

Figure 10.1-2 – Reference Heat Balance for Guaranteed Reactor Rating

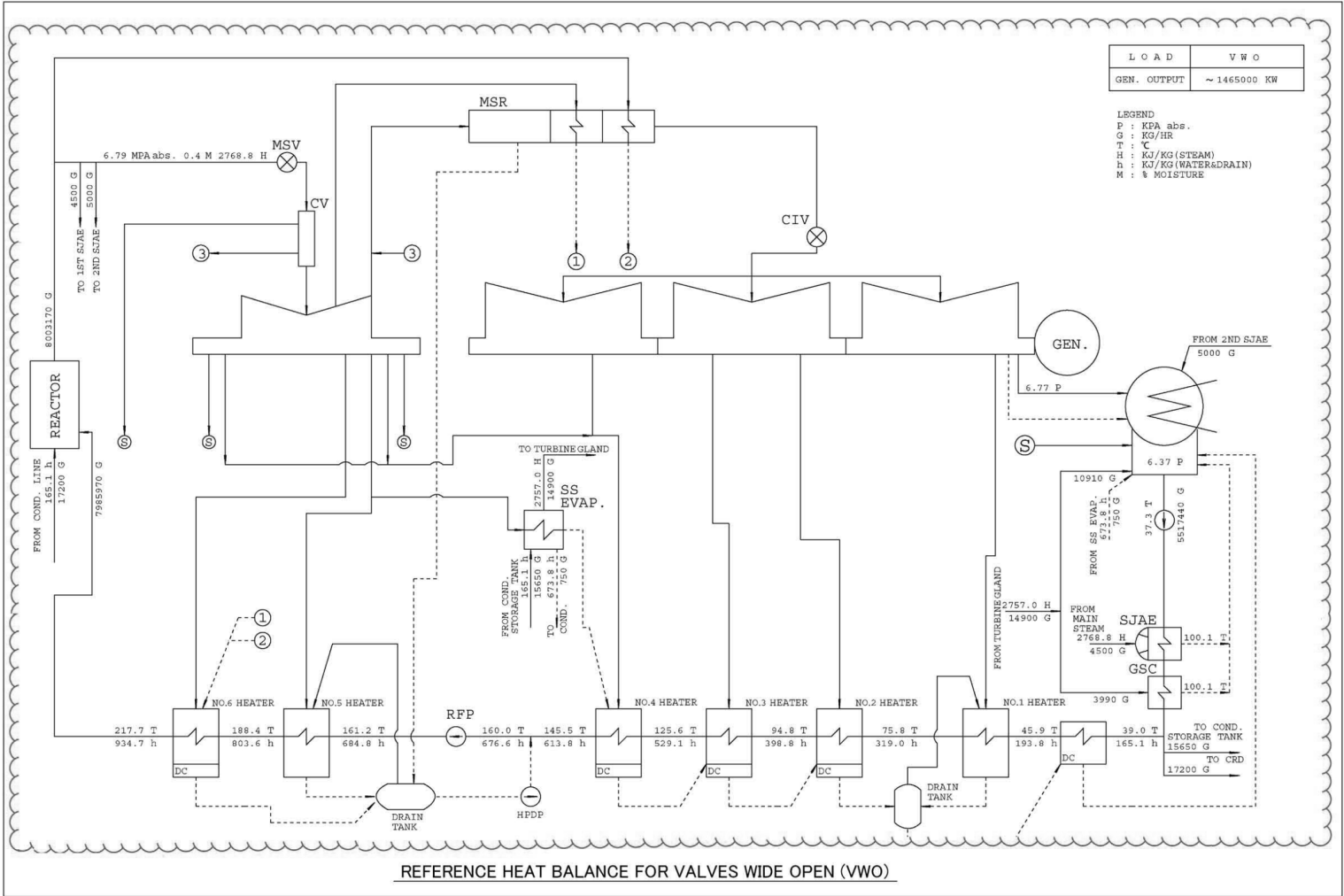


Figure 10.1-3 – Reference Heat Balance for Valves Wide Open (VWO)

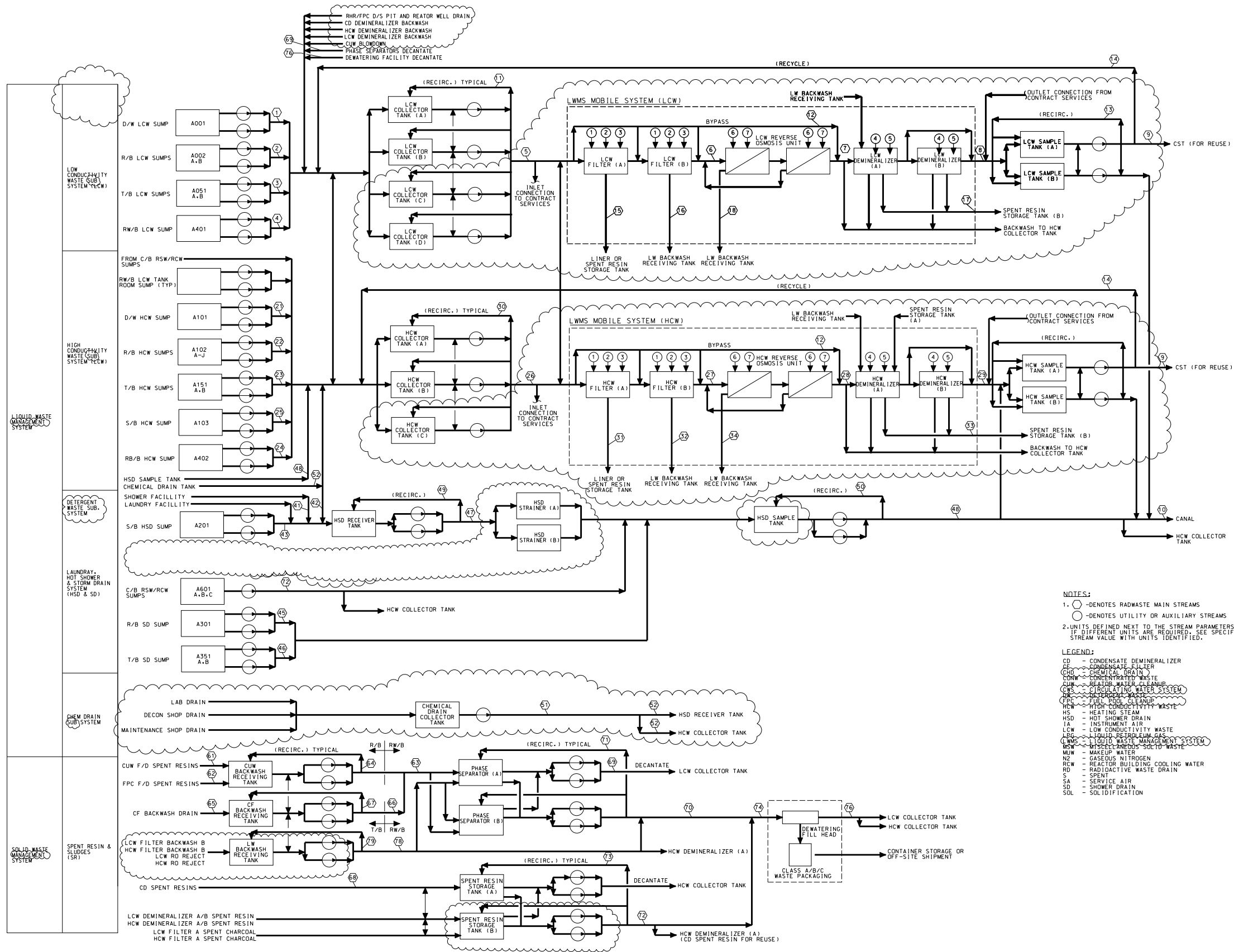


Figure 11.2-1 – Radwaste System (Sheet 1 OF 2)

Stream No. ●	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	69	76
Sub System	LCW-RD	LCW-RD	LCW-RD	LCW-RD	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW-Resin	LCW	LCW-SR	LCW-SR
Liquid/Slurry	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Slurry	Slurry	Slurry	Liquid	Liquid
Normal Batch/day	4	6	6	2	--	--	--	--	--	--	--	--	--	--	--	1/30	1/365	--	--	--
Maximum Batch/day	44	6	6	2	--	--	--	--	--	--	--	--	--	--	--	1	1	--	--	--
Batch Volume m ³ / ¹⁰⁰	2.5	2.5	2.5	2.5	140	140	140	140	140	--	--	--	--	--	min	0.25	14.4	min	60	--
Normal Volume m ³ /day	10	15	15	5	55	55	55	55	55	47.6	--	--	--	--	min	0.25	14.4	min	--	--
Normal Average Volume m ³ /day	10	15	15	5	60	60	60	60	60	--	--	--	--	--	--	--	--	--	--	--
Maximum Volume m ³ /day	110	15	15	5	615	615	615	615	615	145.3	--	--	--	--	min	0.25	14.4	min	--	--
Flow m ³ /hr	10	10	10	10	34	34	34	34	34	150	40	68	34	150	150	--	--	--	10	10
Temperature °C	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
Pressure kg/cm ²	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Conductivity uS/cm	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<5	>1	<1	>1	--	--	--	--	--	--
Undissolved Solid ppm	<2	<2	<2	<2	<2	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<0.1	<0.1	<0.1	18 wt%	<1700	18 wt%	<500	--	--

Stream No. ●	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
Sub System	HCW-RD	HCW-RD	HCW-RD	HCW-RD	HCW-RD	HCW	HCW	HCW	HCW	HCW	HCW	HCW	HCW-RESIN	HCW	HCW	HCW	HCW	HCW
Liquid/Slurry	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Slurry	Slurry	Slurry	Slurry	Liquid	Liquid	Liquid	Liquid
Normal Batch/day	--	2	2	1.2	0.8	--	--	--	--	--	1/365	12/365	1/365	12/365	--	--	--	--
Maximum Batch/day	--	22	2	1.2	0.8	--	--	--	--	--	--	--	--	--	--	--	--	--
Batch Volume m ³ / ¹⁰⁰	2.5	2.5	2.5	2.5	2.5	140	140	140	140	140	1.4	1	14.4	12	--	--	--	140
Normal Volume m ³ /day	--	5	5	3	2	15	15	15	15	--	1.4	1	1.4	12	--	--	--	15
Normal Average Volume m ³ /day	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum Volume m ³ /day	--	55	5	3	2	63	63	63	63	--	1.4	1	14.4	12	--	--	--	63
Flow m ³ /hr	10	10	10	10	10	34	34	34	34	68	--	--	--	--	34	150	150	150
Temperature °C	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
Pressure kg/cm ²	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Conductivity uS/cm	<5	<1000	<1000	<10000	<10000	1000 ~ 10000	<10	<10	<1	1000 ~ 10000	--	--	--	--	1000 ~ 10000	1000 ~ 10000	<1	<1
Undissolved Solid ppm	<2	0.05 wt%	0.05 wt%	0.05 wt%	1.25 wt%	0.05 ~ 2.00 wt%	<0.5	<0.5	<0.1	0.05 ~ 2.00 wt%	18 wt%	<1700	18 wt%	<500	0.05 ~ 2.00 wt%	0.05 ~ 2.00 wt%	<0.1	<0.1

Stream No. ●	41	42	43	44	45	46	47	48	49	50
Sub System	DW	HCW-RD	HCW-RD	NOT USED	DW	DW	DW	DW	DW	DW
Liquid/Slurry	Liquid	Liquid	Liquid	--	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid
Normal Batch/day	--	--	--	--	8	8	--	--	--	--
Maximum Batch/day	--	--	--	--	12	12	--	--	--	--
Batch Volume m ³ / ¹⁰⁰	--	--	2.5	--	2.5	2.5	30	30	30	--
Normal Volume m ³ /day	7.5	3.8	--	--	20	20	4	4	--	--
Normal Average Volume m ³ /day	--	--	--	--	--	--	--	--	--	--
Maximum Volume m ³ /day	32.5	16.5	--	--	30	30	12	12	--	--
Flow m ³ /hr	--	10	10	--	10	20	34	80	68	80
Temperature °C	66	66	66	--	66	66	66	66	66	66
Pressure kg/cm ²	10	10	10	--	10	10	10	10	10	10
Conductivity uS/cm	--	--	--	--	--	--	--	--	--	--
Undissolved Solid ppm	--	--	--	--	--	--	--	--	--	--

51	52	53	54	55
CHD	CHD	CHD	CHD	CHD
Liquid	Liquid	Liquid	Liquid	Liquid
--	--	--	--	--
--	--	--	--	--
4	4	4	4	4
2	2	2	2	2
--	--	--	--	--
2	2	2	2	2
4	4	10	4	4
66	66	66	66	66
10	10	10	10	10
--	--	--	--	--
--	--	--	--	--

