

## Water Quality Sampling and Analysis

At the conclusion of test pump development, water samples were obtained from each of the test well completions. Prior to sampling, Wood Rodgers confirmed that the field water quality parameters (electrical conductivity, total dissolved solids, temperature, and pH) were stable and that the produced groundwater had low turbidity (less than one nephelometric turbidity unit). Wood Rodgers sampled each test well and delivered the samples under Chain of Custody protocol to California Laboratory Services of Rancho Cordova, California, a state-certified laboratory. For the constituents analyzed, the water quality from both test wells meets DDW drinking water standards for Title 22 general mineral, general physical, drinking water metals, perchlorate, hexavalent chromium, 1,2,3-Trichloropropane (TCP), volatile organic compounds (VOCs), uranium, and Per- and polyfluoroalkyl substances (PFAS). The results of the water quality analyses for each test well are summarized in **Tables 2 and 3** (attached). A summary of key water quality parameters is shown below in **Table 4**.

**Table 4: Water Quality Summary**

Test Well	Constituent	Result	MCL
TW-268	Arsenic	4.3 µg/L	10 µg/L
	Nitrate (as N)	4.6 mg/L	10 mg/L
	Total Dissolved Solids	230 mg/L	500 mg/L
	Hexavalent Chromium	4.5 µg/L	N/A
TW-370	Arsenic	5.9 µg/L	10 µg/L
	Nitrate (as N)	3.5 mg/L	10 mg/L
	Total Dissolved Solids	180 mg/L	500 mg/L
	Hexavalent Chromium	5.9 µg/L	N/A

For primary constituents of concern, the water quality data from Well 1 and from the exploratory drilling program indicate:

- Concentrations of nitrate decrease with depth;
- Concentrations of arsenic increase with depth;
- Concentrations of hexavalent chromium increase with depth.

The water quality analysis suggests that each aquifer zone assessed would produce groundwater that meets drinking water standards; however, the best water quality appears to be from the aquifer between 250 and 270 feet bgs. In this aquifer zone, the anticipated concentrations of nitrate (as N) are 4.6 mg/L, arsenic is 4.3 micrograms per liter (µg/L), hexavalent chromium is 4.5 µg/L, and total dissolved solids of 230 mg/L.

## Production Well Design

Based on the exploratory drilling program and depth-specific water quality analysis, Wood Rodgers recommends constructing a municipal supply well that targets the aquifer between 250 feet and 270 feet, with a design capacity of 100 gallons per minute (gpm).

The production well design (**Figure 5**, attached) includes a 20-inch-diameter borehole that extends to a depth 280 feet. The well structure includes a 10.75-inch outside diameter (O.D.) mild steel well structure with 5/16-inch wall thickness to a depth of 252 feet, well screen from 252 to 272 feet, and a 5-foot sump to 277 feet. A “Ful-Flo” louvered well screen with a slot size of 0.060-inch has been selected to provide proper sand control and acceptable inlet velocities. An SRI #8 gravel envelope extends from the bottom of the borehole to 245 feet. A fine sand transition seal extends from 245 to 243 feet. A deep sand/cement annular seal extends from 243 feet to ground surface.

The well structure has been designed with an inlet velocity of 0.11 foot per second at the design capacity. The well casing has been evaluated for collapse pressure and is adequate for the specified seal depth. **Table 5** (attached) illustrates the maximum seal depth for each well casing type, assuming as additional safety factors that each casing is one percent out-of-round and empty during seal placement (well casing is typically less out-of-round and is also filled with fluid during seal placement).

### Conclusions and Recommendations

Water quality data from the exploratory drilling program suggest that water produced from the production well, as designed, should meet all of the DDW drinking water quality standards. The well structure is estimated to have a static water level of approximately 70 feet. Estimating a specific capacity of 20 gallons per minute per foot of drawdown, the production well should have a pumping water level of approximately 75 feet at the design capacity of 100 gpm. The estimated cost to construct the well as designed is \$74,848, as shown in **Table 6** (attached).

Following acceptance of this Well Design Report, both test wells will be destroyed under County permit. If there are any concerns or questions regarding the water quality analysis, it is recommended that each test well be resampled prior to well destruction. If confirmation sampling is required, it is recommended to sample for the primary constituents of concern, arsenic, nitrate [as N], and hexavalent chromium.

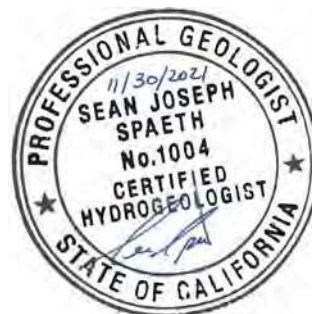
We look forward to working with you and the District on this important project to construct a new potable water supply well for Roselawn High School. If you have any questions or require additional information, we would be pleased to respond.

