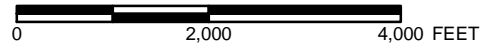
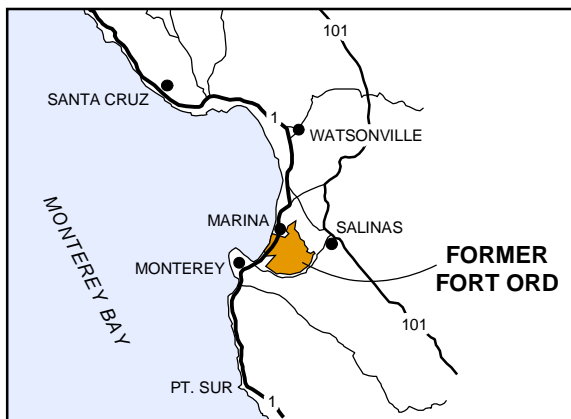
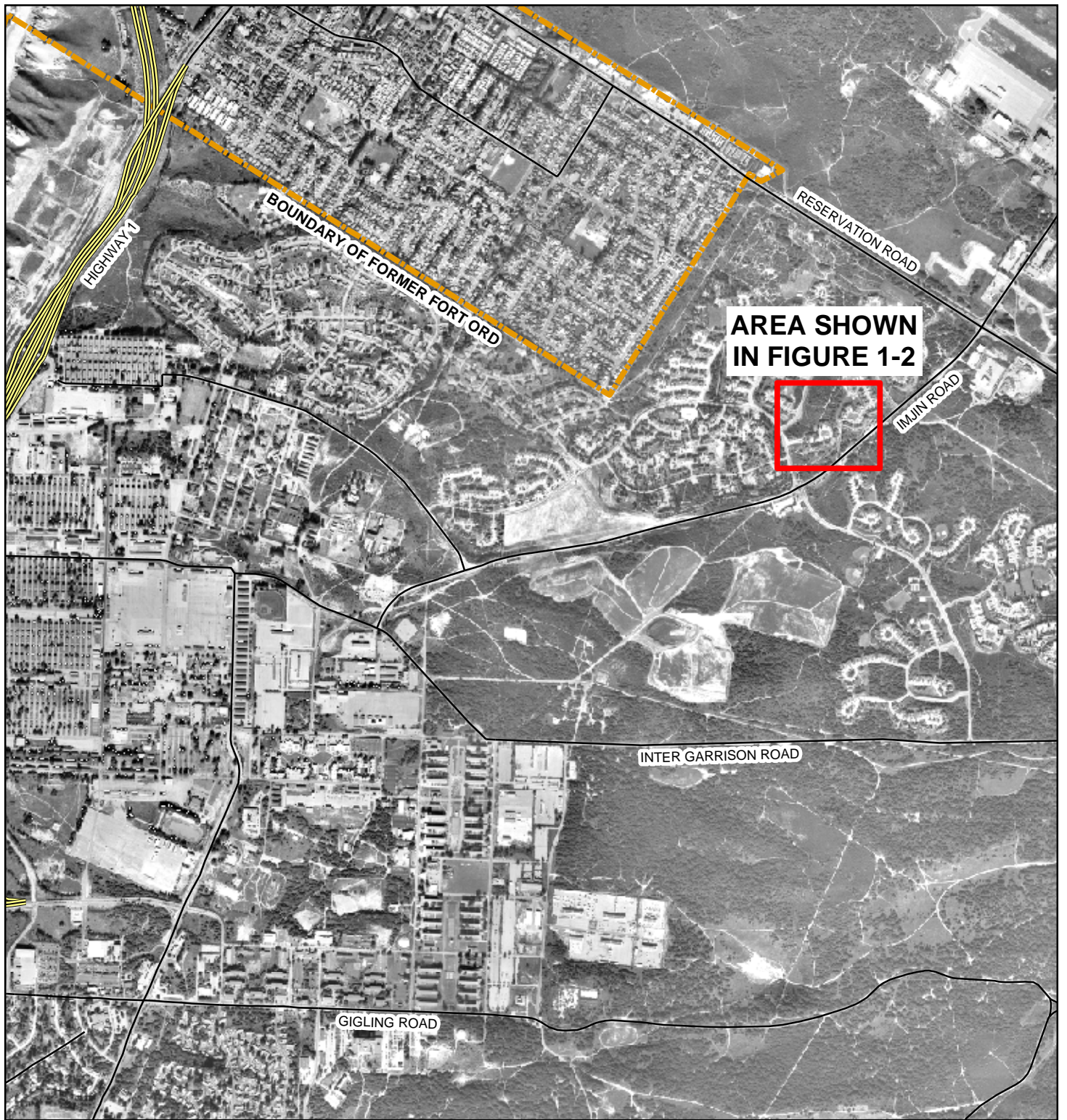
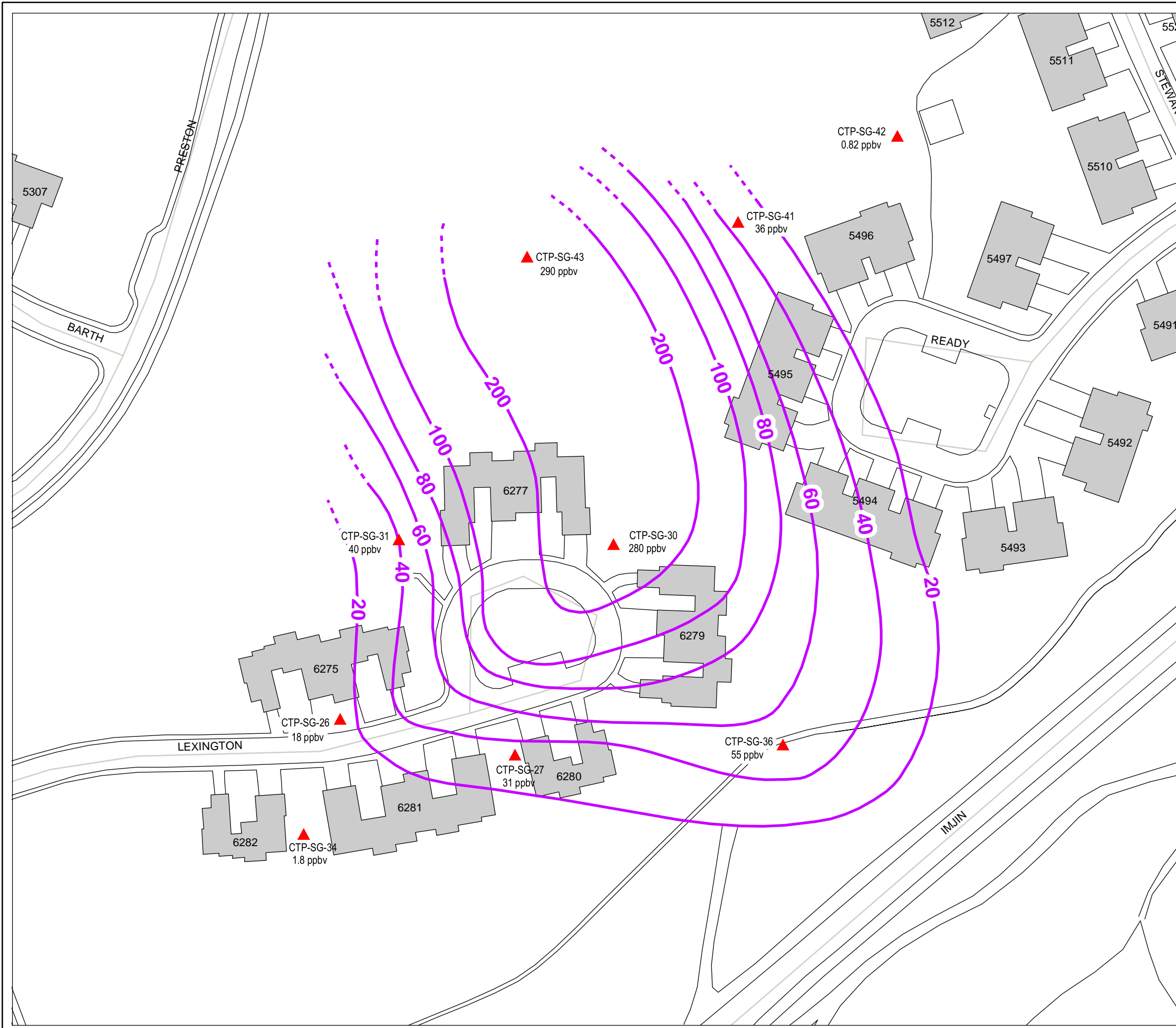