Stream No. ●	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81
Sub System	SR	SR	SR	SR	SR	SR	SR	SR	SR	LCW-SR	SR	SR	SR	SR	Not Used	LCW-SR	Not Used	SR	SR	SR	SR
Liquid/Slurry	Slurry	Slurry	Slurry	Slurry	Slurry	Slurry	Slurry	Slurry	Slurry	Liquid	Liquid	Slurry	Slurry	Slurry	--	Liquid	--	Slurry	Slurry	Slurry	Liquid
Normal Batch/day	0.08	0.02	0.08	--	0.088	0.088	--	6/3yr	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum Batch/day	2	1	1	--	3	3	--	2	--	--	--	--	--	--	--	--	--	--	--	--	--
Batch Volume m ³ / ¹⁰⁰	15	20	30/35	--	35	35	--	30	60	--	--	--	--	--	--	--	--	--	--	--	--
Normal Volume m ³ /day	15	20	30/35	--	35	35	--	30	--	--	--	--	--	--	--	--	--	--	--	--	--
Normal Average Volume m ³ /day	1.2	0.4	1.6	--	3.1	3.1	--	0.16	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum Volume m ³ /day	30	20	35	--	105	105	--	60	--	--	--	--	--	--	--	--	--	--	--	--	--
Flow m ³ /hr	--	--	30	90	30	90	--	10	10	190	10	90	10	10	--	10	--	30	90	30	10
Temperature °C	66	66	66	66	66	66	66	66	66	66	66	66	66	66	--	66	--	66	66	66	66
Pressure kg/cm ²	10	10	10	10	10	10	10	10	10	10	10	10	10	10	--	10	--	10	10	10	10
Conductivity uS/cm	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Undissolved Solid ppm	2200	2600	2200-2600	2200-2600	850	850	850	10 wt%	--	10-15 wt%	10 wt%	15 wt%	15 wt%	10-15 wt%	--	--	--	>2000	>2000	>2000	--

Stream No. ○	1	2	3	4	5	6	7
Utility	MJW	IA	SA	MJW	SA	MJW	SA
Pressure kg/cm ²	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Flow m ³ /hour	10	38Nm ³ /hr	22Nm ³ /hr	10	112Nm ³ /hr	10	112Nm ³ /hr
Heat kcal/hr	--	--	--	--	--	--	--
Temperature °C	<40	<40	<40	<40	<40	<40	<40

Notes:
(a) Based on one collector tank batch

Figure 11.2-1 – Radwaste System (Sheet 2 OF 2)

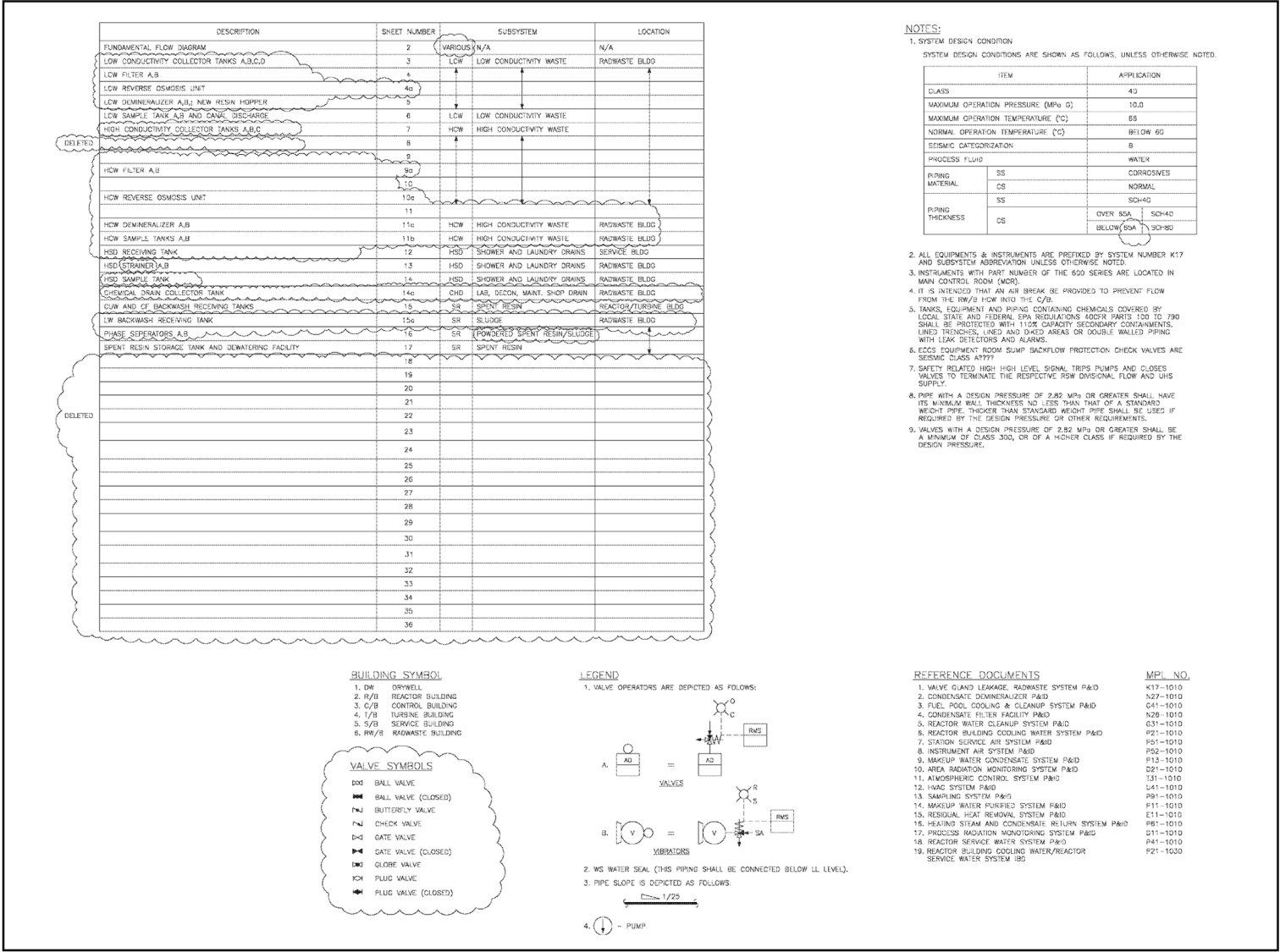


Figure 11.2-2 – Radwaste System (Sheet 1 OF 36)

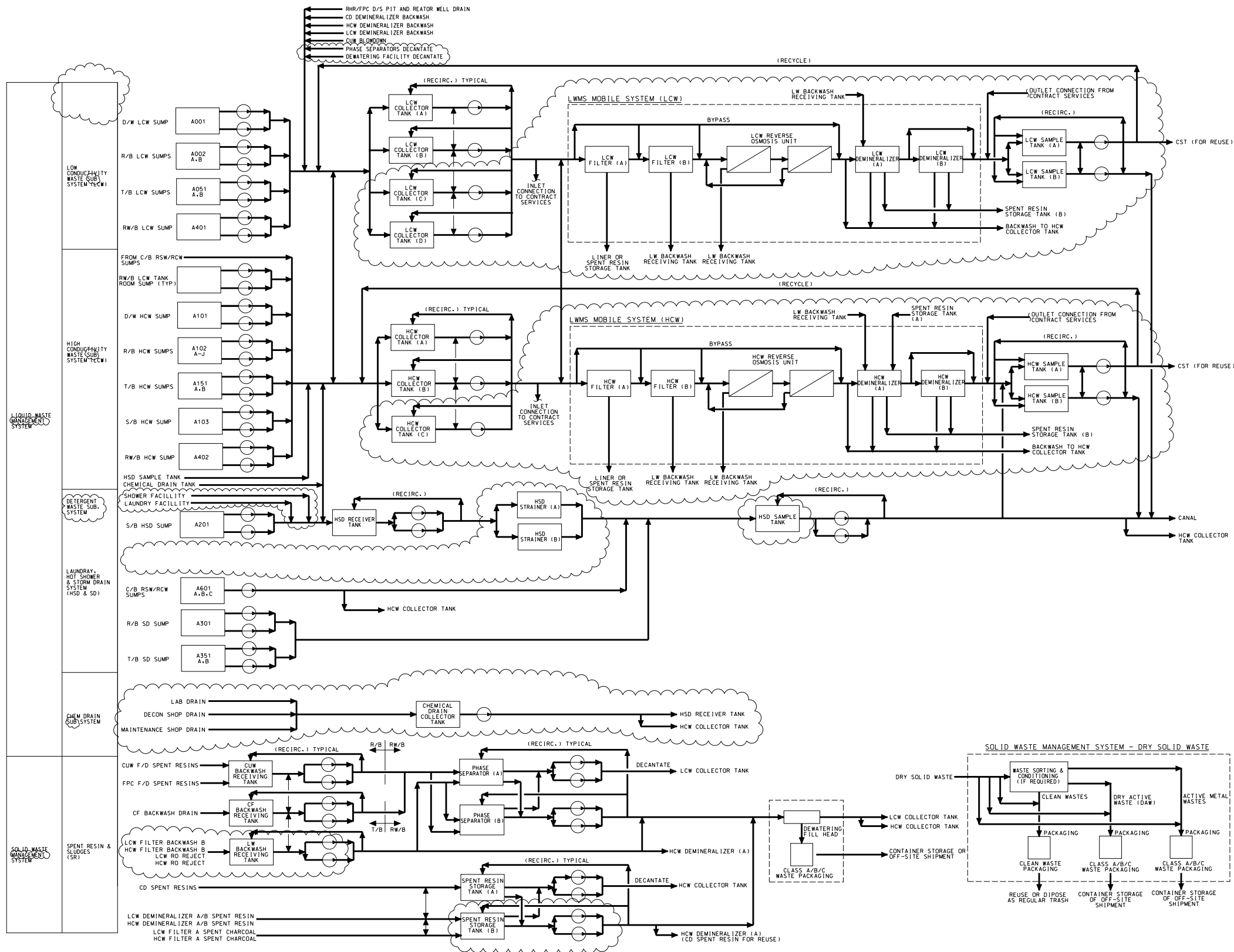


Figure 11.2-2 – Radwaste System (Sheet 2 OF 36)

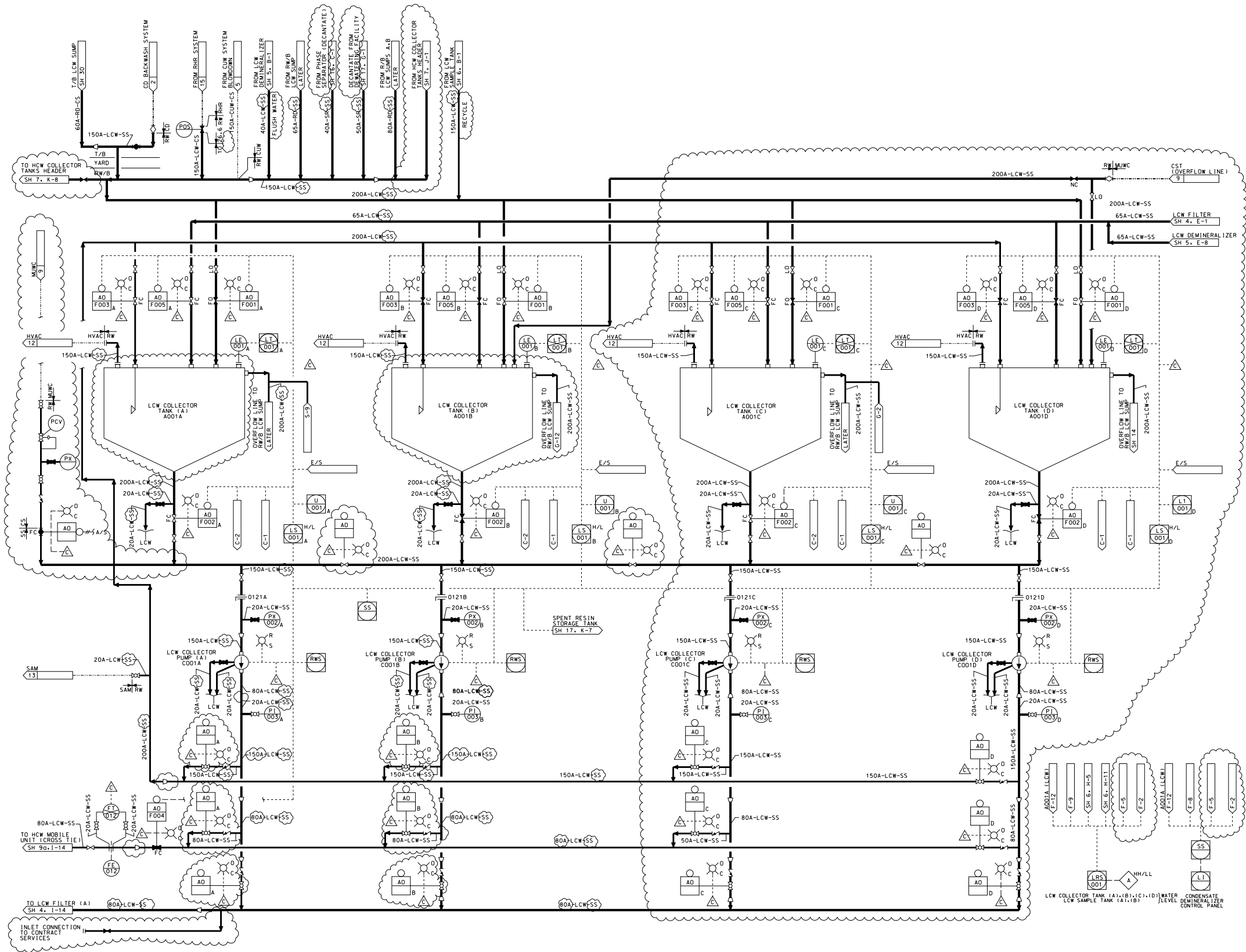


Figure 11.2-2 – Radwaste System (Sheet 3 OF 36)