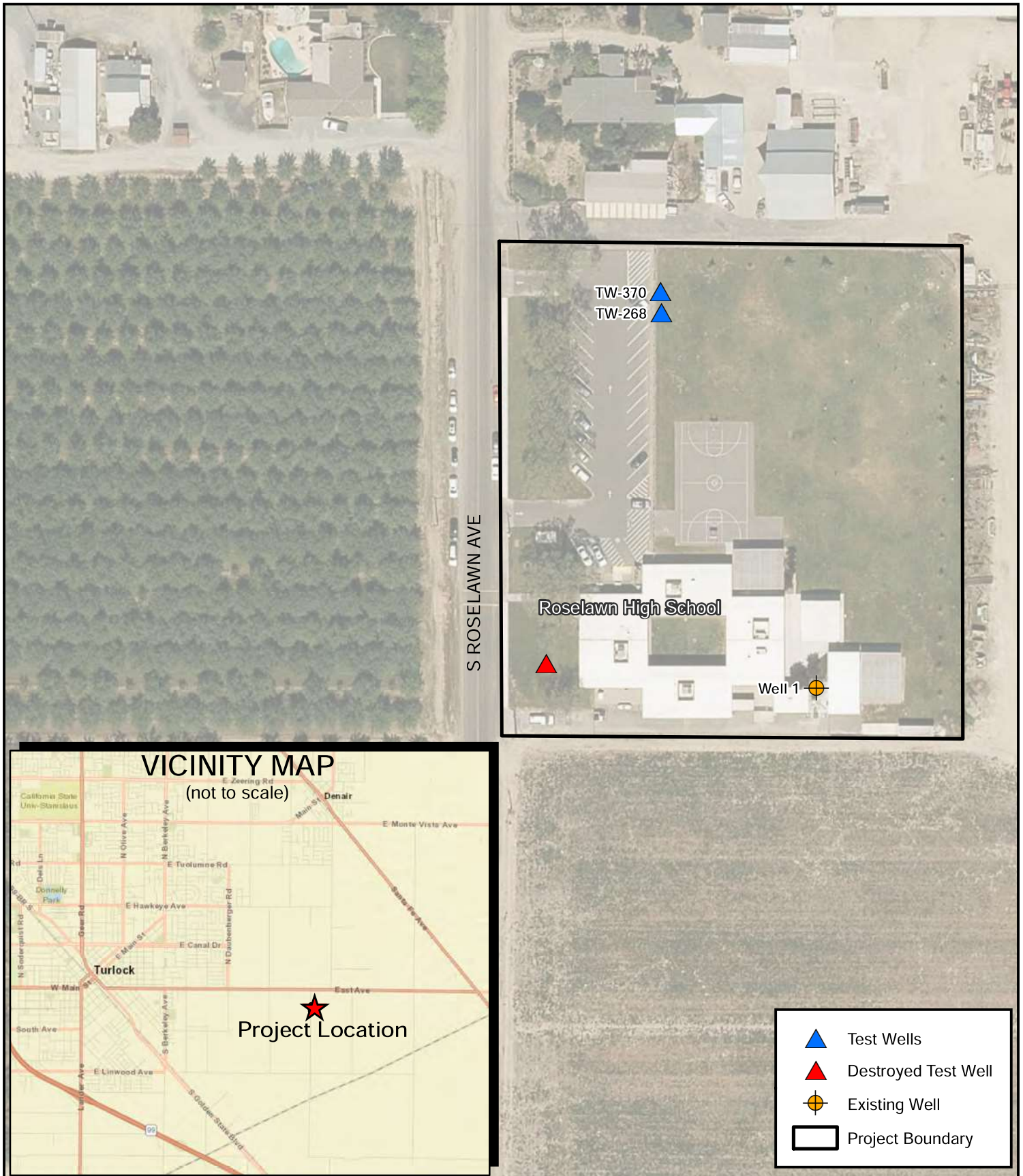
Sincerely,



Sean Spaeth, PG, CHG  
Project Hydrogeologist

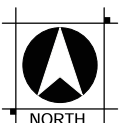
Enclosures





**FIGURE 1**  
**LOCATION MAP**  
 ROSELAWN HIGH SCHOOL  
 TURLOCK UNIFIED SCHOOL DISTRICT  
 STANISLAUS COUNTY  
 FEBRUARY 2020