Figures



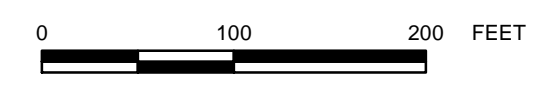
REVISION	DATE	DESCRIPTION	CHKD	APPR
Shaw Environmental, Inc.			Department of the Army Sacramento District, Corps of Engineers Sacramento, California	
DESIGNED: P. KELSALL	Figure 1-1 LOCATION MAP SVE PILOT TEST OPERABLE UNIT CARBON TETRACHLORIDE Former Fort Ord, California			
DRAWN: K. BLACK				
CHECKED: P. KELSALL				
SUBMITTED:	DATE	SCALE:	SHEET	SPEC. No. FILE No. CTP Location.mxd



LEGEND

- ▲ SOIL GAS SAMPLE LOCATION
- CTP-SG-36
55 A ppbv SAMPLE DESIGNATION
CONCENTRATION
- CARBON TETRACHLORIDE CONCENTRATION
CONTOURS AT 66-FT. DEPTH (ppbv);
DASHED WHERE INFERRED
- BUILDING

NOTE:
Carbon tetrachloride concentrations at depths
below 66 ft., March to May 2003. Contours from
Mactec. See Appendix A for concentrations at
shallower depths.



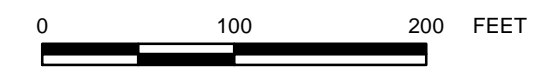
REVISION	DATE	DESCRIPTION	CHKD	APPR
		Department of the Army Sacramento District, Corps of Engineers Sacramento, California		
DESIGNED: E. SCHMIDT		Figure 1-2 CARBON TETRACHLORIDE CONCENTRATIONS IN SOIL GAS AT 66-FT. DEPTH SVE PILOT TEST OPERABLE UNIT CARBON TETRACHLORIDE Former Fort Ord, California		
DRAWN: K. BLACK				
CHECKED: P. KELSALL				
SUBMITTED:				
DATE		SCALE:	SPEC. No.	
SHEET		FILE No. CT_contours_66ft.mxd		