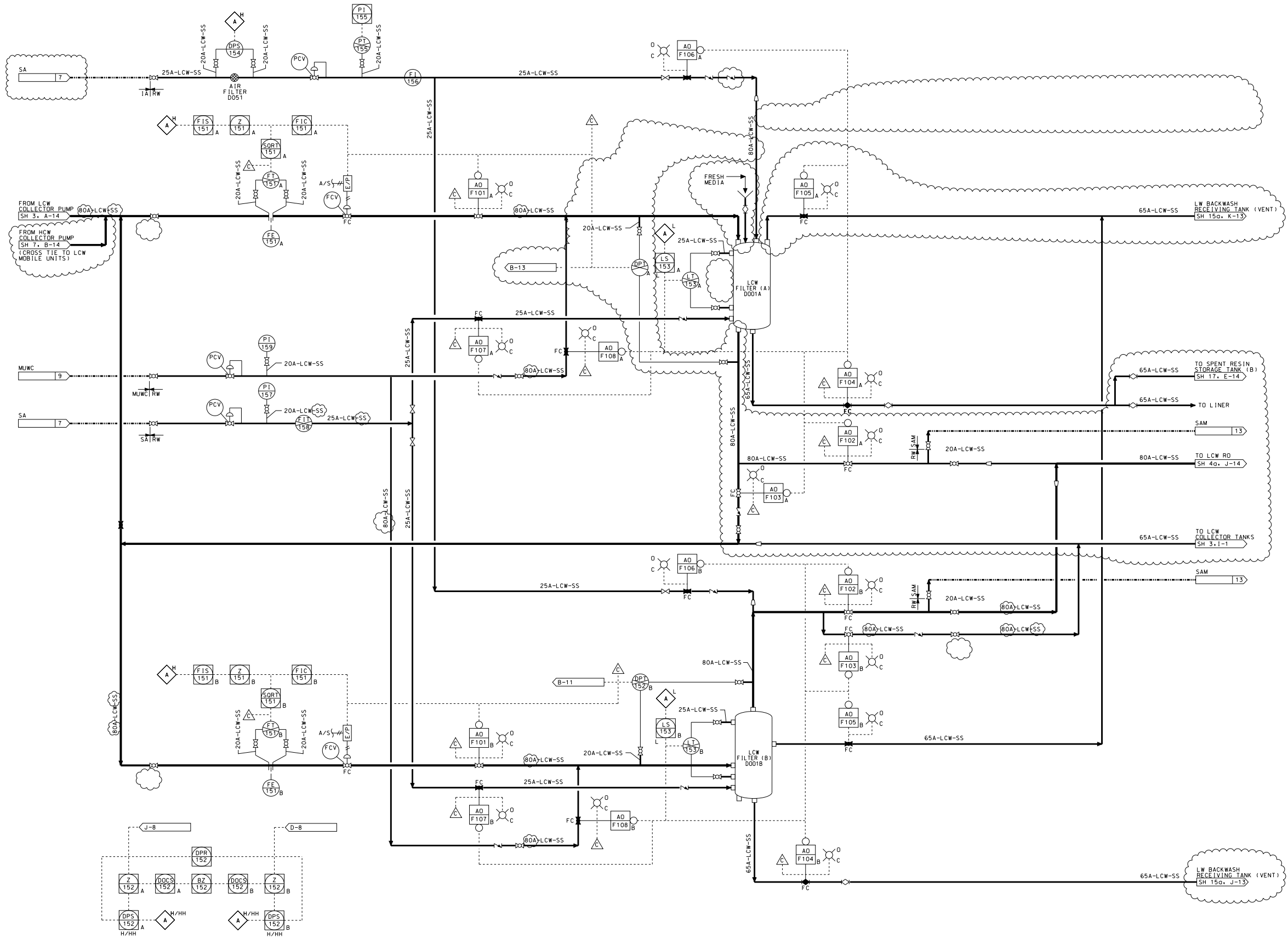


Figure 11.2-2 – Radwaste System (Sheet 4 OF 36)

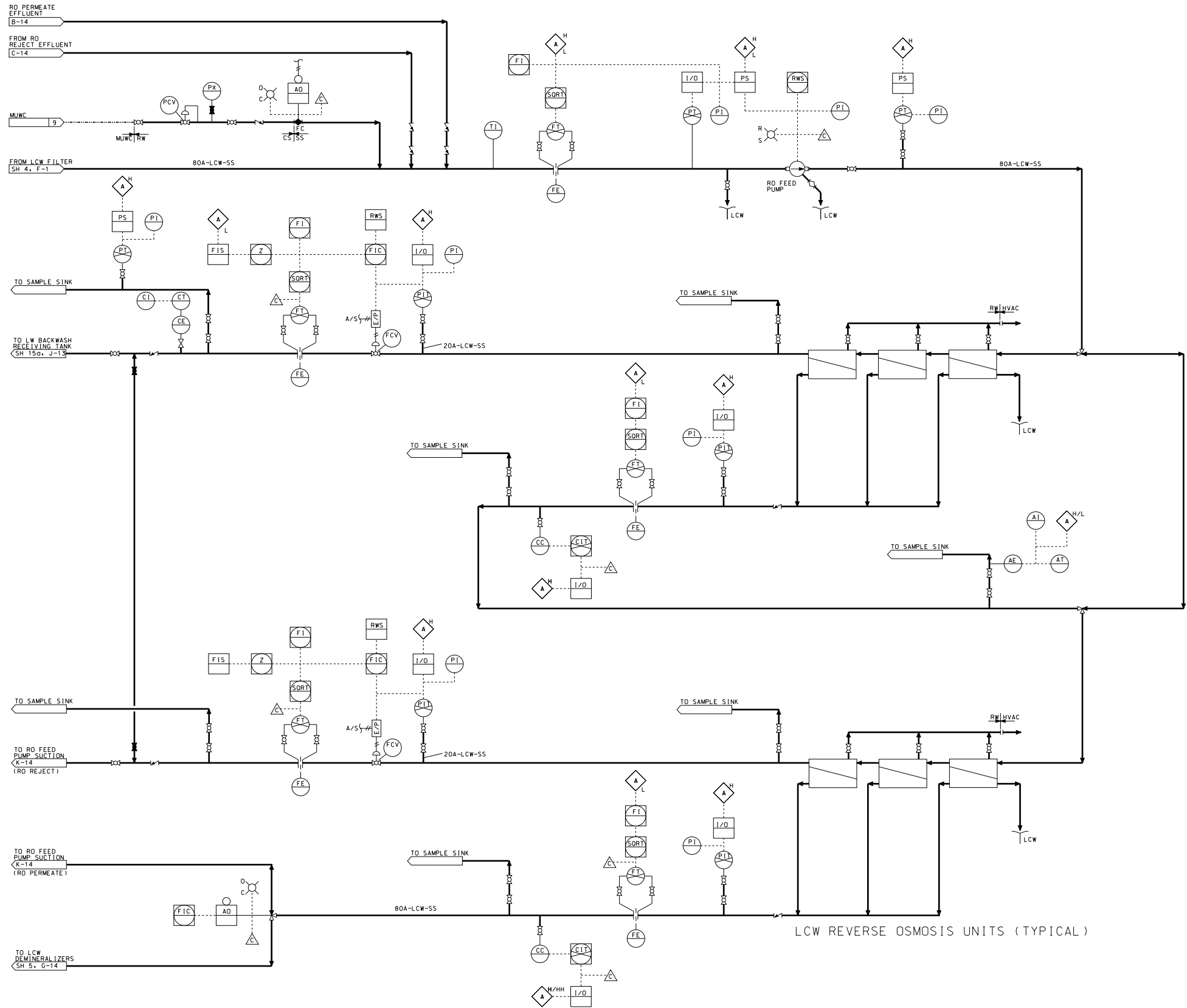


Figure 11.2-2 – Radwaste System (Sheet 4a OF 36)

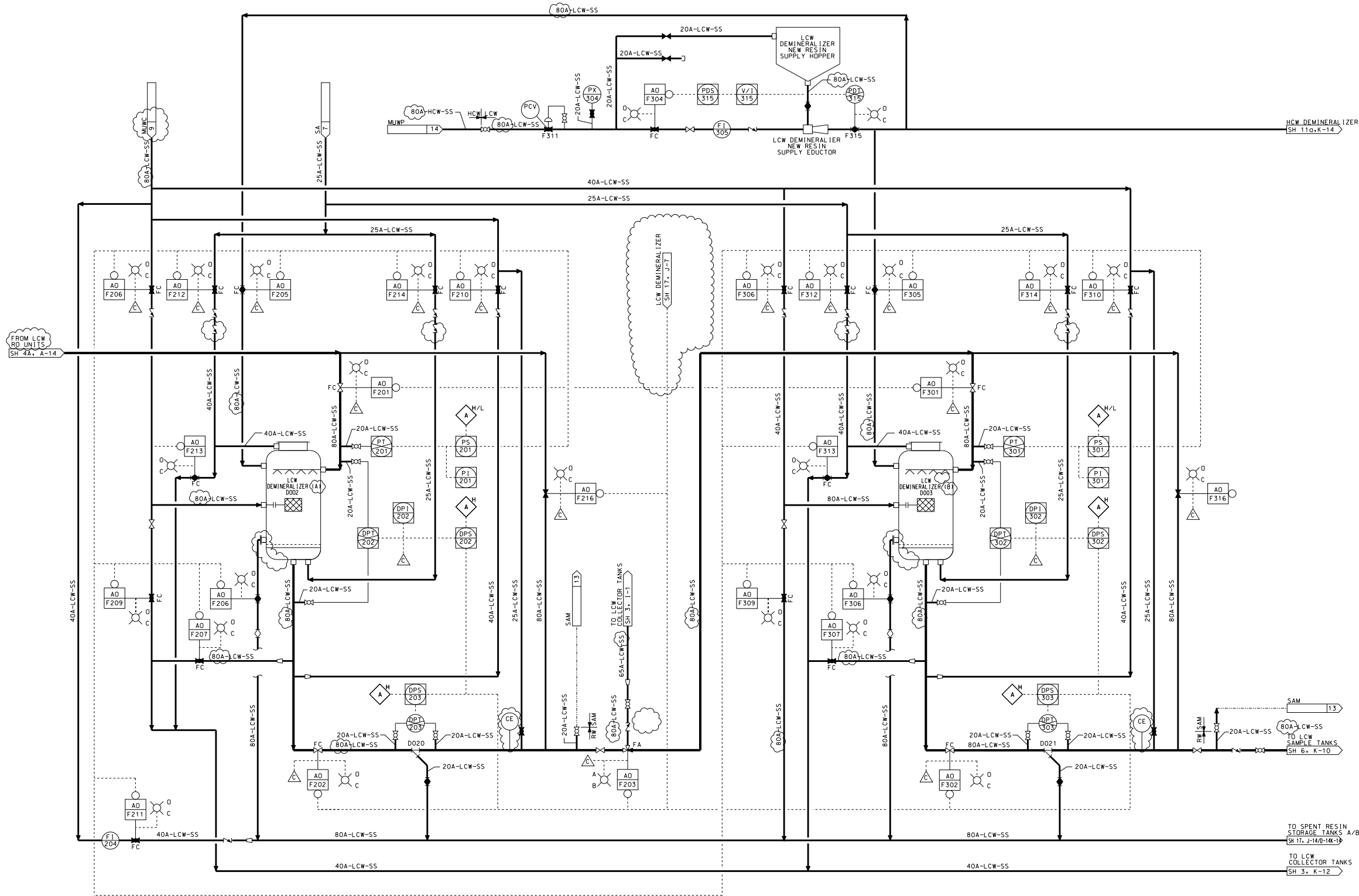


Figure 11.2-2 – Radwaste System (Sheet 5 OF 36)

