



## ENGINEERING CLARIFICATION

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**EC TITLE:** Chemical Conduit Clarification  
**PROJECT:** 3 Kings Water Treatment Plant

**EC NO.:** 23  
**DATE:** 5/22/2020  
**STATUS:** Acknowledged

### SECTION 1: BY CONTRACTOR

**QUESTION:**

Clarification was required to define pipe material and fittings for yard piping chemical conduits, concrete encased chemical conduits, and interior chemical conduits.

**DRAWING NO.:** 053-CY-6003 YARD PIPING - SCHEMATIC  
AND TABLES CHEMICAL FEED LINES

**POTENTIAL COST IMPACT:**

**SPECIFICATION SECTION:**

**POTENTIAL SCHEDULE IMPACT:**

**PROPOSED SOLUTION:**

See attached markup for details regarding chemical conduit fittings and materials.

**COMMENTS:**

**INITIATOR:** Erinn Kunik

**PRIORITY:** Normal

**REQUESTED RESPONSE DATE:** 6/5/2020

### SECTION 2: BY REVIEWER

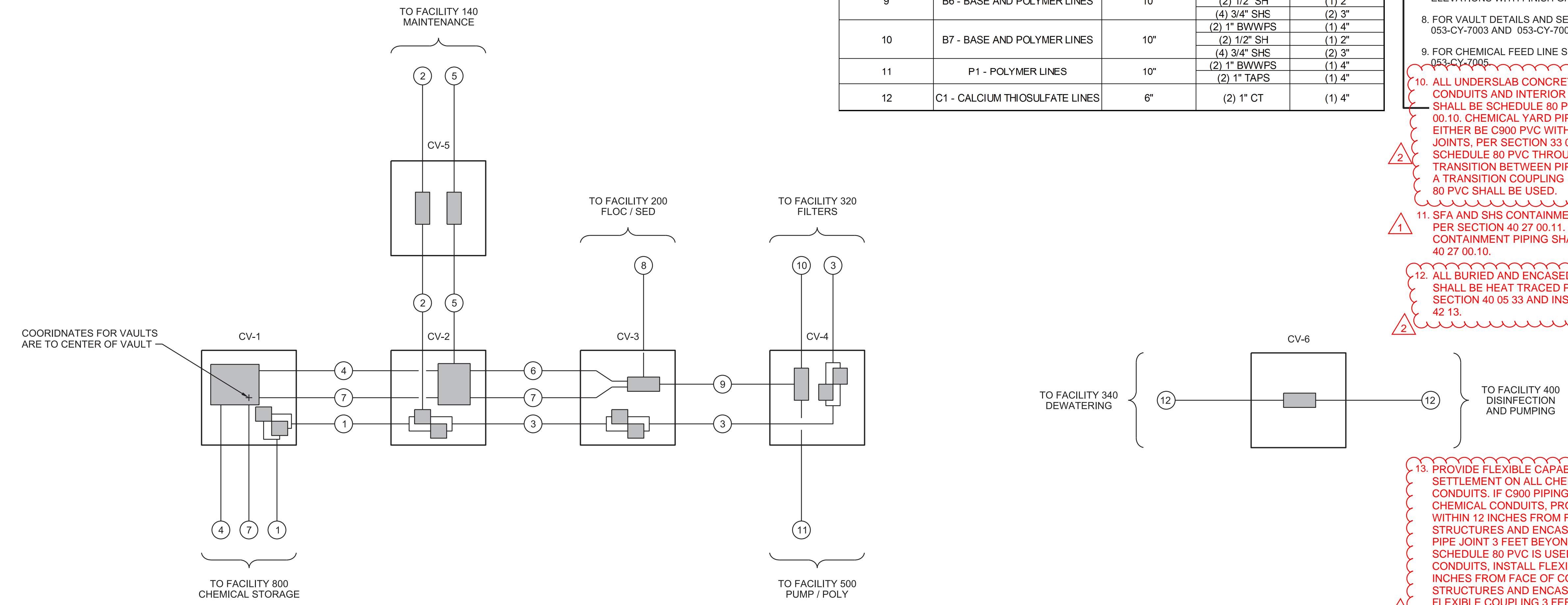
**RESPONSE:**

**COMMENTS:**

**REVIEWED BY:** Sam Conant

**REVIEWED DATE:** 6/2/2020

CHEMICAL PIPING CONTENTS TABLE				
CONTAINMENT PIPE NO.	DETAILS (SEE DWG 053-CY-7007)	CONDUIT SIZE <b>NOTE 10</b>	TUBING, SIZE AND SERVICE	CONTAINMENT SIZE <b>NOTE 11</b>
1	A1 - ACID LINES	8"	(4) 1/2" SFA	(2) 2"
			(2) 1/2" FS	(1) 2"
2	A2 - ACID LINES	6"	(2) 3/4" FS	(1) 3"
			(4) 1/2" SFA	(2) 2"
3	A3 - ACID LINES	6"	(2) 1/2" FS	(1) 2"
			(4) 1/2" SH	(2) 2"
4	B1 - BASE LINES	8"	(6) 1/2" SHS	(3) 2"
			(2) 1/2" SH	(1) 2"
5	B2 - BASE LINES	6"	(2) 1/2" SHS	(1) 2"
			(2) 1/2" SH	(1) 2"
6	B3 - BASE LINES	6"	(4) 1/2" SHS	(2) 2"
			(2) 1/2" SH	(1) 2"
7	B4 - BASE LINES	8"	(4) 3/4" SHS	(2) 3"
			(2) 1/2" SH	(1) 2"
8	B5 - BASE AND POLYMER LINES	10"	(4) 1/2" SS	(2) 2"
			(2) 1" TAPS	(1) 4"
9	B6 - BASE AND POLYMER LINES	10"	(2) 1" TAPS	(2) 3"
			(2) 1/2" SH	(1) 2"
10	B7 - BASE AND POLYMER LINES	10"	(4) 3/4" SHS	(2) 3"
			(2) 1" BWWPS	(1) 4"
11	P1 - POLYMER LINES	10"	(4) 3/4" SHS	(2) 3"
			(2) 1" BWWPS	(1) 4"
12	C1 - CALCIUM THIOSULFATE LINES	6"	(2) 1" CT	(1) 4"