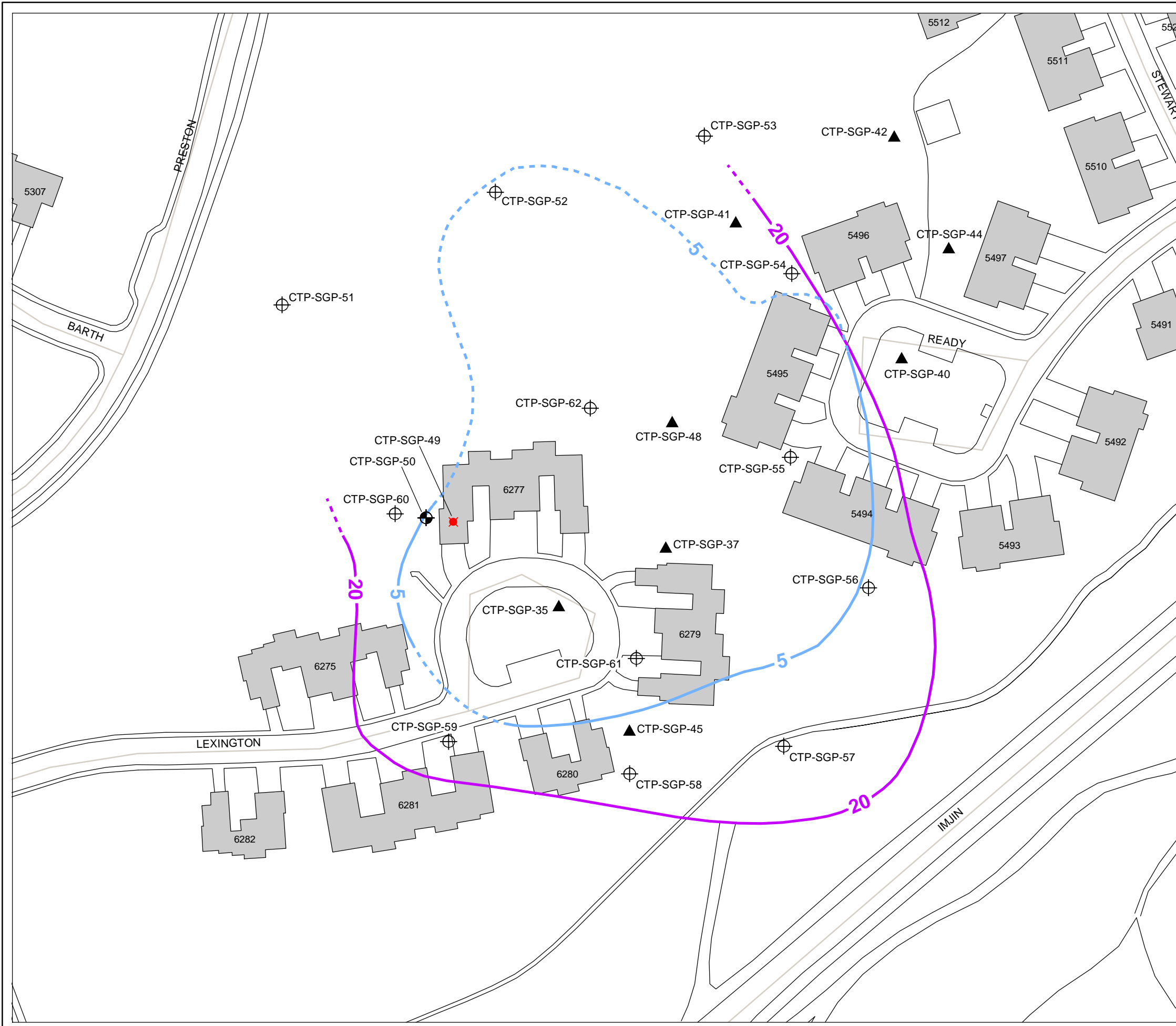
LEGEND

- NEW SVE WELL
- ◻ CONVERTED EXISTING WELL
- - - CARBON TETRACHLORIDE CONCENTRATION CONTOURS (ppbv); DASHED WHERE INFERRED
- RADIUS OF INFLUENCE (VACUUM IN INCHES H2O AT 75 FT. DEPTH, PREDICTED USING VADOSE ZONE AIRFLOW MODELING)
- BUILDING

NOTE:
Carbon tetrachloride concentrations at depths below 66 ft., March to May 2003. Contours from Mactec. See Appendix A for concentrations at shallower depths.



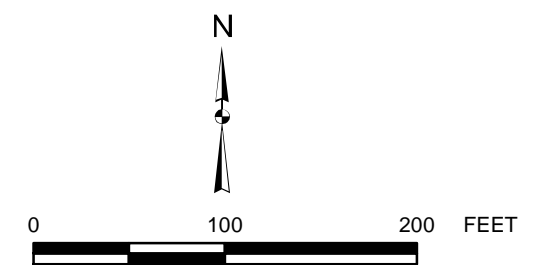
REVISION	DATE	DESCRIPTION	CHKD	APPR
Shaw Environmental, Inc.		Department of the Army Sacramento District, Corps of Engineers Sacramento, California		
DESIGNED: T. COTA		Figure 2-1 EXTRACTION WELL RADIUS OF INFLUENCE SVE PILOT TEST OPERABLE UNIT CARBON TETRACHLORIDE		
DRAWN: K. BLACK		Former Fort Ord, California		
CHECKED: P. KELSALL		SUBMITTED:	DATE	SCALE: SHEET
FILE No. Radius_Influence.mxd		SPEC. No.		