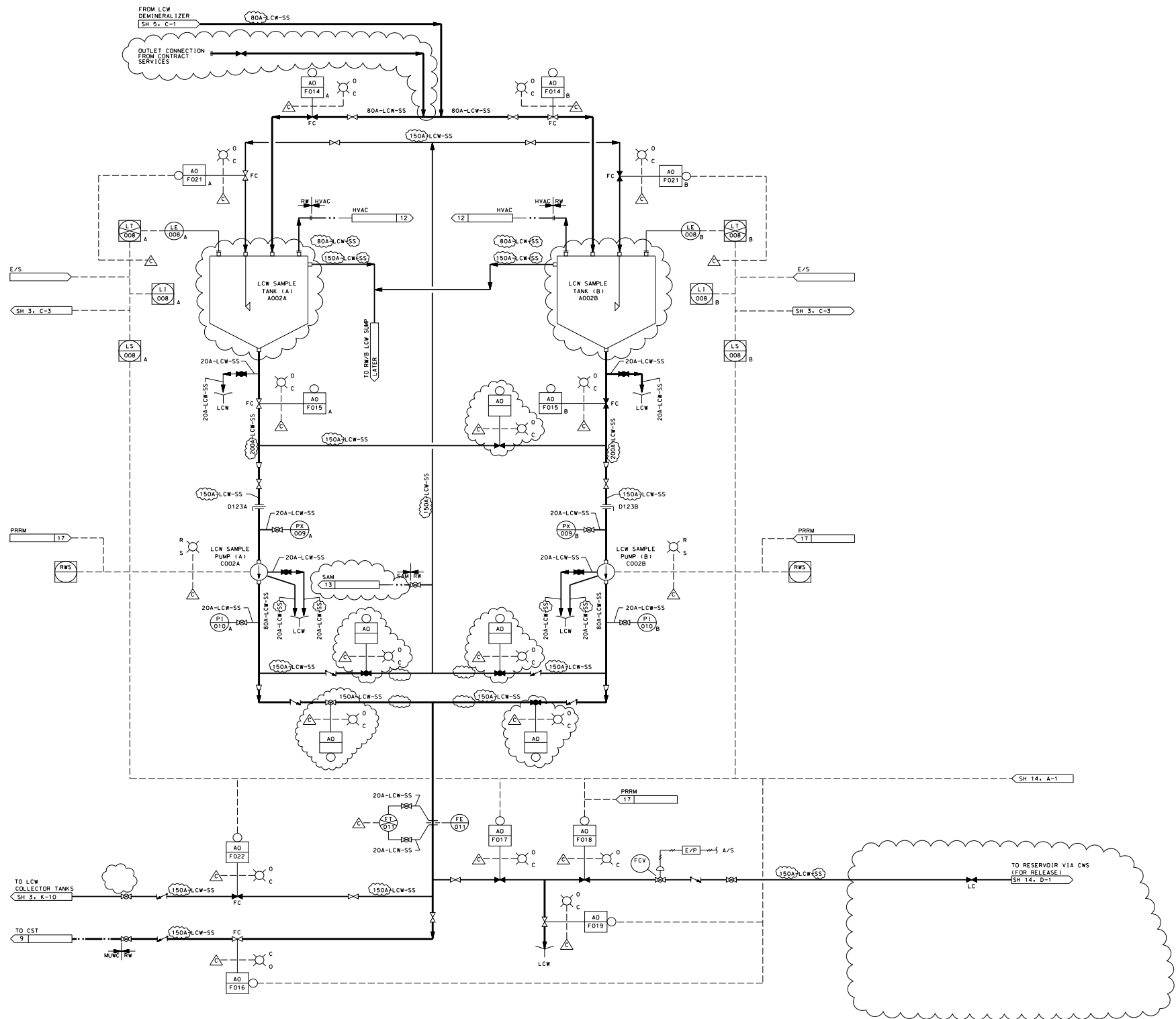


Figure 11.2-2 – Radwaste System (Sheet 6 OF 36)

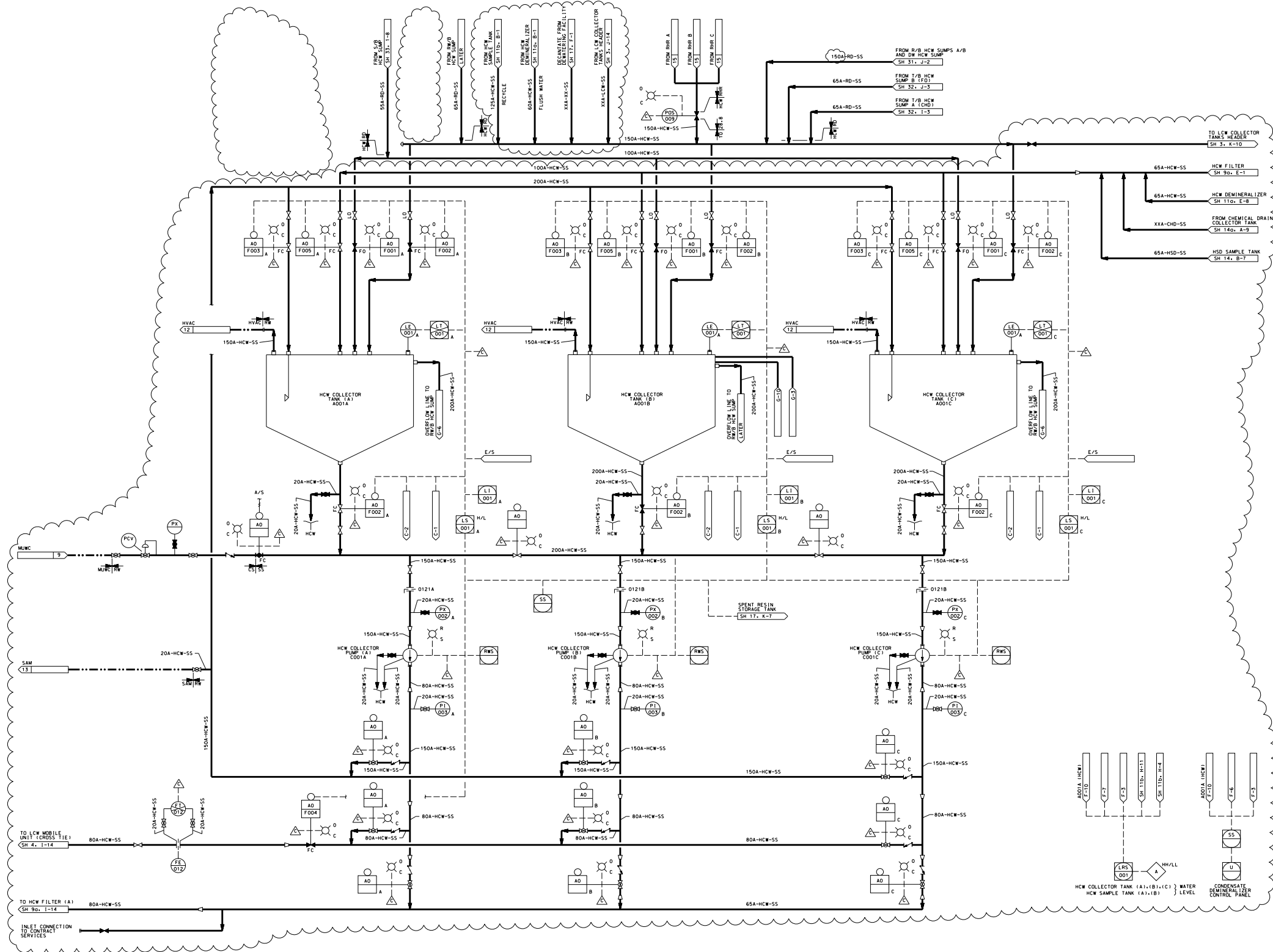


Figure 11.2-2 – Radwaste System (Sheet 7 OF 36)

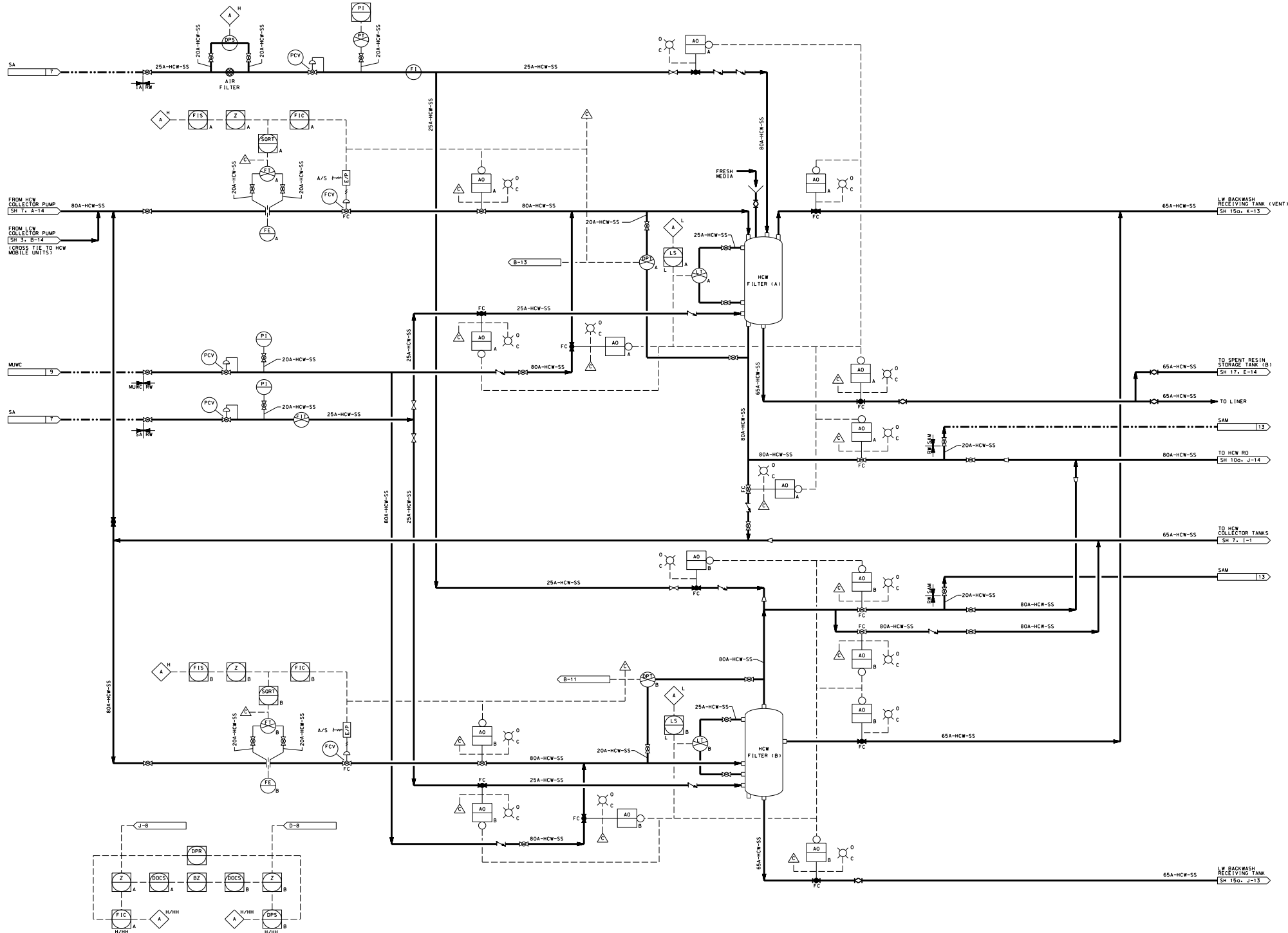


Figure 11.2-2 – Radwaste System (Sheet 9a OF 36)