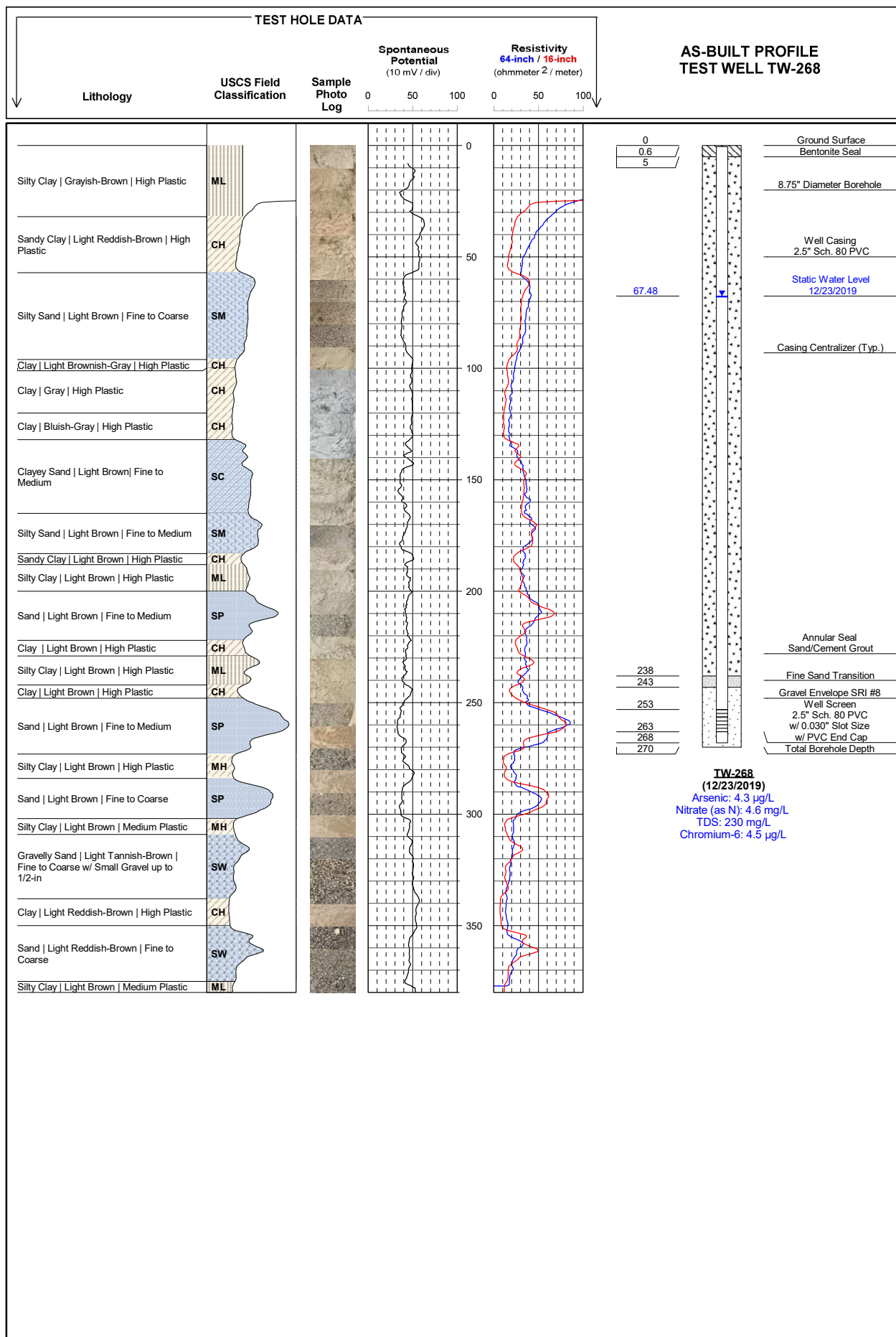
0 50 100  
 Feet



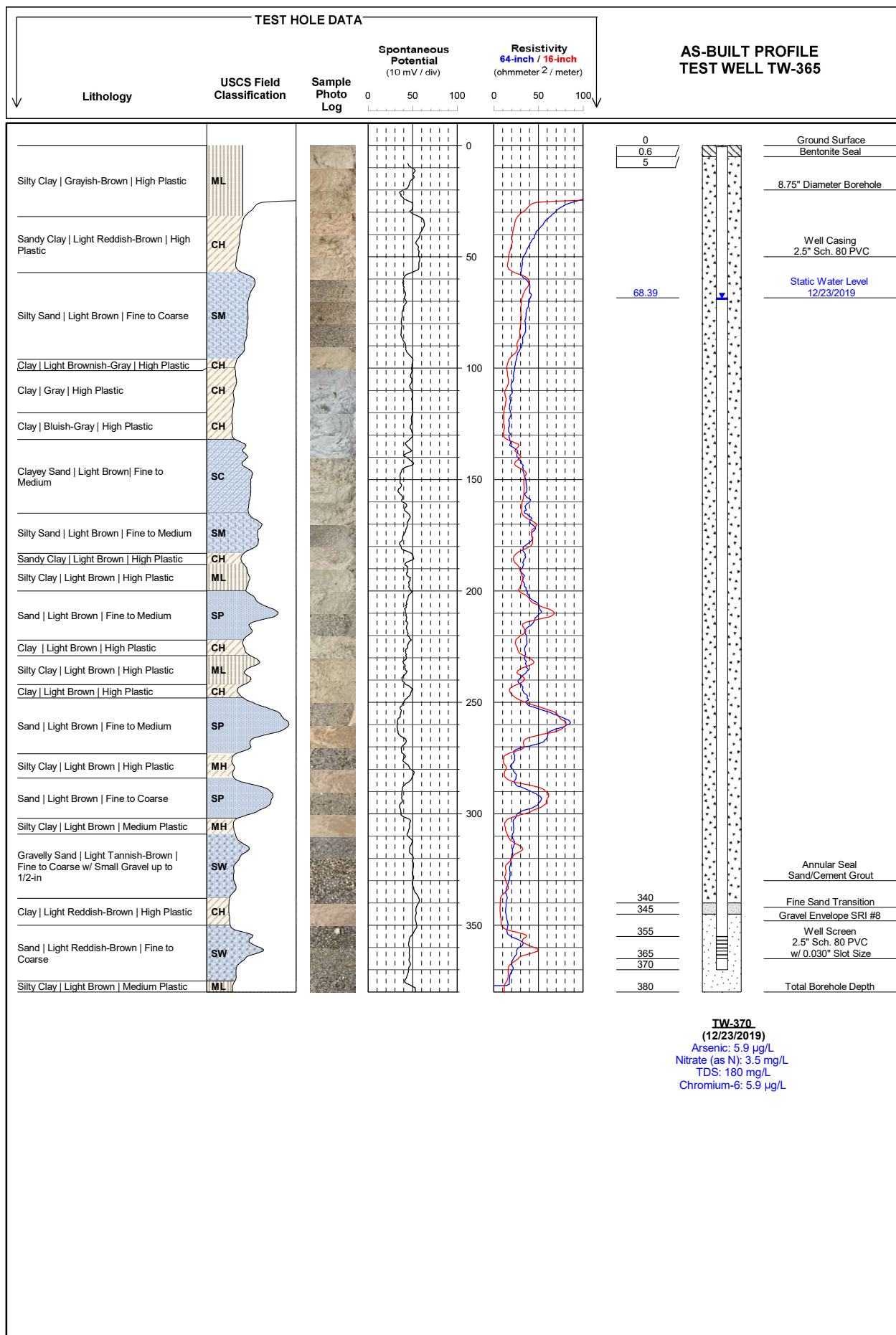
**WOOD RODGERS**





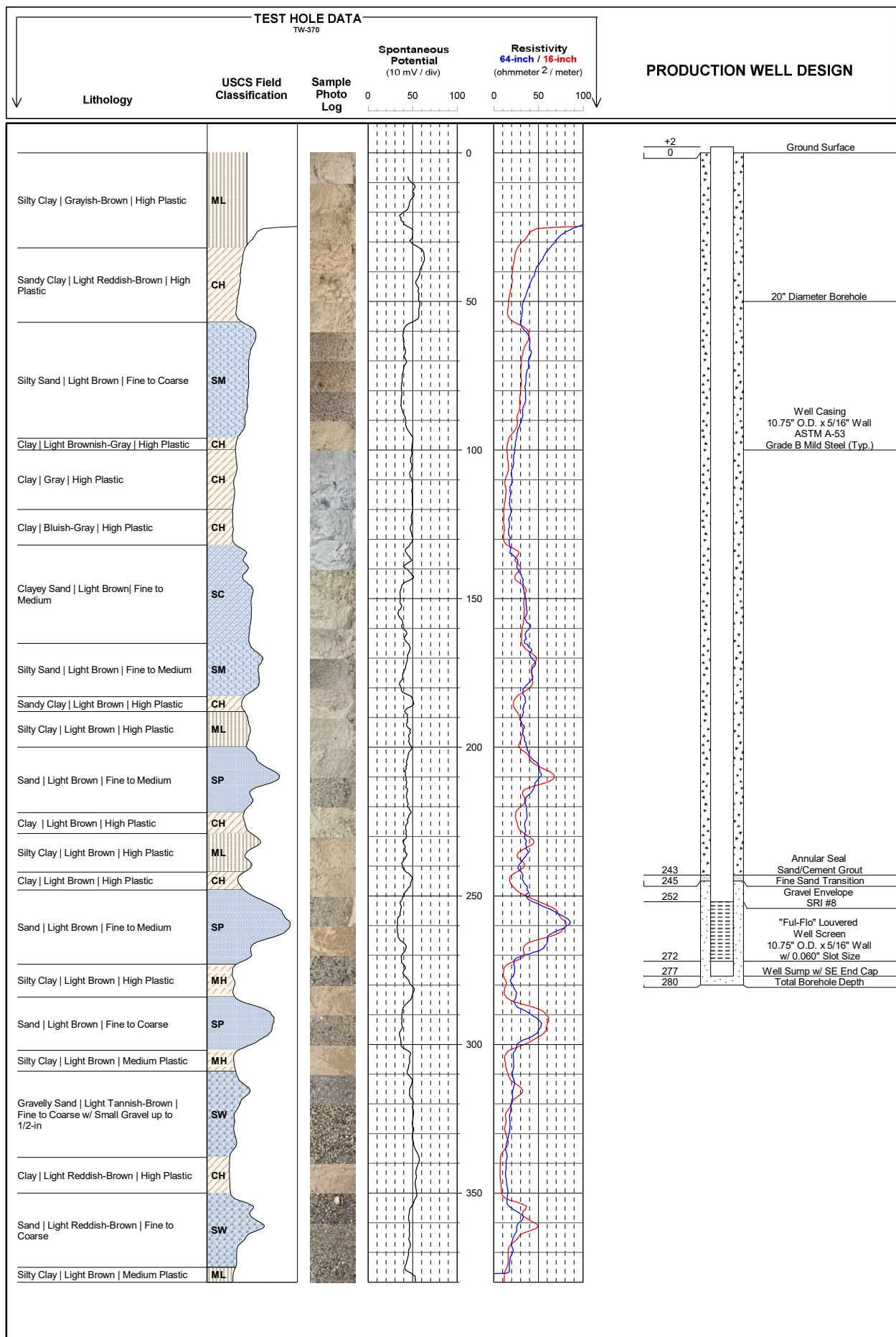


PROJECT NO. 8544.003	AS-BUILT TEST WELL PROFILE FOR  ROSELAWN HIGH SCHOOL TEST WELL TW-268  TURLOCK, CALIFORNIA	 WOOD RODGERS BUILDING RELATIONSHIPS ONE PROJECT AT A TIME	DATE: 2/11/20 12:46	J:\Jobs\8544_Black_Water\8544.003_Roselawn_HSH\Strater				
FIGURE 3			SCALE: V: 1" = 40'	DRAWN BY: N. MITCHELL	1	As-Built	N/M	02/06/2020
			DESIGNED BY: S. SPAETH	CHECKED BY: J. REISCHE	NO	DESCRIPTION	ENGR INIT	BY



PROJECT NO. 8544.003	AS-BUILT TEST WELL PROFILE FOR ROSELAWN HIGH SCHOOL TEST WELL TW-365  TURLOCK, CALIFORNIA	 WOOD RODGERS BUILDING RELATIONSHIPS ONE PROJECT AT A TIME	DATE: 2/11/20 12:49	J:\Jobs\8544_Black_Water\8544.003_Roselawn_HSH\Strater				
FIGURE 4			SCALE: V: 1" = 40'	DRAWN BY: A. MERCADO	1	As-Built	NUM	02/06/2020
			DESIGNED BY: S. SPAETH	CHECKED BY: J. REISCHE	NO	DESCRIPTION	ENGR INIT	BY