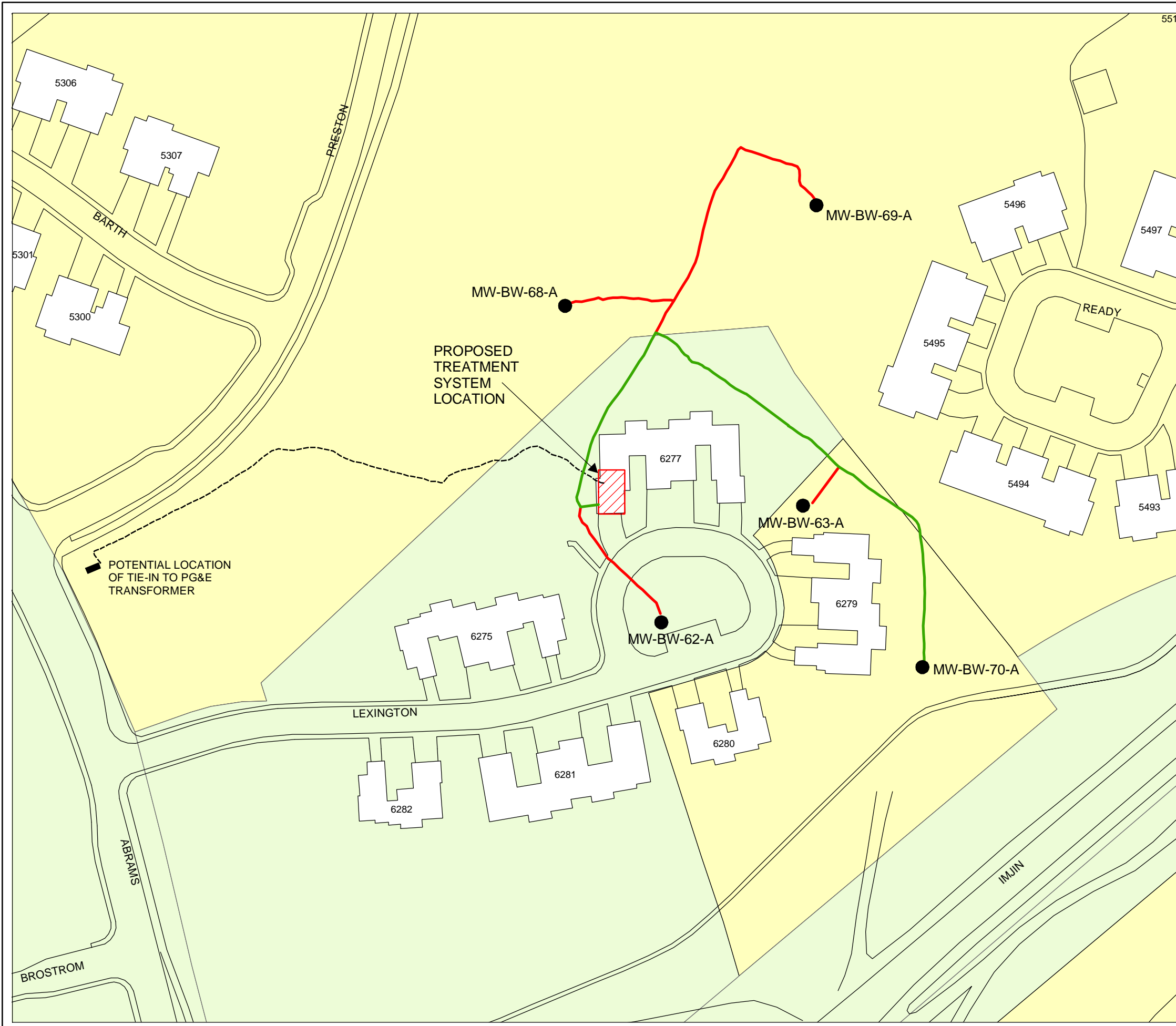
LEGEND

- ▲ EXISTING SHALLOW (6 FT.) MONITORING PROBE
- ⊕ PROPOSED DEEP (86 FT.) MONITORING PROBE
- ⊕ PROPOSED SHALLOW (6 FT.) MONITORING PROBE
- ★ PROPOSED SUB-SLAB MONITORING PROBE
- CARBON TETRACHLORIDE CONCENTRATION CONTOURS AT 6 FT. DEPTH (ppbv); DASHED WHERE INFERRED
- CARBON TETRACHLORIDE CONCENTRATION CONTOURS AT 66 FT. DEPTH (ppbv); DASHED WHERE INFERRED
- BUILDING

NOTE:
CARBON TETRACHLORIDE CONCENTRATIONS
MEASURED MARCH TO JULY 2003.



REVISION	DATE	DESCRIPTION	CHKD	APPR
Shaw Environmental, Inc.		Department of the Army Sacramento District, Corps of Engineers Sacramento, California		
DESIGNED: E. SCHMIDT		Figure 2-2 MONITORING PROBE LOCATIONS SVE PILOT TEST OPERABLE UNIT CARBON TETRACHLORIDE Former Fort Ord, California		
DRAWN: K. BLACK				
CHECKED: P. KELSALL				
SUBMITTED: _____		DATE _____	SCALE: SHEET _____	SPEC. No. FILE No. Probes.mxd

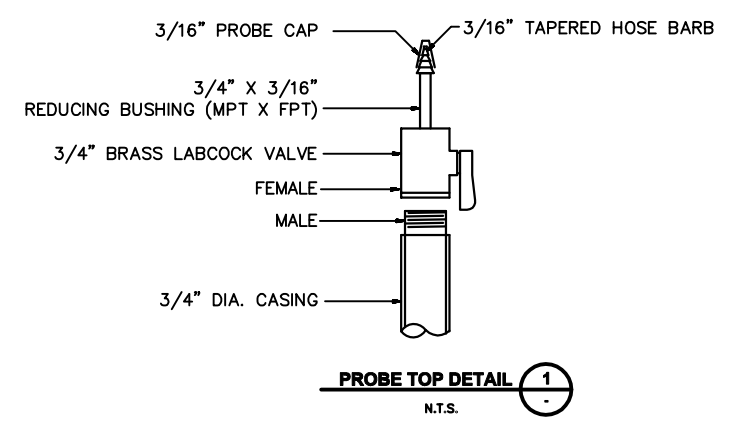
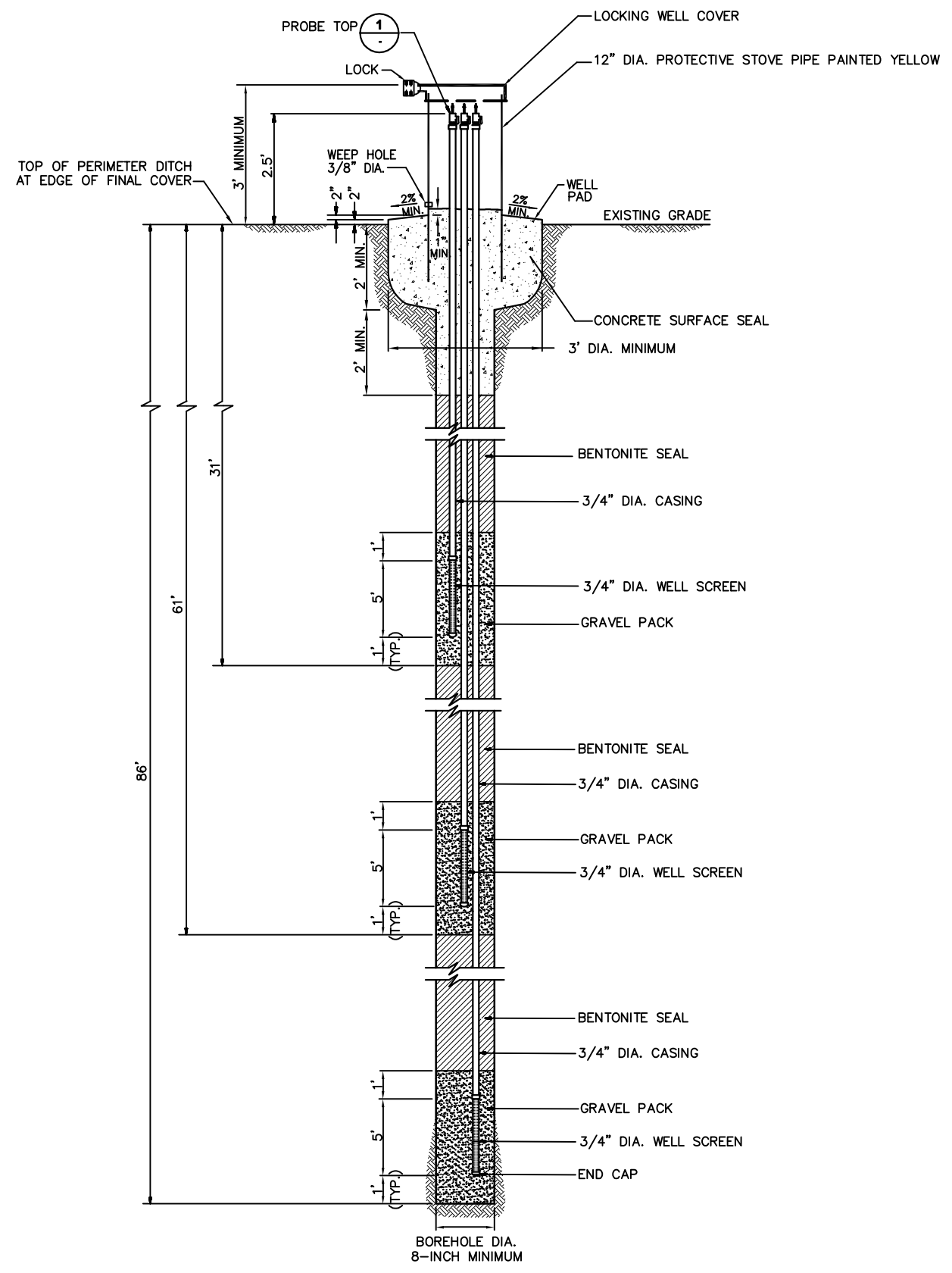


