellars	850	SW	TPH-g	MW-1, MW-2a	8/8/1997		GW	3.5
	2425 Encinal Ave				MW-1, MW-2a	3/1/1990		SO	1,500
				Benzene	MW-1, MW-2a	8/8/1997		GW	0.33
					MW-1, MW-2a	3/1/1990		SO	15
				Ethylbenzene	MW-1, MW-2a	8/8/1997		GW	0.1
					MW-1, MW-2a	3/1/1990		SO	18
				Toluene	MW-1, MW-2a	8/8/1997		GW	0.027
					MW-1, MW-2a	3/1/1990		SO	0.5
				Xylenes	MW-1, MW-2a	8/8/1997		GW	0.31
					MW-1, MW-2a	3/1/1990		SO	32
T0600102197	Shell #129514	910	NE	TPH-g	GP-A to GP-H	1/26/1998	5-10	SO	< 1
	2300 Santa Clara Ave				GP-A to GP-H	1/26/1998		GW	< 0.05
				TPH-d	GP-B	1/26/1998	6	SO	6.9
					GP-H	1/26/1998		GW	1.5
				Benzene	GP-A to GP-H	1/26/1998	5-10	SO	< 0.005
					GP-A to GP-H	1/26/1998		GW	< 0.0005
				Ethylbenzene	GP-A to GP-H	1/26/1998	5-10	SO	< 0.005
					GP-A to GP-H	1/26/1998		GW	< 0.0005
				Toluene	GP-A to GP-H	1/26/1998	5-10	SO	< 0.005
					GP-H	1/26/1998		GW	0.00058
				Xylenes	GP-A to GP-H	1/26/1998	5-10	SO	< 0.005
					GP-A to GP-H	1/26/1998		GW	< 0.0005
				MTBE	GP-A to GP-H	1/26/1998	5-10	SO	< 0.025
					GP-A to GP-H	1/26/1998		GW	< 0.0025
				Lead	GP-A to GP-H	1/26/1998	5-10	SO	< 5
					GP-E	1/26/1998		GW	0.4
T0600101978	City of Alameda	990	N	TPH-g				SO	
T0600100607	Fowler-Anderson Mortuary 2244 Santa Clara ave	995	N	TPH-g,d,o				SO	
T10000020706	1200 Park Street Property	1,030	S-SE	Chlorinated VOCs:					
				DCE	SS-6	3/31/2022	5	SV	4.5
					MW-7	1/24/2022	5-20	GW	0.01
					IA-3 to IA-9, OA-1 to OA-2	4/1/2022	--	IA/OA	< 0.11
					B-23 to B-45	3/7 to 5/13/2022	2.5-15	SO	< 3.9
				PCE	SV-2	3/31/2022	5	SV	2,800
					MW-1	11/8/2021	5-15	GW	0.0033
					IA-7	4/1/2022	--	IA/OA	0.21
					B-23	3/7/2022	2.5	SO	0.0058
				TCE	SV-6	4/1/2022	5	SV	13
					MW-7	1/24/2022	5-20	GW	0.0056
					IA-3 to IA-9, OA-1 to OA-2	4/1/2022	--	IA/OA	< 0.15
					B-38	5/13/2022	7.5	SO	0.0032
				Vinyl chloride	MW-7	1/24/2022	5-20	GW	0.00074 J
					IA-3 to IA-9, OA-1 to OA-2	4/1/2022	--	IA/OA	< 0.036
					B-23 to B-45	3/7 to 5/13/2022	2.5-15	SO	< 3.9