### GENERAL NOTES

- FOR CONNECTIONS INSIDE CHEMICAL VAULTS, SEE DRAWING 053-CY-7003 FOR CONNECTIONS INSIDE FACILITIES, SEE PROCESS MECHANICAL DRAWINGS.
- PROVIDE 5' MINIMUM COVER OVER ALL CONTAINMENT PIPES, PIPES THAT ENTER VAULTS SHALL HAVE 4" MINIMUM SPACING BETWEEN PIPES AND 4" MINIMUM SPACING BETWEEN PIPES AND VAULT WALLS. REFER TO YARD PIPING PROFILES FOR CHEMICAL PIPING ELEVATIONS.
- PROVIDE MINIMUM 0.5% SLOPE FOR CONTAINMENT PIPES IN YARD, IN NO CASE SHALL A LOW POINT BE CREATED BETWEEN VAULTS.
- PROVIDE TEMPORARY CAPPING OF ALL SPARE PIPES.
- ALL VAULTS SHALL BE DESIGNED FOR HS-20 LOADING.
- MAXIMUM CONDUIT LENGTH BETWEEN VAULTS IS 90 FEET.
- PROVIDE RISERS TO SET HATCH ELEVATIONS FLUSH WITH FINISH GRADE IN HARD SURFACED AREAS SUCH AS CONCRETE PAVEMENT. VERIFY TOP OF HATCH ELEVATIONS WITH FINISH GRADING.
- FOR VAULT DETAILS AND SECTIONS, SEE DRAWINGS 053-CY-7003 AND 053-CY-7004.
- FOR CHEMICAL FEED LINE SECTIONS, SEE DRAWING 053-CY-7005.
- ALL UNDERSLAB CONCRETE-ENCASED CHEMICAL CONDUITS AND INTERIOR CHEMICAL CONDUITS SHALL BE SCHEDULE 80 PVC PER SECTION 40 27 00.10. CHEMICAL YARD PIPING CONDUITS SHALL EITHER BE C900 PVC WITH BELL AND SPIGOT JOINTS, PER SECTION 33 05 01.09, OR SHALL BE SCHEDULE 80 PVC THROUGHOUT THE YARD. WHERE TRANSITION BETWEEN PIPE MATERIAL IS REQUIRED, A TRANSITION COUPLING FROM C900 TO SCHEDULE 80 PVC SHALL BE USED.**
- SFA AND SHS CONTAINMENT PIPING SHALL BE CPVC PER SECTION 40 27 00.11. ALL OTHER CHEMICAL CONTAINMENT PIPING SHALL BE PVC PER SECTION 40 27 00.10.
- ALL BURIED AND ENCASED CHEMICAL CONDUITS SHALL BE HEAT TRACED PER 053-CY-7005 AND SECTION 40 05 33 AND INSULATED PER SECTION 40 42 13.**
- PROVIDE FLEXIBLE CAPABILITY FOR DIFFERENTIAL SETTLEMENT ON ALL CHEMICAL YARD PIPING CONDUITS. IF C900 PIPING IS USED FOR BURIED CHEMICAL CONDUITS, PROVIDE A PIPE JOINT WITHIN 12 INCHES FROM FACE OF CONCRETE AT STRUCTURES AND ENCASEMENTS AND A SECOND PIPE JOINT 3 FEET BEYOND THE FIRST. IF SCHEDULE 80 PVC IS USED FOR BURIED CHEMICAL CONDUITS, INSTALL FLEXIBLE COUPLING WITHIN 12 INCHES FROM FACE OF CONCRETE AT STRUCTURES AND ENCASEMENTS AND A SECOND FLEXIBLE COUPLING 3 FEET BEYOND THE FIRST.



DIGITALLY SIGNED:  
02/10/2020

NO.	DATE	REVISION	BY	APVD
2	05/20/2020	ENGINEERING CLARIFICATION #23	EK	JZ
1	05/12/2020	ENGINEERING CLARIFICATION #19	EK	JZ
1				
1				

**ZEHREN AND ASSOCIATES, INC.**  
LANDSCAPE ARCHITECTURE  
ARCHITECTURE PLANNING INTERIORS

3Kings WTP Phase III Design  
Park City Municipal Corporation  
Park City, Utah

**JACOBS**

YARD PIPING  
SCHEMATIC AND TABLES  
CHEMICAL FEED LINES

### ABBREVIATIONS

BWWPS	BACKWASH WASTE POLYMER SOLUTION
CT	CALCIUM THIOSULFATE
FS	FERRIC SULFATE
SFA	SULFURIC ACID
SH	SODIUM HYDROXIDE
SHS	SODIUM HYPOCHLORITE SOLUTION
TAPS	THICKENING AID POLYMER SOLUTION

DATE	02/10/2020
PROJ	694342
DWG	053-CY-6003
SHEET	140 of 911

## CHEMICAL FEED LINE SCHEMATIC AND TABLES

NTS

ISSUED FOR CONSTRUCTION