LEGEND

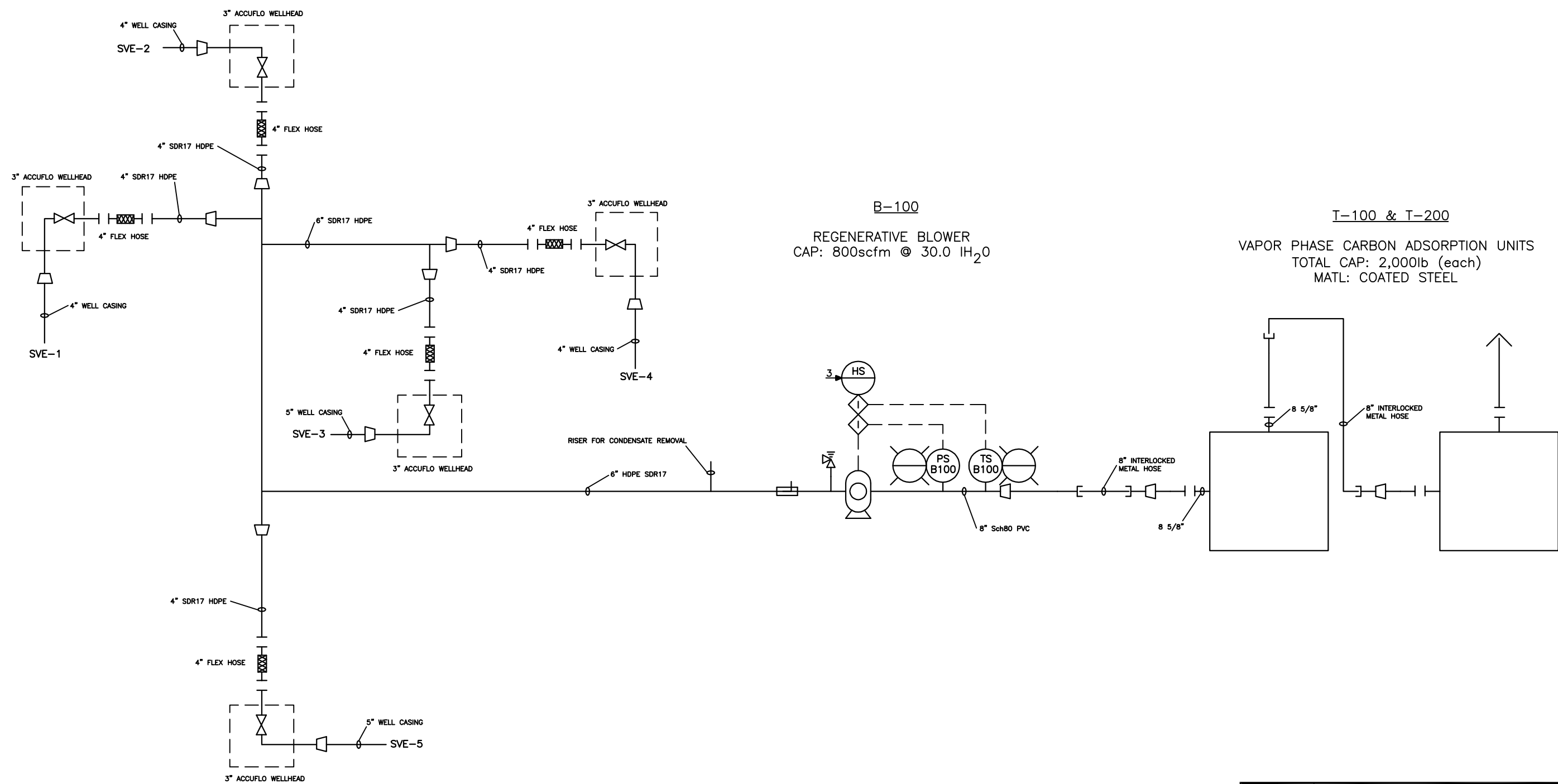
- SOIL VAPOR EXTRACTION WELL
- 4-INCH HDPE PIPE
- 6-INCH HDPE PIPE
- - - - ELECTRICAL CONDUIT
- ▨ TREATMENT SYSTEM
- PARCEL TRANSFER STATUS
- NOT STARTED
- TRANSFERRED
- BUILDING