PROJECT NO. <b>8544.003</b>	PRODUCTION WELL PROFILE FOR <b>ROSELAWN HIGH SCHOOL</b>  TURLOCK, CALIFORNIA			DATE: 2/11/20 12:40	J:\cbs\8544.003\BLACKWATER\ROSELAWN\STRATER			
				SCALE: V: 1" = 30'	1.	PW DESIGN	NUM	02/06/2020
				DRAWN BY: N. MITCHELL DESIGNED BY: S. SPAETH CHECKED BY: J. REISCHE				
FIGURE 5					NO	DESCRIPTION	ENGR INIT	BY APPROVED

**TABLE 2**  
**SUMMARY OF WATER QUALITY RESULTS**

Roselawn High School TW-268		Notification Level	Primary MCL	Regulatory Action Level	Secondary MCL	Units	Result	Exceeds MCL
Sample Date: 12/23/2019								
GENERAL MINERAL								
California Laboratory Services								
Bicarbonate Alkalinity (as CaCO3)						mg/l	130	<input type="checkbox"/>
Calcium						mg/l	26	<input type="checkbox"/>
Carbonate Alkalinity (as CaCO3)						mg/l	<5	<input type="checkbox"/>
Chloride				250/500/600		mg/l	8.5	<input type="checkbox"/>
Fluoride			2.0			mg/l	<0.1	<input type="checkbox"/>
Foaming Agents (MBAs)				0.5		mg/l	<0.1	<input type="checkbox"/>
Hardness (as CaCO3)						mg/l	97	<input type="checkbox"/>
Hydroxide Alkalinity (as CaCO3)						mg/l	<5	<input type="checkbox"/>
Magnesium						mg/l	7.8	<input type="checkbox"/>
Nitrate (as N)			10			mg/l	4.6	<input type="checkbox"/>
Potassium						mg/l	4.7	<input type="checkbox"/>
Sodium						mg/l	27	<input type="checkbox"/>
Sulfate				250/500/600		mg/l	16	<input type="checkbox"/>
Total Alkalinity (as CaCO3)						mg/l	130	<input type="checkbox"/>
GENERAL PHYSICAL								
California Laboratory Services								
Color				15		color units	<1	<input type="checkbox"/>
Odor - Threshold				3		TON	<1	<input type="checkbox"/>
pH						pH units	8.04	<input type="checkbox"/>
Specific Conductance				900/1600/2200		umhos/cm	330	<input type="checkbox"/>
Total Dissolved Solids				500/1000/1500		mg/l	230	<input type="checkbox"/>
Turbidity				5		NTU	0.52	<input type="checkbox"/>
INORGANICS								
California Laboratory Services								
Aluminum			1000	200		ug/l	<50	<input type="checkbox"/>
Antimony			6			ug/l	<4	<input type="checkbox"/>
Arsenic			10			ug/l	4.1	<input type="checkbox"/>
Arsenic (Filtered)			10			ug/l	4.3	<input type="checkbox"/>
Barium			1000			ug/l	<100	<input type="checkbox"/>
Beryllium			4			ug/l	<1	<input type="checkbox"/>
Boron	1000					ug/l	<100	<input type="checkbox"/>
Cadmium			5			ug/l	<1	<input type="checkbox"/>
Chromium			50			ug/l	<10	<input type="checkbox"/>

Note: " MCL" is the Maximum Contaminant Level established by the California State Water Resources Control Board, Division of Drinking Water. Multiple values for MCL represent trigger levels or recommended/upper ranges.



**TABLE 2**  
**SUMMARY OF WATER QUALITY RESULTS (Continued)**

Roselawn High School TW-268	Notification Level	Primary MCL	Regulatory Action Level	Secondary MCL	Units	Result	Exceeds MCL
Sample Date: 12/23/2019							
INORGANICS							
Chromium-6		50			ug/l	4.5	<input type="checkbox"/>
Copper			1300	1000	ug/l	<50	<input type="checkbox"/>
Iron				300	ug/l	<100	<input type="checkbox"/>
Lead			15		ug/l	<5	<input type="checkbox"/>
Manganese	500			50	ug/l	<20	<input type="checkbox"/>
Manganese (Filtered)	500			50	ug/l	<10	<input type="checkbox"/>
Mercury		2			ug/l	<1	<input type="checkbox"/>
Nickel		100			ug/l	<10	<input type="checkbox"/>
Perchlorate		6			ug/l	<4	<input type="checkbox"/>
Selenium		50			ug/l	<5	<input type="checkbox"/>
Silver				100	ug/l	<10	<input type="checkbox"/>
Thallium		2			ug/l	<1	<input type="checkbox"/>
Vanadium					ug/l	38	<input type="checkbox"/>
Zinc				5000	ug/l	<50	<input type="checkbox"/>
VOLATILE ORGANIC CHEMICALS							
California Laboratory Services							
1,2,3-Trichloropropane (1,2,3-TCP)		0.005			ug/l	<0.005	<input type="checkbox"/>
RADIONUCLIDES							
FGL							
Uranium		20			pCi/L	3.09	<input type="checkbox"/>

Note: " MCL" is the Maximum Contaminant Level established by the California State Water Resources Control Board, Division of Drinking Water. Multiple values for MCL represent trigger levels or recommended/upper ranges.