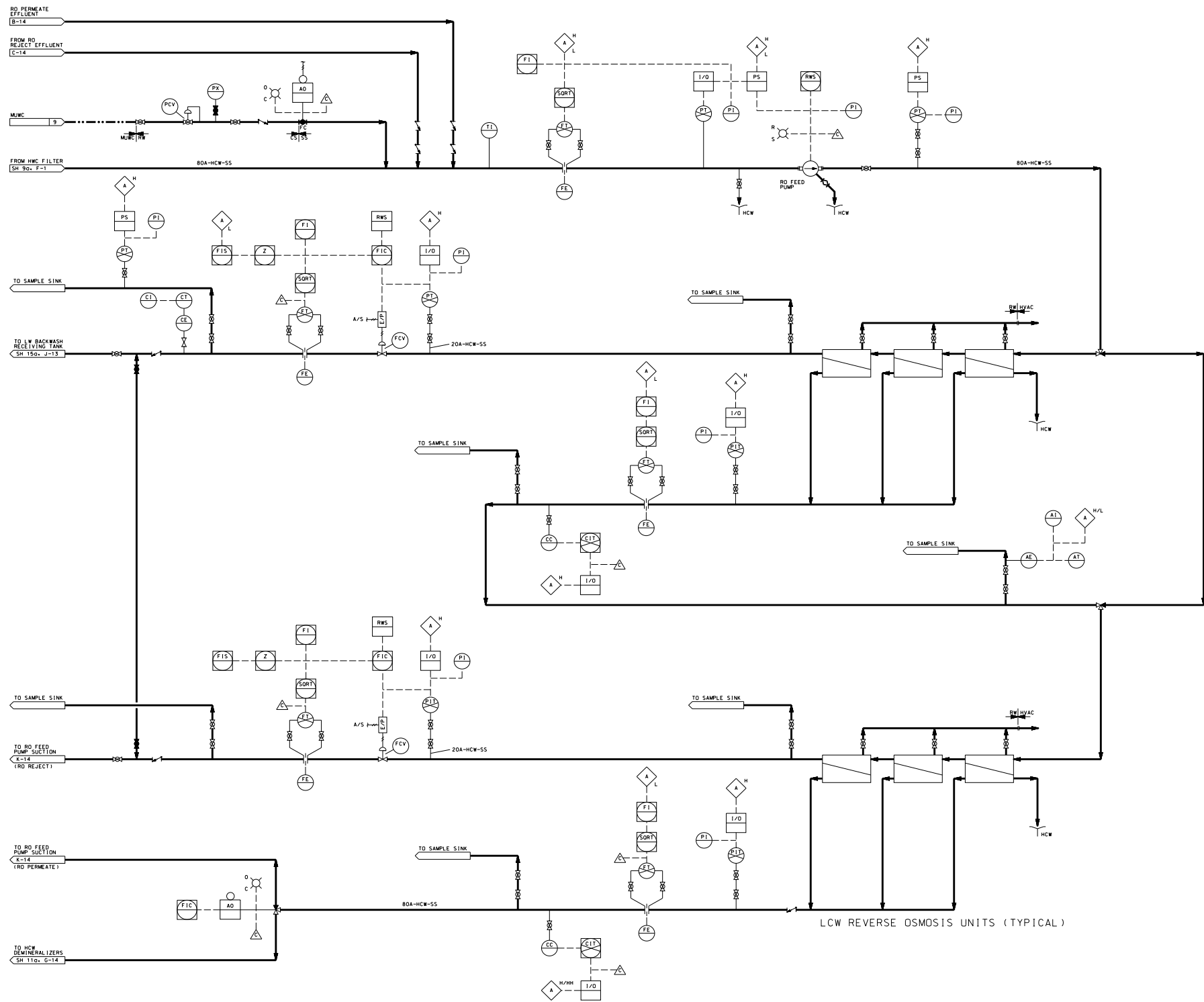


Figure 11.2-2 – Radwaste System (Sheet 10a OF 36)

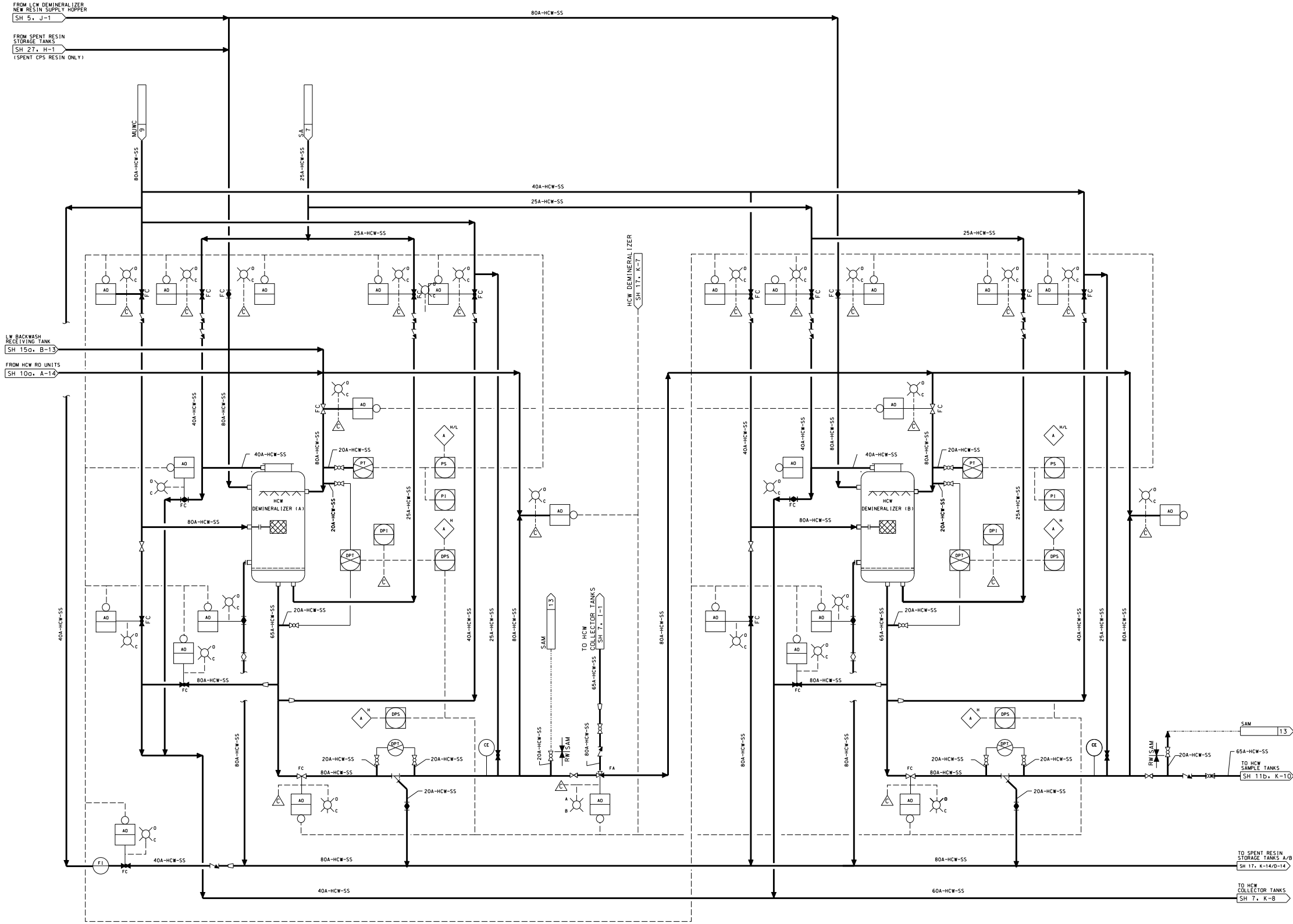


Figure 11.2-2 – Radwaste System (Sheet 11a OF 36)

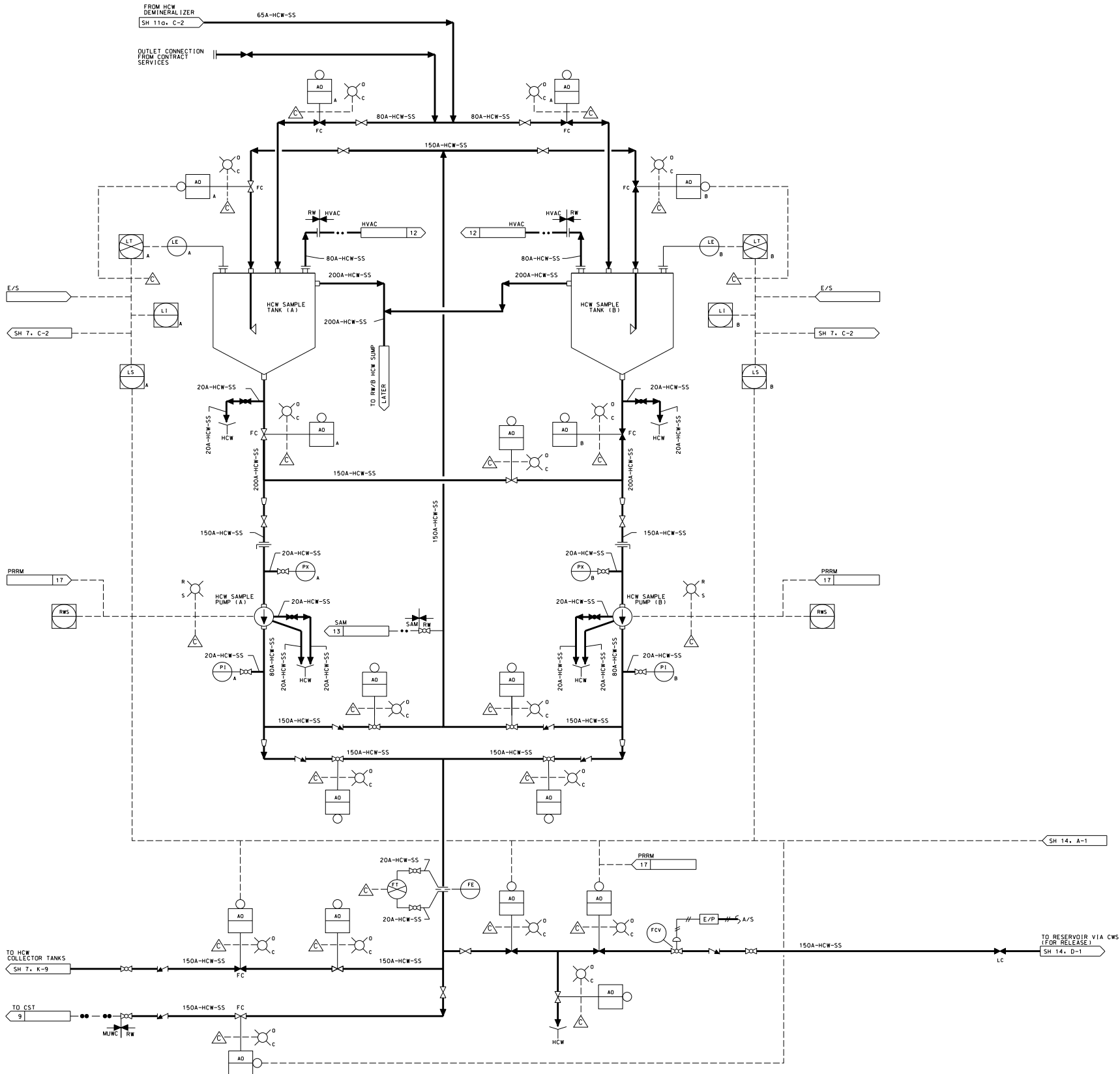


Figure 11.2-2 – Radwaste System (Sheet 11b OF 36)