REVISION	DATE	DESCRIPTION	CHKD	APPR	
		Department of the Army Sacramento District, Corps of Engineers Sacramento, California			
DESIGNED: J. PIETZ		Figure 2-3 PROPOSED PIPELINE AND TREATMENT SYSTEM LOCATIONS SVE PILOT TEST OPERABLE UNIT CARBON TETRACHLORIDE Former Fort Ord, California			
DRAWN: K. BLACK					
CHECKED: P. KELSALL					
SUBMITTED: _____		DATE _____	SCALE: _____ SHEET _____	SPEC. No. _____ FILE No. _____ Treatment_System.mxd	



REVISION	DATE	DESCRIPTION	CHKD	APPR
DESIGNED:		DEPARTMENT OF THE ARMY SACRAMENTO DISTRICT, CORPS OF ENGINEERS SACRAMENTO, CALIFORNIA		
DRAWN:		FIGURE 4-2 MONITORING PROBE DETAIL OPERABLE UNIT CARBON TETRACHLORIDE FORMER FORT ORD, CALIFORNIA		
CHECKED:				
SUBMITTED:		DATE APPROVED:	SCALE:	SPEC. No.
			SHEET	FILE No. 782751S LR77



REVISION	DATE	DESCRIPTION	CHKD	APPR
		DEPARTMENT OF THE ARMY SACRAMENTO DISTRICT, CORPS OF ENGINEERS SACRAMENTO, CALIFORNIA		
DESIGNED: J. PIETZ DRAWN: Z. CARPIO CHECKED: P. KELSALL		FIGURE 5-1 - SHEET 1 OU CTP PILOT SOIL VAPOR EXTRACTION SYSTEM P&ID FORMER FORT ORD, CALIFORNIA		
SUBMITTED: _____		DATE APPROVED: _____	SCALE: _____ SHEET: _____	SPEC. No. _____ FILE No. _____ 782751S 1.R7E

INSTRUMENTATION				
MEANINGS OF IDENTIFICATION LETTERS				
FIRST LETTER		SUCCEEDING LETTERS		
MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ACTUATOR	ALARM		
B	BURNER FLAME/BREAK	USERS CHOICE	USERS CHOICE	USERS CHOICE
C	CONDUCTIVITY/CHECK/CURRENT (ELECTRICAL)		CONTROL	
D	DENSITY (MASS) OR SPECIFIC GRAVITY/DIGITAL			
E	VOLTAGE (EMF)	PRIMARY ELEMENT		
F	FLOW RATE	FILTER		
G	GAUGING (DIMENSIONAL)	GLASS/GAS		
H	HAND (MANUALLY INITIATED)			HIGH
I	CURRENT (ELECTRICAL)	INDICATE/INPUT		
J	POWER			
K	TIME OR TIME SCHEDULE		CONTROL STATION	
L	LEVEL	LIGHT (PILOT)		LOW
M	MOISTURE OR MODULATING MOTOR		MOTOR	MIDDLE OR INTERMEDIATE
O	EQUIPMENT STATUS	ORIFICE (RESTRICTION)		
P	PRESSURE OR VACUUM	POINT (TEST CONNECTION)		
Q	QUANTITY OR STATUS			
R	RADIOACTIVITY	RECORD OR PRINT		
S	SPEED OR FREQUENCY		SWITCH	
T	TEMPERATURE		TRANSMIT	
U	MULTIVARIABLE	MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VISCOSITY/VIBRATOR		VALVE, DAMPER, OR LOUVER	
W	WEIGHT OR FORCE	WELL		
Y	USERS CHOICE		RELAY OR COMPUTE	
Z	POSITION		DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	

TYPICAL INSTRUMENTATION IDENTIFICATION			
FLOW		TIME	
FC	FLOW CONTROLLER	KIC	TIME INDICATING CONTROLLER
FCV	FLOW CONTROL VALVE	KQI	RUN TIME TOTALIZER INDICATOR
FE	FLOW ELEMENT	KI	CLOCK
FI	FLOW INDICATOR		
FIC	FLOW INDICATING CONTROLLER		
FT	FLOW TRANSMITTER		
FS	FLOW SWITCH		
FQ	FLOW TOTALIZER		
LEVEL		MISCELLANEOUS	
LC	LEVEL CONTROLLER	M	MOTOR
LI	LEVEL INDICATOR	ZC	POSITION CONTROLLER
LIC	LEVEL INDICATING CONTROLLER	ZE	POSITION ELEMENT
LS	LEVEL SWITCH	ZI	POSITION INDICATOR
LT	LEVEL TRANSMITTER	ZIT	POSITION INDICATOR TRANSMITTER
LE	LEVEL ELEMENT	XCV	ACTUATED OPEN-CLOSE CONTROL VALVE STATUS INDICATOR
OI		OI	
PRESSURE		SUBSCRIPTS - USED WITH COMPLEX LOGIC SYMBOL	
PC	PRESSURE CONTROLLER	I/P	CURRENT TO PNEUMATIC SIGNAL CONVERSION
PCV	PRESSURE CONTROL VALVE	E	VOLTAGE
PE	PRESSURE ELEMENT	H	HYDRAULIC
PI	PRESSURE INDICATOR	I	CURRENT (ELECTRICAL)
PIC	PRESSURE INDICATING CONTROLLER	O	ELECTROMAGNETIC OR SONIC
PS	PRESSURE SWITCH	P	PNEUMATIC
PT	PRESSURE TRANSMITTER	A	ANALOG
PDE	PRESSURE DIFFERENTIAL ELEMENT	D	DIGITAL
PDT	PRESSURE DIFFERENTIAL TRANSMITTER		
PDI	PRESSURE DIFFERENTIAL INDICATOR		
SPEED			
SC	SPEED CONTROLLER		
SI	SPEED INDICATOR		
SIC	SPEED INDICATING CONTROLLER		
ST	SPEED TRANSMITTER		
TEMPERATURE			
TC	TEMPERATURE CONTROLLER		
TCV	TEMPERATURE CONTROL VALVE		
TE	TEMPERATURE ELEMENT (RTD)		
TI	TEMPERATURE INDICATOR		
TIC	TEMPERATURE INDICATING CONTROLLER		
TS	TEMPERATURE SWITCH		
TT	TEMPERATURE TRANSMITTER		

GENERAL INSTRUMENT OR FUNCTION SYMBOLS			
	PRIMARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR	FIELD MOUNTED	AUXILIARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR
DISCRETE INSTRUMENTS			
SHARED DISPLAY SHARED CONTROL			
COMPUTER FUNCTION			
PROGRAMMABLE LOGIC CONTROL			

1. Abbreviations of the user's choice such as ECP-1 may be used when it is necessary to specify instrument or function location.