**TABLE 3**  
**SUMMARY OF WATER QUALITY RESULTS**

Roselawn High School TW-370		Notification Level	Primary MCL	Regulatory Action Level	Secondary MCL	Units	Result	Exceeds MCL
Sample Date: 12/23/2019								
GENERAL MINERAL								
California Laboratory Services								
Bicarbonate Alkalinity (as CaCO3)						mg/l	94	<input type="checkbox"/>
Calcium						mg/l	19	<input type="checkbox"/>
Carbonate Alkalinity (as CaCO3)						mg/l	<5	<input type="checkbox"/>
Chloride				250/500/600		mg/l	8.2	<input type="checkbox"/>
Fluoride			2.0			mg/l	<0.1	<input type="checkbox"/>
Foaming Agents (MBAs)				0.5		mg/l	<0.1	<input type="checkbox"/>
Hardness (as CaCO3)						mg/l	71	<input type="checkbox"/>
Hydroxide Alkalinity (as CaCO3)						mg/l	<5	<input type="checkbox"/>
Magnesium						mg/l	5.4	<input type="checkbox"/>
Nitrate (as N)			10			mg/l	3.5	<input type="checkbox"/>
Potassium						mg/l	4.5	<input type="checkbox"/>
Sodium						mg/l	24	<input type="checkbox"/>
Sulfate				250/500/600		mg/l	10	<input type="checkbox"/>
Total Alkalinity (as CaCO3)						mg/l	94	<input type="checkbox"/>
GENERAL PHYSICAL								
California Laboratory Services								
Color				15		color units	<1	<input type="checkbox"/>
Odor - Threshold				3		TON	<1	<input type="checkbox"/>
pH						pH units	8.04	<input type="checkbox"/>
Specific Conductance				900/1600/2200		umhos/cm	240	<input type="checkbox"/>
Total Dissolved Solids				500/1000/1500		mg/l	180	<input type="checkbox"/>
Turbidity				5		NTU	0.66	<input type="checkbox"/>
INORGANICS								
California Laboratory Services								
Aluminum			1000	200		ug/l	<50	<input type="checkbox"/>
Antimony			6			ug/l	<4	<input type="checkbox"/>
Arsenic			10			ug/l	5.8	<input type="checkbox"/>
Arsenic (Filtered)			10			ug/l	5.9	<input type="checkbox"/>
Barium			1000			ug/l	<100	<input type="checkbox"/>
Beryllium			4			ug/l	<1	<input type="checkbox"/>
Boron	1000					ug/l	<100	<input type="checkbox"/>
Cadmium			5			ug/l	<1	<input type="checkbox"/>
Chromium			50			ug/l	<10	<input type="checkbox"/>

Note: " MCL" is the Maximum Contaminant Level established by the California State Water Resources Control Board, Division of Drinking Water. Multiple values for MCL represent trigger levels or recommended/upper ranges.

**TABLE 3**  
**SUMMARY OF WATER QUALITY RESULTS (Continued)**

Roselawn High School TW-370	Notification Level	Primary MCL	Regulatory Action Level	Secondary MCL	Units	Result	Exceeds MCL
Sample Date: 12/23/2019							
INORGANICS							
Chromium-6		50			ug/l	5.9	<input type="checkbox"/>
Copper			1300	1000	ug/l	<50	<input type="checkbox"/>
Iron				300	ug/l	<100	<input type="checkbox"/>
Lead			15		ug/l	<5	<input type="checkbox"/>
Manganese	500			50	ug/l	<20	<input type="checkbox"/>
Manganese (Filtered)	500			50	ug/l	<10	<input type="checkbox"/>
Mercury		2			ug/l	<1	<input type="checkbox"/>
Nickel		100			ug/l	<10	<input type="checkbox"/>
Perchlorate		6			ug/l	<4	<input type="checkbox"/>
Selenium		50			ug/l	<5	<input type="checkbox"/>
Silver				100	ug/l	<10	<input type="checkbox"/>
Thallium		2			ug/l	<1	<input type="checkbox"/>
Vanadium					ug/l	46	<input type="checkbox"/>
Zinc				5000	ug/l	<50	<input type="checkbox"/>
VOLATILE ORGANIC CHEMICALS							
California Laboratory Services							
1,2,3-Trichloropropane (1,2,3-TCP)		0.005			ug/l	<0.005	<input type="checkbox"/>
RADIONUCLIDES							
FGL							
Uranium		20			pCi/L	0.499	<input type="checkbox"/>

Note: " MCL" is the Maximum Contaminant Level established by the California State Water Resources Control Board, Division of Drinking Water. Multiple values for MCL represent trigger levels or recommended/upper ranges.