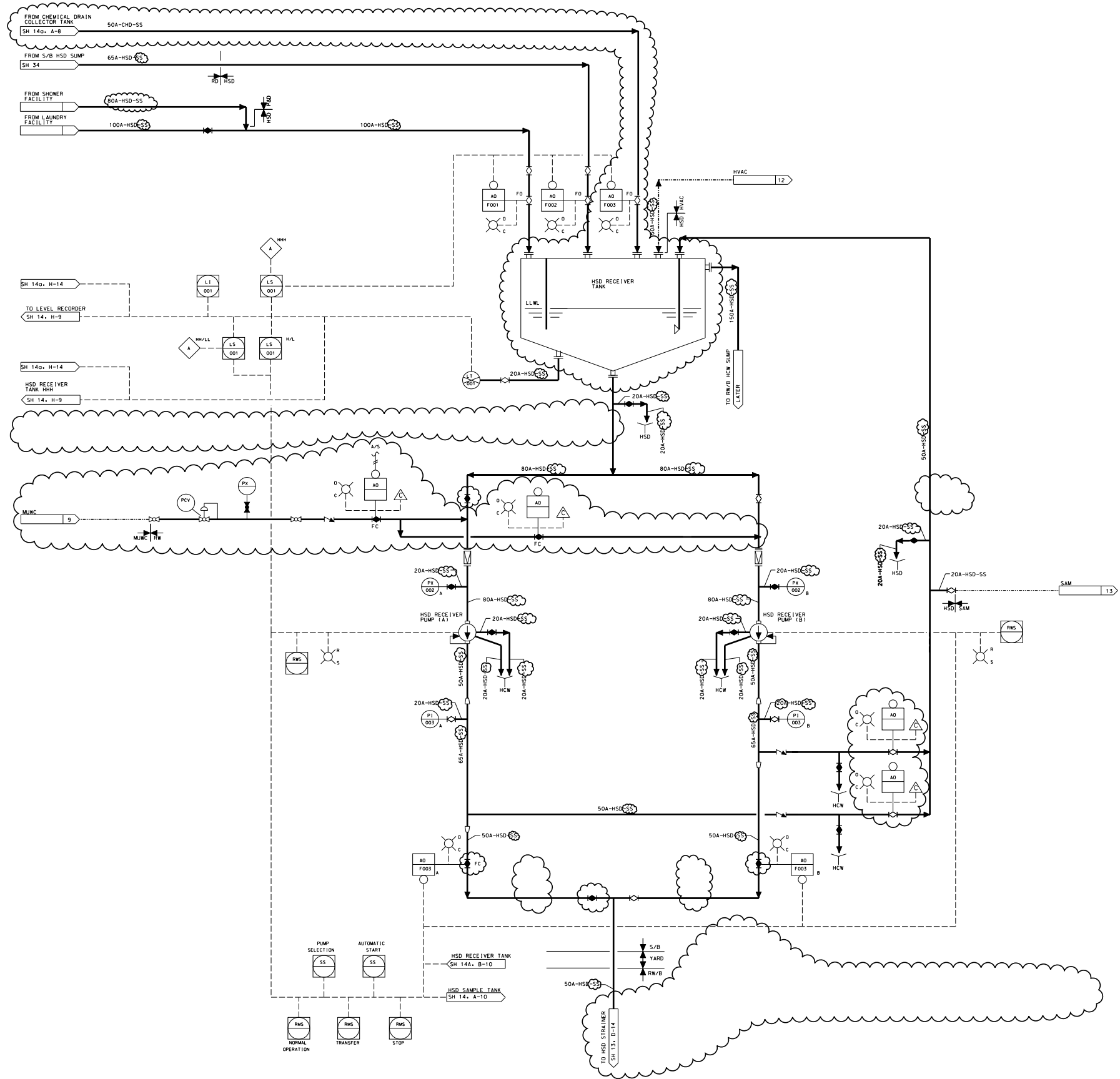


Figure 11.2-2 – Radwaste System (Sheet 12 OF 36)

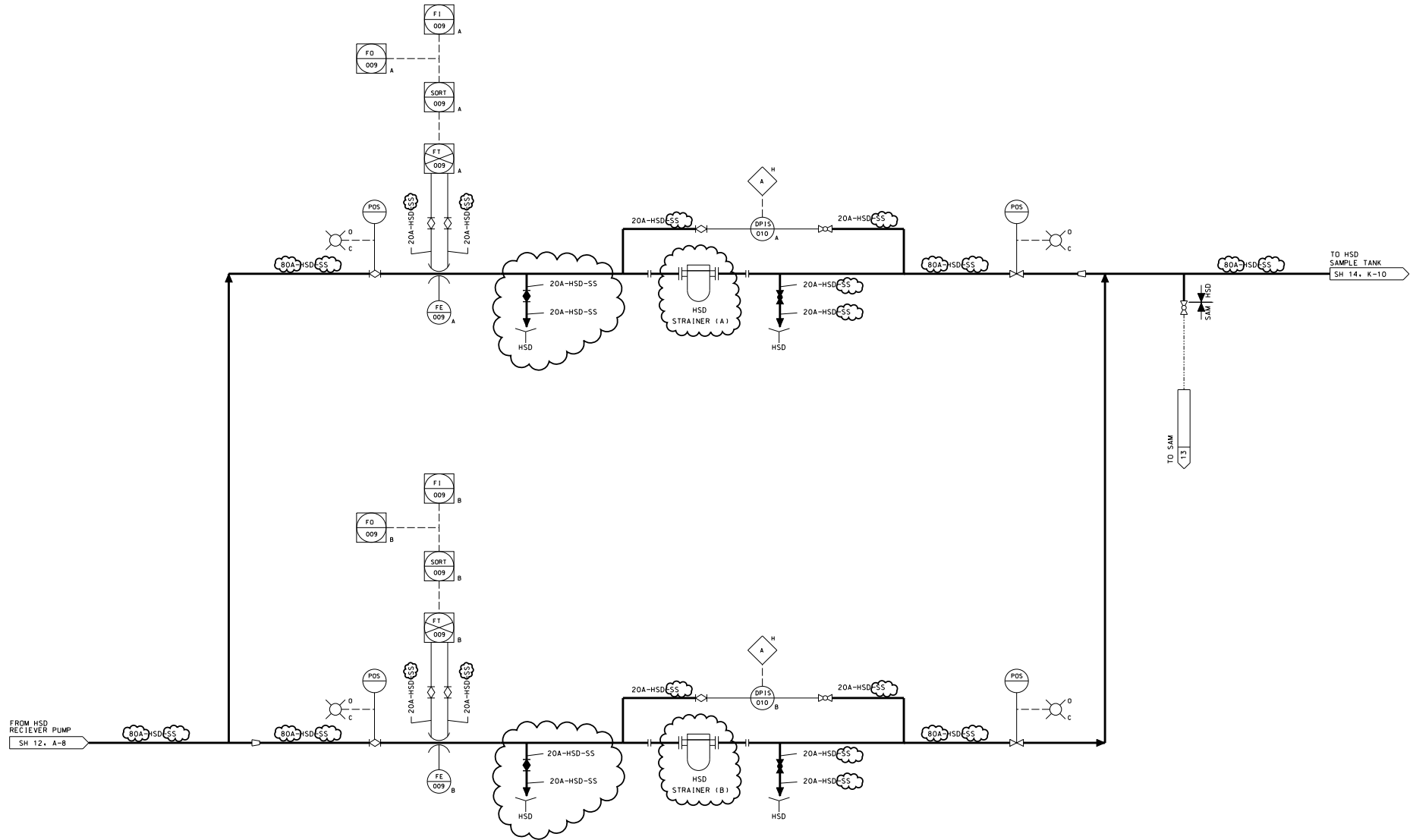


Figure 11.2-2 – Radwaste System (Sheet 13 OF 36)

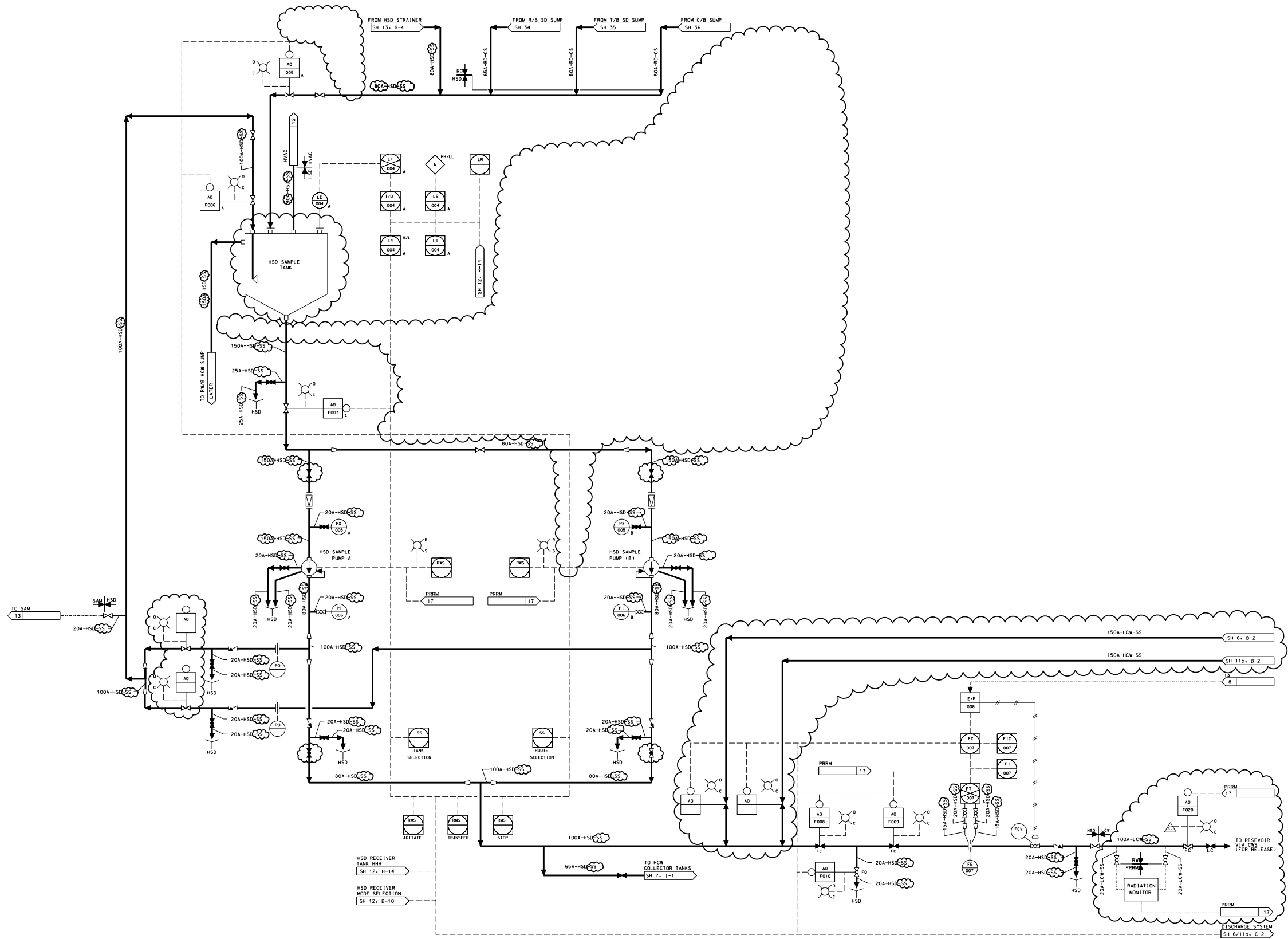


Figure 11.2-2 – Radwaste System (Sheet 14 OF 36)