2. Normally inaccessible or behind-the-panel devices or functions are depicted by using the same symbols but with dashed horizontal lines, i.e.

TYP. INSTRUMENTATION SYMBOLS	
	PNEUMATIC SIGNAL OR UNDEFINED SIGNAL FOR PROCESS FLOW LINE
	ELECTRIC SIGNAL
	CAPILLARY TUBING (FILLED SYSTEM)
	HYDRAULIC SIGNAL
	INSTRUMENT TAG MOUNTED ON MAIN CONTROL PANEL LOOP NUMBER
	MOUNTED BEHIND MAIN CONTROL PANEL
	MOUNTED ON AUXILIARY CONTROL PANEL (EXPONENT INDICATES CONTROL PANEL NUMBER)
	SELECTOR HANDSWITCH - NUMBER INDICATES NUMBER OF POSITIONS
	PANEL LIGHT ALARM
	COMPLEX LOGIC (USED WITH SUBSCRIPTS LISTED AT LEFT)
	CONTROL SIGNAL CONTINUATION - REFERENCES CONTROL LOOP NUMBER CONTINUATION
	CONTROL FUNCTION LOCATED IN PROGRAMMABLE CONTROLLER (PC)
	CONTROL FUNCTION: DI-DIGITAL INPUT TO PC DO-DIGITAL OUTPUT FROM PC AI-ANALOG INPUT TO PC AO-ANALOG OUTPUT FROM PC OTHER CONTROL FUNCTIONS AS DESCRIBED BY ABOVE INSTRUMENTATION LETTERS
	LOOP NUMBER
	EXPONENT DESIGNATES SPECIFIC PC WHEN MORE THAN ONE

PRIMARY ELEMENTS	
	MAGNETIC FLOW METER
	LEVEL SWITCH (FLOAT)
	LIMIT SWITCH
	WELL TYPE INSTRUMENT

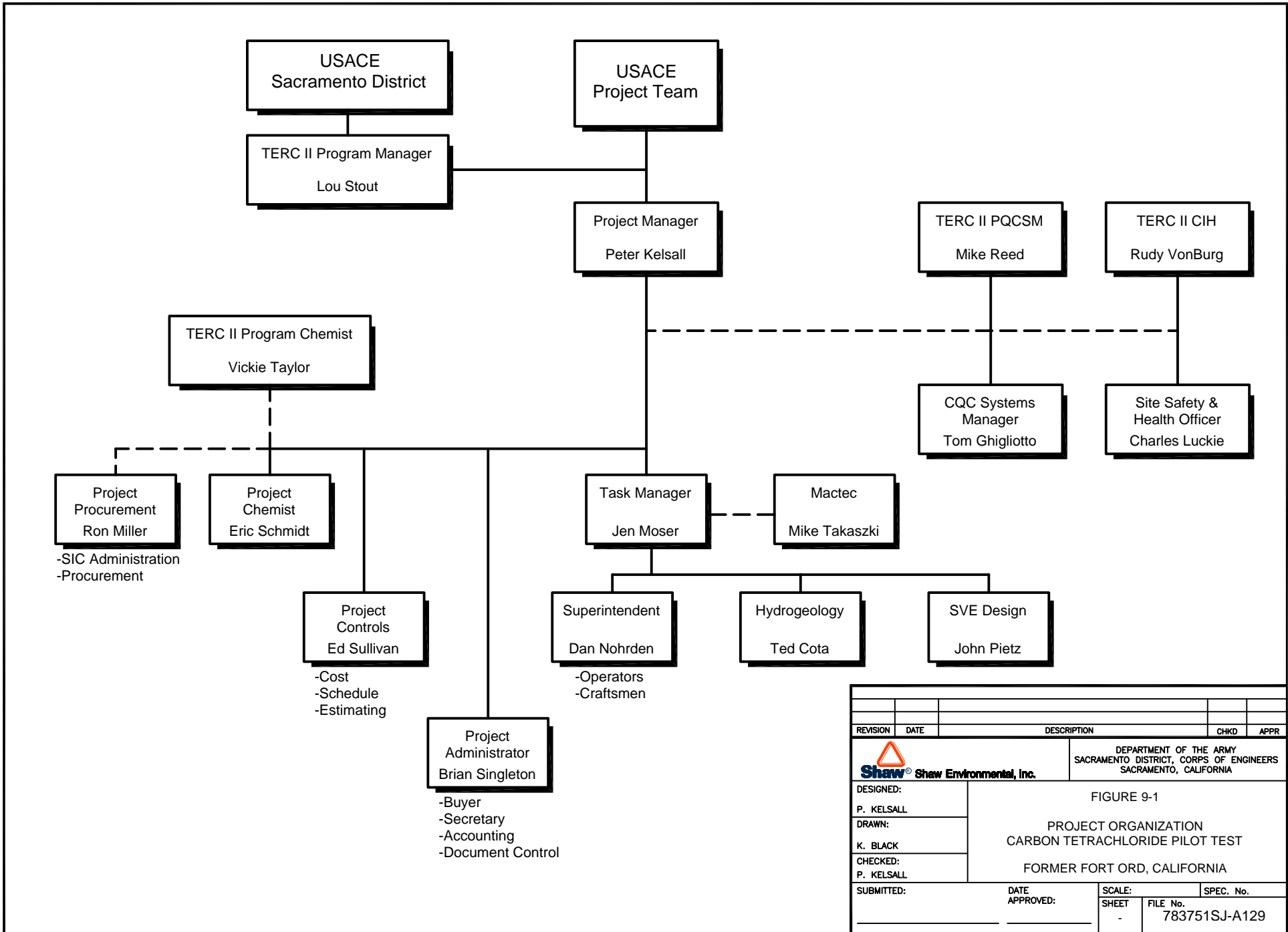
PIPE LINE DESIGNATION	
SERVICE - LINE SIZE	MATL. OF CONSTRUCTION - LINE NUMBER
MATL. OF CONSTRUCTION	
PETB	POLYETHYLENE TUBING
CPVC	CHLORINATED POLYVINYL CHLORIDE PIPE
PVC	POLYVINYL CHLORIDE PIPE
PVC HOSE	REINFORCED POLYVINYL CHLORIDE HOSE
CS	CARBON STEEL PIPE
SS	STAINLESS STEEL PIPE
PP	POLYPROPYLENE PIPE
PVDF	POLYVINYLIDENE FLUORIDE PIPE
FRP	FIBERGLASS REINFORCED PIPE
HOSE	FLEXIBLE HOSE
BI	BLACK IRON PIPE
CU	COPPER PIPE
DI	DUCTILE IRON PIPE
RCP	REINFORCED CONCRETE PIPE
HDPE	HIGH DENSITY POLYETHYLENE
SERVICE	
WW	WASTEWATER
SC	SCUM
IA	INSTRUMENT AIR
FECCL	FERRIC CHLORIDE
V	VENTILATION
UR	UREA
P	POLYMER
PHO	PHOSPHORIC ACID
S	SLUDGE
RW	RIVER WATER
FW	FILTERED WATER
D	DRAIN
OVF	OVERFLOW
BW	BACKWASH
POT	POTABLE WATER
PW	PLANT WATER
SWW	SANITARY WASTEWATER
FL	FLOAT
RCW	RECYCLE WATER
CA	COMPRESSED AIR