## WELL CASING COLLAPSE CALCULATIONS

**Job No.:** 8544.004      **Job Name:** Turlock Unified School District - Roselawn High School

**Well Name:** Roselawn High School Production Well

**Prepared By:** SJS      **Date:** 2/5/2020

**Ellipticity:** 0.01

**Grout Weight (lb/gal):** 18

Casing Description	Outside Diameter (inches)	Wall Thickness (inches)	Casing Material	Designed Seal Depth (feet)	Collapse Depth with Eccentricity and Empty Casing (feet)
Blank	10.750	0.313	Steel	243	812.3





**TABLE 6  
ENGINEERS ESTIMATE**

**Turlock Unified School District  
Roselawn High School  
Well Drilling, Construction, and Testing**  
Stanislaus County, California  
February 6, 2020

<b>BID ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT PRICE</b>	<b>UNITS</b>	<b>QUANTITY</b>	<b>EXTENDED PRICE</b>
1	Project Mobilization/Demobilization	\$25,000	Lump Sum	1	\$25,000
2	Borehole Drilling - 20" Diameter	\$65	Linear Feet	275	\$17,875
3	Geophysical Surveys	\$1,700	Lump Sum	1	\$1,700
4	Blank Well Casing 10.75" O.D. x 5/16" Wall ASTM A-139 Grade B Steel	\$43	Linear Feet	261	\$11,223
5	Well Screen - "Ful-Flo" Louvered 10.75" O.D x 5/16" Wall ASTM A-139 Steel w/ 0.060" Slot Size	\$265	Linear Feet	10	\$2,650
6	Gravel Envelope SRI #8	\$30	Linear Feet	30	\$900
7	Annular Seals - Fine Sand Transition & Sand/Cement Grout	\$20	Linear Feet	245	\$4,900
8	Well Development - Airlift/Swab	\$250	Hour	6	\$1,500
9	Test Pump Installation/Removal (150 feet)	\$2,000	Lump Sum	1	\$2,000
10	Well Development - Test Pump	\$250	Hour	8	\$2,000
11	Well and Aquifer Testing	\$250	Hour	4	\$1,000
12	Well Video Survey	\$1,100	Lump Sum	1	\$1,100
13	Well Disinfection	\$500	Lump Sum	1	\$500
14	Wellhead Security, Site Cleanup & Records	\$2,500	Lump Sum	1	\$2,500
15	Stand-by Time	\$250	Hour	0	\$0
<b>TOTAL:</b>					<b>\$74,848</b>



June 5, 2020

Job No. 8544003

Ms. Aja Verburg, PE  
Blackwater Consulting Engineers  
602 Lyell Drive  
Modesto, California 95356

Dear Ms. Verburg:

**Subject: Turlock Unified School District – Municipal Supply Well Roselawn High School  
Municipal Well Feasibility**

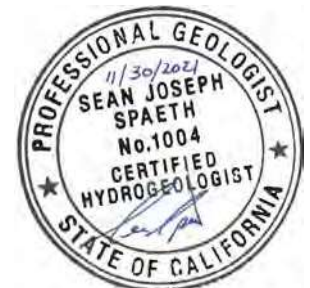
In 2019, the Turlock Unified School District conducted a hydrogeologic exploratory drilling program to evaluate the feasibility of constructing a new well at its Roselawn High School campus (Roselawn) which could meet State and Federal drinking water standards. The results of the exploratory drilling program were summarized and provided in a written report titled *Turlock Unified School District – Roselawn High School Production Well – Design Report*, dated April 7, 2020.

Following the submission of the report, Wood Rodgers was requested to provide an assessment as to the possibility of constructing a higher capacity well at this location. Wood Rodgers reviewed the hydrogeologic data collected during the exploratory drilling program and is of the opinion that sufficient aquifer material exists which could yield higher quantities of groundwater. It is estimated that a larger diameter municipal supply well constructed at this location and in the aquifers between a depth of 250 and 370 feet could likely have a capacity between 600 and 800 gpm, assuming a specific capacity of 20 gallons per minute per foot of drawdown. Actual capacity would need to be determined during well and aquifer testing following construction of the well.

Of significance and importance is the elevated concentration of nitrate in the shallow aquifers, above a depth of at least 170 feet. Any well constructed in this area and at this location would require a deep cement annular seal to avoid unintentional contribution or inter-aquifer flow of the shallow groundwater. This annular seal would likely need to extend to just above the target aquifer. It is recommended that any well be designed by a California Certified Hydrogeologist.

Sincerely,

Sean J. Spaeth, PG, CHG  
Associate Hydrogeologist



J:\Jobs\8544\_Black\_Water\8544.003\_Roselawn\_HS\Docs\Reports\20200605\_Municipal\_Well\_Feasibility.docx

## **APPENDIX E**

### **Detailed Cost Estimates**

Capital Costs

**Alternative 2 - Construction of a New Production Well**

Item	Quantity	Unit	Unit Cost	Total
Drilling Production Well, Sampling and Laboratory Analysis	1	LS	\$125,000	\$125,000
Submersible Well Pump and Motor	1	LS	\$10,000	\$10,000
2-inch diameter Well Head Discharge Piping, Meter, Valving, Pedestal	1	LS	\$9,000	\$9,000
2-inch diameter water main	534	LF	\$100	\$53,400
Reinforced Concrete Site Pad (14'x20'x12")	1	EA	\$5,000	\$5,000
Disinfection and Testing	1	LS	\$10,000	\$10,000
Miscellaneous Construction Repairs	1	LS	\$25,000	\$25,000
8' Chain Link Fence and Gate	1	LS	\$6,500	\$6,500
900 gallon hydropneumatic tank	1	LS	\$8,500	\$8,500
Electrical Pedestal, Controls, Wiring	1	LS	\$50,000	\$50,000
Well Permit	1	LS	\$1,000	\$1,000
Construction Subtotal				\$303,400
Contingency(25%):				\$75,850
Construction Total				\$379,250
Engineering, Environmental, Field Investigation (35% of Construction Cost)				\$106,190
Right of way/Easement Acquisition:				\$0
Construction Management & Administration (35% Construction Cost):				\$106,190
<b>Estimated Total Project Cost:</b>				<b>\$591,690</b>