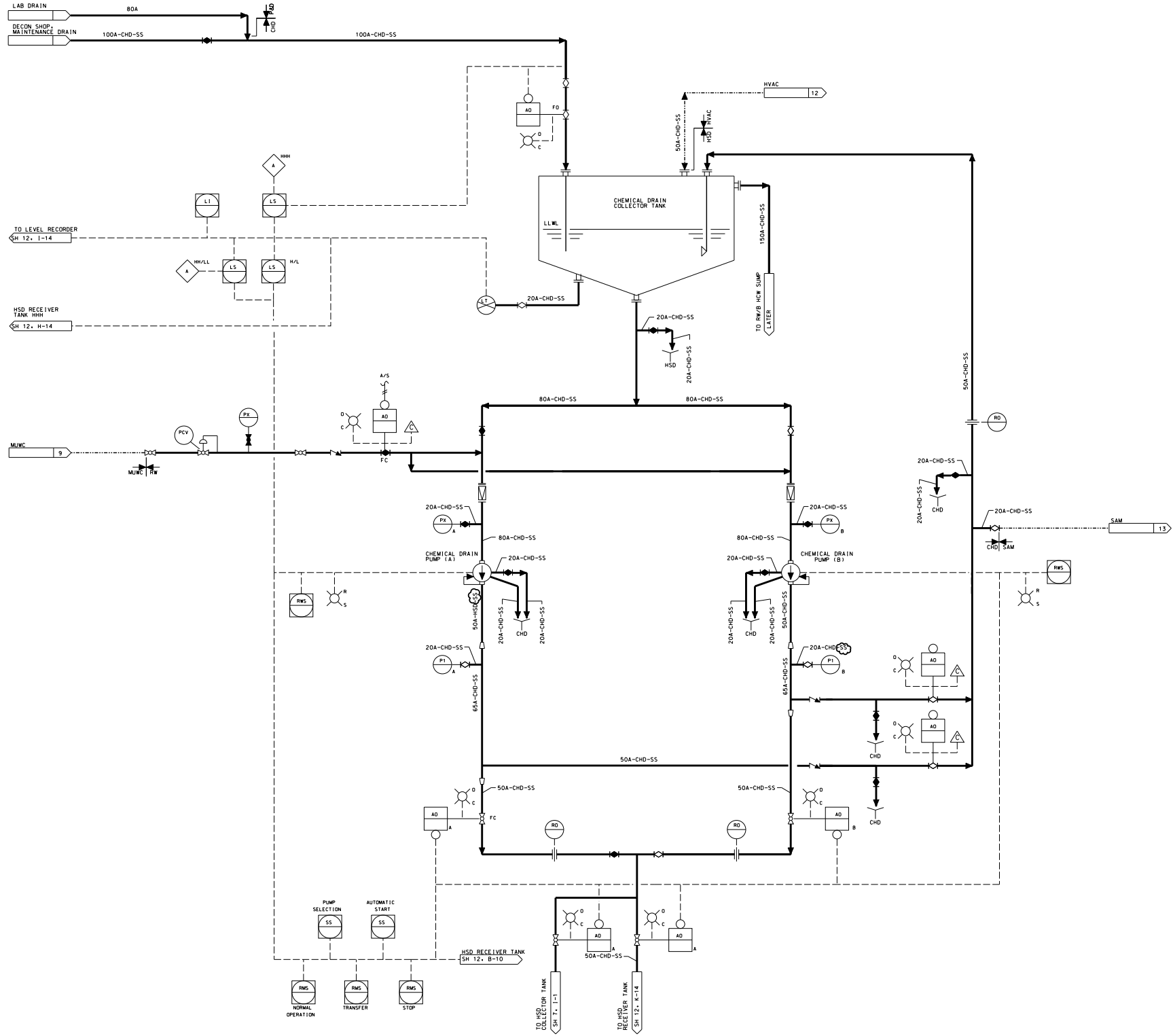


Figure 11.2-2 – Radwaste System (Sheet 14a OF 36)

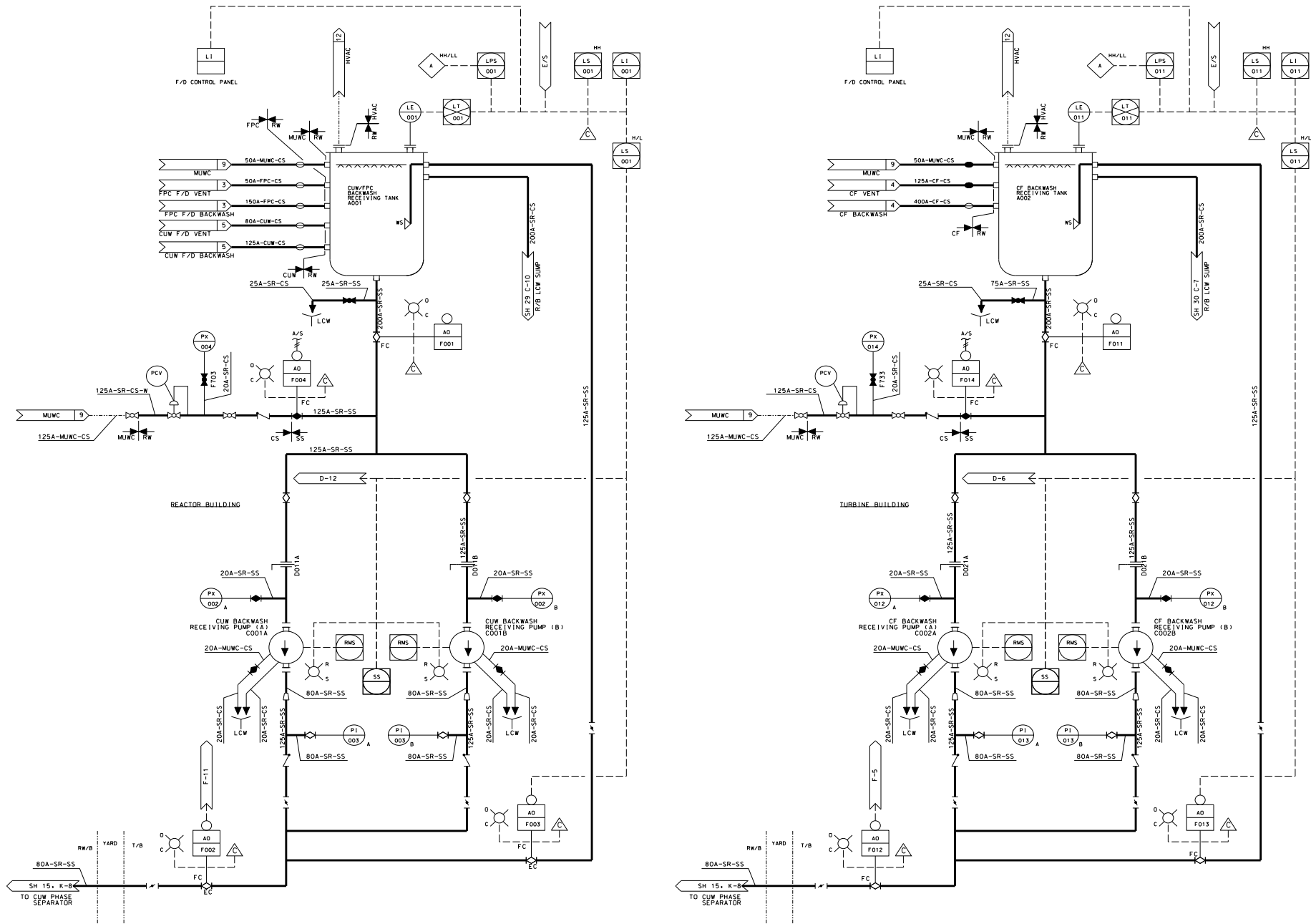


Figure 11.2-2 – Radwaste System (Sheet 15 OF 36)

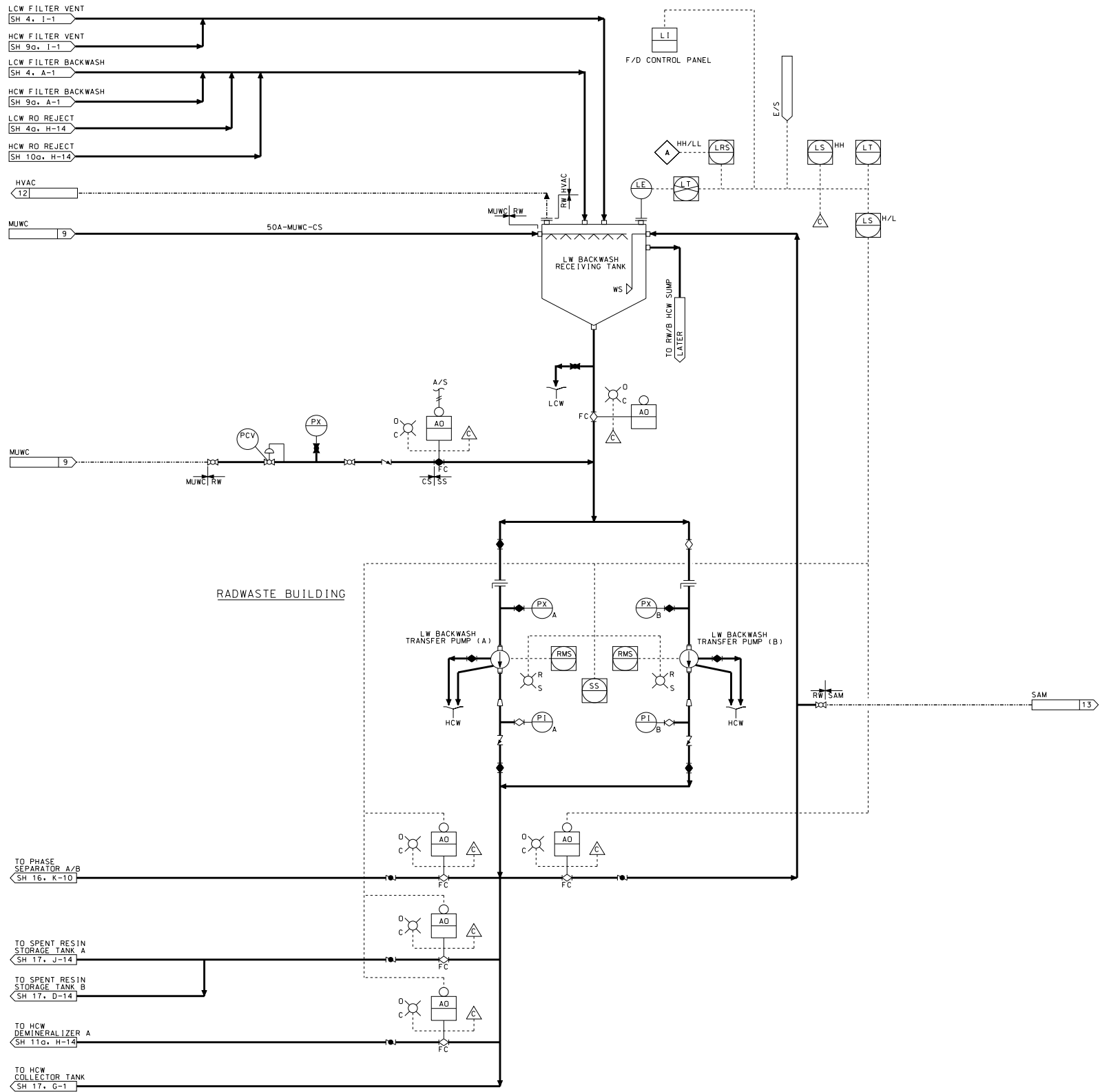


Figure 11.2-2 – Radwaste System (Sheet 15a OF 36)

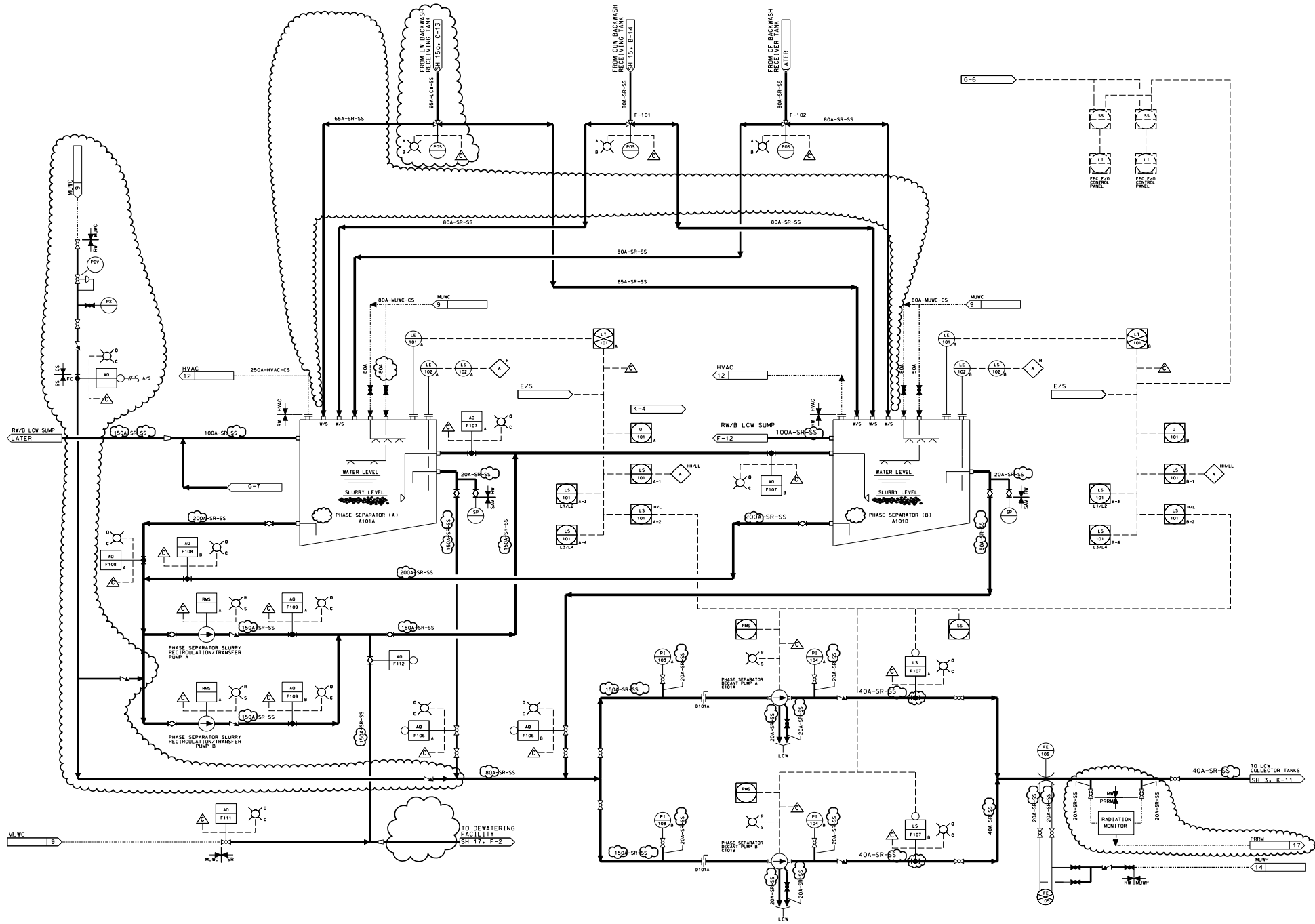


Figure 11.2-2 – Radwaste System (Sheet 16 OF 36)