EQUIPMENT SYMBOLS	
	AIR OPERATED DIAPHRAGM PUMP
	COALESCEOR
	CENTRIFUGAL PUMP
	PROCESS VESSEL (NON-PRESSURIZED)
	PROCESS VESSEL (PRESSURIZED)
	ROTARY POSITIVE DISPLACEMENT BLOWER
	CENTRIFUGAL BLOWER
	FLOW SIGHT STRAINER
	CHEMICAL METERING PUMP


EQUIPMENT ABBREVIATIONS	
A	AIR STATION/PIPING DETAIL
AS	AIR STRIPPER
B	BLOWER OR BOILER
C	COMPRESSOR
CST	CONDENSATE & SEDIMENT TRAP
D	DRYER
DT	DRIP TRAP
E	EVAPORATOR
F	FILTER
H	HEATER OR HOIST
HX	HEATER EXCHANGER
L	
M	MIXER/MOTOR
N	
D	
P	PUMP
Q	
R	REACTOR
RFA	RELIEF VALVE/FLAME ARRESTOR
S	SCRUBBER
SSP	SURGE SUPPRESSOR
T	TANK
V	VENTILATOR
W	EYEWASH/SHOWER
Y	
Z	

VALVE & PIPING SYMBOLS			
	STRAIGHTWAY DIAGRAM		DIELECTRIC
	WEIR DIAPHRAGM		SELF CONTAINED CONTROL VALVE
	CHECK		AUTOMATIC AIR VENT
	PINCH		FLOW ORIFICE
	GATE		ROTAMETER
	SOLENOID		REDUCING VALVE
	3 WAY		EDUCTOR/EJECTOR
	GLOBE		KNIFE GATE VALVE
	CONTROL		RAIN CAP
	MOTOR OPERATED		IN-LINE MIXER
	FLOAT OPERATED		PITOT TUBE
	BALL		
	HOSE CONNECTION		
	EXPANSION JOINT-FLANGED TYPE		
	FLEXIBLE CONNECTION		
	BUTTERFLY		
	NEEDLE OR METERING		
	3 WAY SOLENOID		
	STRAINER, Y TYPE		
	STRAINER, BASKET TYPE		
	CONCENTRIC REDUCER		
	ECCENTRIC REDUCER		
	UNION		
	QUICK CONNECT COUPLER		
	QUICK CONNECT ADAPTOR		
	STEAM TRAP		
	PLUG		
	HOSE BIBB		
	PRESSURE INDICATOR		
	PRESSURE RELIEF		
	AIR FILTER		
	COMB. AIR FILTER/REGULATOR W/GAUGE		
	AIR LUBRICATOR		
	AIR REGULATOR		
	DIAPHRAGM OR CHEMICAL SEAL		
	FOOT VALVE		
	SLIDE GATE VALVE		
	INJECTION/ANTI-SYPHON CHECK VALVE		

REVISION	DATE	DESCRIPTION	CHKD	APPR
DESIGNED:		DEPARTMENT OF THE ARMY SACRAMENTO DISTRICT, CORPS OF ENGINEERS SACRAMENTO, CALIFORNIA		
DRAWN:		FIGURE 5-1 - SHEET 2 OU CTP PILOT SOIL VAPOR EXTRACTION SYSTEM P&ID SYMBOLS		
CHECKED:		FORMER FORT ORD, CALIFORNIA		
SUBMITTED:		DATE APPROVED:	SCALE:	SPEC. No.
		SHEET	FILE No.	
		782741C 1.R76		



REVISION	DATE	DESCRIPTION	CHKD	APPR

		DEPARTMENT OF THE ARMY SACRAMENTO DISTRICT, CORPS OF ENGINEERS SACRAMENTO, CALIFORNIA	
DESIGNED:	FIGURE 9-1		
P. KELSALL	PROJECT ORGANIZATION		
DRAWN:	CARBON TETRACHLORIDE PILOT TEST		
K. BLACK	FORMER FORT ORD, CALIFORNIA		
CHECKED:	DATE	SCALE:	SPEC. No.
P. KELSALL	APPROVED:	SHEET	FILE No.
SUBMITTED:		-	783751SJ-A129