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Case No.	Site Name	Distance (ft from site center)	Direction	COC	Most recent sample (highest concentration)				Highest Concentration(s) (mg/kg, mg/L, ug/m3)
					Name	Date	Depth (ft bgs)	Type	
T10000009401	1200 Park St	1,030	S-SE	TPH-g	SV-7	4/1/2022	5	SV	1,100
					SS-1	3/30/2022	0.5	SV	1,100
	(same site above, split into 2 cases)				MW-2	11/8/2021	5-15	GW	0.75
					B-33	3/8/2022	10	SO	9,000
				TPH-d	MW-2	11/8/2021	5-15	GW	0.43
					B-33	3/8/2022	10	SO	1,200
				TPH-o	MW-3	11/8/2021	5-15	GW	0.130 J
					B-32	3/9/2022	10	SO	730
				Benzene	SS-6	3/31/2022	5	SV	5.2
					MW-2	11/8/2021	5-15	GW	0.00060 J
					B-41	5/13/2022	2.5	SO	0.0011 J
				Ethylbenzene	SV-2	3/31/2022	5	SV	< 8.8
					MW-2	11/8/2021	5-15	GW	0.00069 J
					B-33	3/8/2022	10	SO	200
				Naphthalene	MW-2	11/8/2021	5-15	GW	0.0083
					B-33	3/8/2022	10	SO	61
T0600100980	Bill Chun Service Station	1,050	N-NE	TPH-g	NMB-13 (on-site)	4/25/2017	2.5	SO	12,000
	2300 Santa Clara Ave				NMB-21 (off-site)	12/23/2020	10	SO	3,600
					MW-2R	10/12/2022		GW	57 H
					NMB-6B (on-site)	12/31/2020	5	SV	38,000,000
				TPH-d	NMB-21 (off-site)	12/23/2020	10	SO	400
				Benzene	NMB-5 (on-site)	11/2/2012	8	SO	56
					NMB-16 to NMB-22 (off-site)	12/23/2020	3-10	SO	< 2.2
					MW-2R	10/12/2022		GW	4.7 H
					NMB-6B (on-site)	12/31/2020	5	SV	2,600
				Ethylbenzene	NMB-5 (on-site)	11/2/2012	8	SO	340
					NMB-21 (off-site)	12/23/2020	10	SO	55
					MW-2R	10/12/2022		GW	3.7 H
					NMB-20 (off-site)	12/31/2020	5	SV	2,200
				Toluene	MW-2R	10/12/2022		GW	20 HE
				Xylenes	MW-2R	10/12/2022		GW	19 H
				Naphthalene	NMB-5 (on-site)	11/2/2012	8	SO	110
					NMB-21 (off-site)	12/23/2020	10	SO	16
					MW-2R	10/12/2022		GW	0.48 H
					NMB-3 to NMB-21	12/31/2020	5-7.5	SV	< 8,400
T10000010519	Auto service Garage Building	1,060	S-SE	TPH-g	B-19	1/9/2018	10	SO	4.24
	2407 San Jose Ave				B-13 to B-23-GW	1/9/2018 to 11/13/2018		GW	< 100
				TPH-d	B-13	1/9/2018	10	SO	255
					B-13-GW	1/9/2018		GW	120
				TPH-o	B-13	1/9/2018	10	SO	212
					B-13 to B-23-GW	1/9/2018 to 11/13/2018		GW	< 276
				Benzo(a)pyrene	B-13	1/9/2018	3	SO	0.0164
					B-13 to B-23-GW	1/9/2018 to 11/13/2018		GW	< 0.000057
T0600101711	Chevron #20-6516 / Stahl Woodridge Construction	1,150	N-NE	TPH-g	SB-5	7/6/2011	10.5	SO	1,700
	2428 Central Ave.				SB-3	7/6/2011		GW	1.8
					SG-5	7/7/2011	5	SV	11,000
				TPH-d	SB-8	7/7/2011	10	SO	180
					SB-3	7/6/2011		GW	0.64
				Benzene	SB-2,3,4,5,8	7/6 to 7/8/2011	5-10.5	SO	ND
					SB-5	7/7/2011		GW	0.0021
					SG-2	7/7/2011	5	SV	0.6
				Ethylbenzene	SB-2,3,4,5,8	7/6 to 7/8/2011	5-10.5	SO	ND
					SB-3	7/6/2011		GW	0.0079
					SG-2	7/7/2011	5	SV	23
				Toluene	SB-2,3,4,5,8	7/6 to 7/8/2011	5-10.5	SO	ND
					SB-1 to SB-8	7/6 to 7/8/2011		GW	ND
					SG-2	7/7/2011	5	SV	22
				Xylenes	SB-2,3,4,5,8	7/6 to 7/8/2011	5-10.5	SO	ND
					SB-3	7/6/2011		GW	0.00085 J
					SG-2	7/7/2011	5	SV	119
				Naphthalene	SB-2,3,4,5,8	7/6 to 7/8/2011	5-10.5	SO	ND
					SB-3	7/6/2011		GW	0.13
T10000003048	Alameda Islander Hotel	1,110	E	TPH-d	SB-09,10	9/18/2012	8-41	GW	< 0.0574

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					Name	Date	Depth (ft bgs)	Type	
				TPH-ho	SB-09,10	9/18/2012	8-41	GW	< 0.184
	(same site above, additional case opened)								
T0600100129	Automotive Auto Repair 2425 Central Ave.	1,100	E	TPH-g				SO	
T10000003362	Bell Cleaners / Wittenau Property	1,570	NE	PCE	HA1	3/6/2023	3	SO	17.3
	1534 Park Street				MW-4	3/13/2023		GW	0.0827
					SV-1	3/13/2023	6	SV	114,000
					IA-3	7/11-7/12/2024		IA	46.4
				TCE	HA1	3/6/2023	3	SO	0.00537
					MW-1 to MW-4	3/13/2023		GW	< 0.001
					SS-21	3/14/2023	0.5	SV	1,320
					IA-3	7/11-7/12/2024		IA	1.67

Legend

N = North
E = East
S = South
W = West
TPH-g = Total Petroleum Hydrocarbons as gasoline
TPH-d = Total Petroleum Hydrocarbons as diesel
TPH-ho = Total Petroleum Hydrocarbons as heating oil
DCE = 1,2-dichloroethene
PCE = Tetrachloroethene
TCE = Trichloroethene

SO = Soil data
GW = Groundwater data
SV = Soil vapor data
IA = Indoor Air data
IA/OA = indoor and outdoor air
OIL = UST product data