**Alternative 3 - Consolidation with the City of Turlock**

Item	Quantity	Unit	Unit Cost	Total
Drilling Production Well, Sampling and Laboratory Analysis	1	LS	\$125,000	\$125,000
Mobilization	1	LS	\$15,000	\$15,000
Submersible Well Pump and Motor	1	LS	\$10,000	\$10,000
2-inch diameter Water Main	534	LF	\$100	\$53,400
2-inch diameter Master Water Meter	1	EA	\$1,500	\$1,500
900 gallon hydropneumatic tank	1	LS	\$8,500	\$8,500
Reinforced Concrete Site Pad (14'x20'x12")	1	EA	\$5,000	\$5,000
Disinfection and Testing	1	LS	\$10,000	\$10,000
Miscellaneous Construction Repairs	1	LS	\$25,000	\$25,000
8' Chain Link Fence and Gate	1	LS	\$6,500	\$6,500
Electrical Pedestal, Controls, Wiring	1	LS	\$50,000	\$50,000
8-inch diameter Water Main	6,442	LF	\$160	\$1,030,656
8-inch diameter Well Head Discharge Piping, Valving, pedestal	1	LS	\$7,500	\$7,500
Hydrant, backflow device, and sampling station	1	EA	\$8,500	\$8,500
Disinfection and Testing	1	LS	\$25,000	\$25,000
Miscellaneous Construction Repairs	1	LS	\$10,000	\$10,000
Traffic Control, Erosion Control, Permits	1	LS	\$25,000	\$25,000
Construction Subtotal				\$1,416,556
Contingency (25%)				\$354,139
Construction Total				\$1,770,695
2-inch diameter City of Turlock Service Connection Fee				\$9,000
Engineering, Environmental, Field Investigation (15% Construction Cost)				\$265,604
Right of way/Easement Acquisition				\$0
Construction Management and Administration (15% of Construction Cost)				\$265,604
<b>Estimated Total Project Cost:</b>				<b>\$2,310,904</b>



## Operation and Maintenance Costs

### Estimated Annual Operations and Maintenance Costs and Ranking

Category	Alternative		
	1	2	3
Labor	\$8,131	\$3,640	\$3,640
Utilities	\$10,000	\$5,000	\$5,000
Calibration and Maintenance	\$13,182	\$0	\$0
Supplies/Fuel/Equipment Maintenance Budget	\$1,699	\$1,699	\$1,699
Monitoring/Reporting	\$4,619	\$4,619	\$4,619
Ion-Exchange Nitrate Tank Replacement	\$9,615	\$0	\$0
City of Turlock Water Rate*	\$0	\$0	\$3,861
<b>TOTAL</b>	<b>\$47,247</b>	<b>\$14,958</b>	<b>\$18,819</b>

\*Includes flat fee for 2-inch meter for domestic, 8-inch meter for fire system, estimated usage

### Estimated Operator Cost

\$35.00 per hour	Operator Hourly Wage
2 hours/week	Monitoring, Reporting, and Operation and Maintenance
\$70.00 per week	Operator Cost
52 week per year	
<b>\$3,640.00 annual operator cost</b>	
<b>Annual O&amp;M Cost</b>	<b>\$3,640.00</b>

### City of Turlock Fees and Charges

#### New Charges in Rate Effective January 1, 2020

Monthly Commodity Charge	\$1.28 per 1,000 gallons
Monthly Capacity Charge	\$169 per meter
Monthly Customer Charge	\$6.55 per account

### Roselawn High School

Maximum Monthly Usage 114,241 gallons

Type	Monthly Charges
Commodity	\$146.23
Capacity	\$169.00
Customer	\$6.55
<b>Total</b>	<b>\$321.78</b>

Operation and Maintenance Costs

Invoices from January 2016 - August 2020

Vendor	Amount	Amount per Month	Amount per Year	
Calcon	\$56,366.79	\$1,006.55	\$12,078.60	Calibration
Mark Gutierrez	\$26,100.00	\$466.07	\$5,592.86	Water treatment services
Jared Steeley	\$35,176.82	\$628.16	\$7,537.89	Water treatment services
Far West	\$27,053.00	\$483.09	\$5,797.07	Water quality sampling
Alhambra	\$9,118.87	\$162.84	\$1,954.04	Drinking Water
Culligan	\$53,280.00	\$951.43	\$11,417.14	Nitrate Tank Delivery
		\$3,698.13	\$44,377.60	

January 2016 - December 2016	12
January 2017 - December 2017	12
January 2018 - December 2018	12
January 2019 - December 2019	12
January 2020 - December 2020	8
TOTAL	56

Invoices

	2015	2016	2017	2018	2019	2020	Total
Calcon			\$7,697	\$9,794	\$9,046	\$27,295	\$53,832
Mark Gutierrez		\$8,900	\$4,200	\$8,400	\$4,200		\$25,700
Jared Steeley		\$4,855	\$5,100				\$9,955
Far West		\$3,655	\$5,095	\$4,033	\$5,739	\$3,394	\$21,916
Alhambra		\$978	\$2,834	\$1,459	\$1,649	\$1,321	\$8,241
Culligan	\$1,845	\$5,310	\$29,561	\$6,285	\$7,393	\$5,496	\$55,890
Total	\$1,845	\$23,698	\$54,487	\$29,971	\$28,027	\$37,507	\$175,535