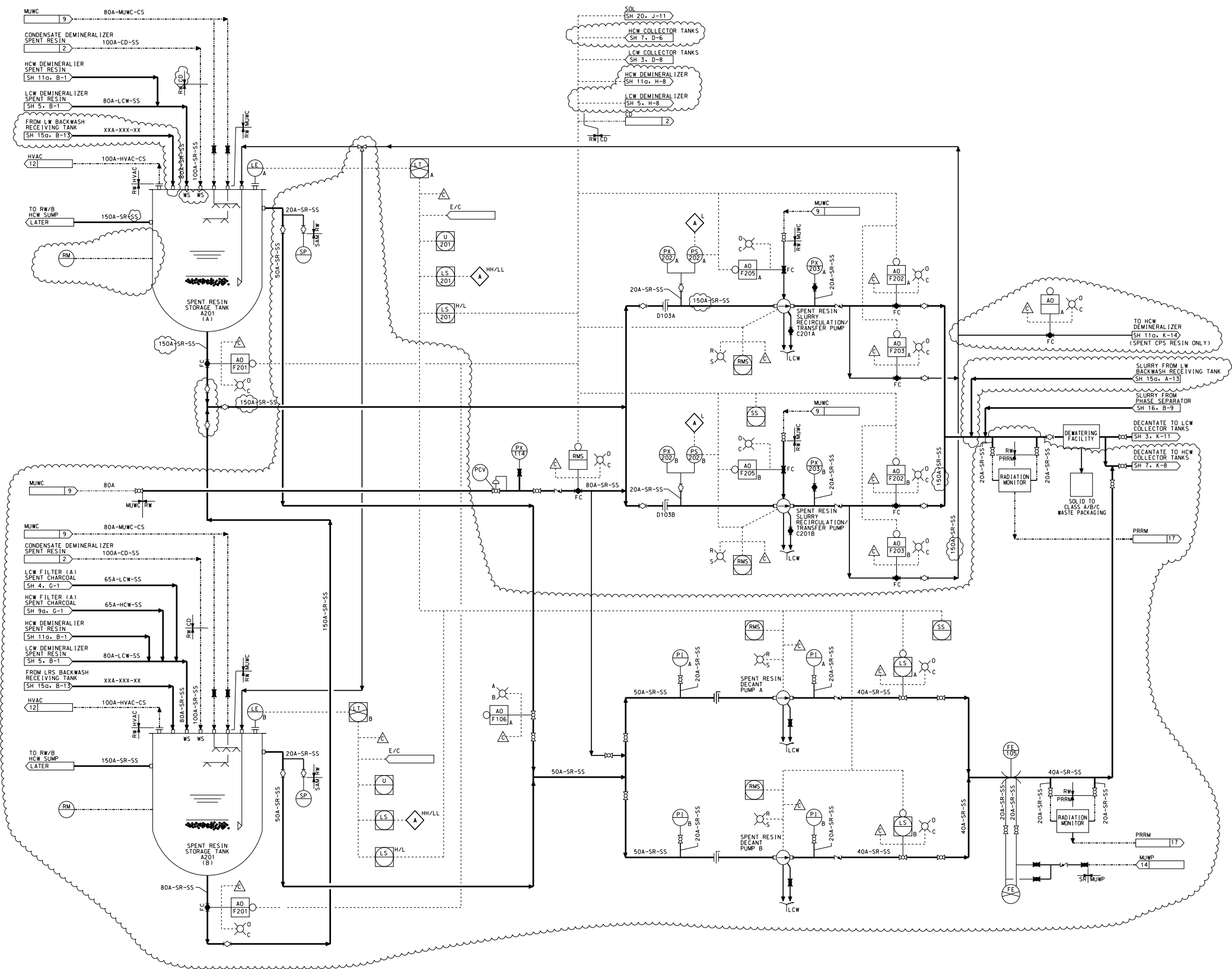


Figure 11.2-2 – Radwaste System (Sheet 17 OF 36)

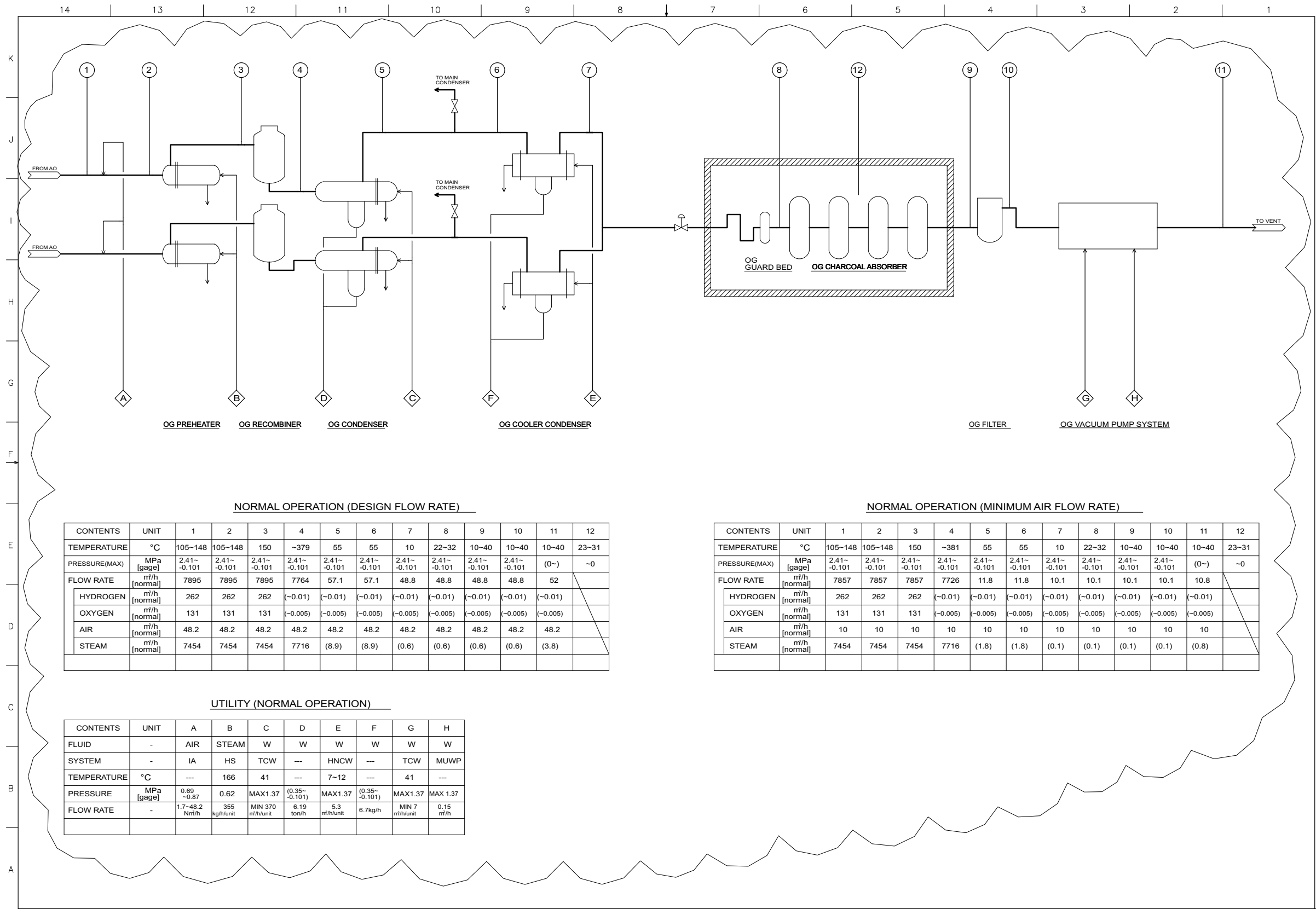


Figure 11.3-1 – Offgas System PFD (Sheet 1)

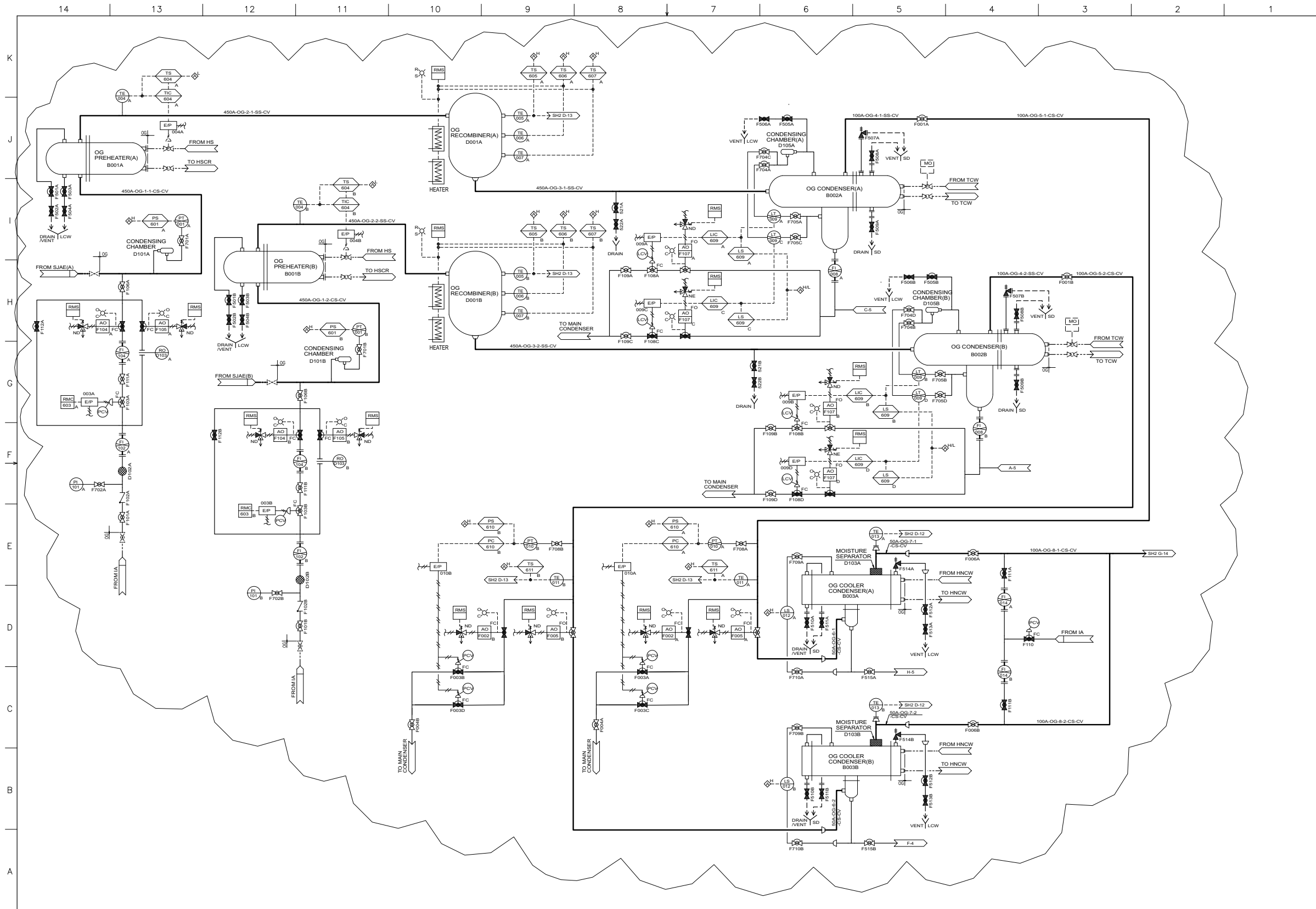


Figure 11.3-2 – Offgas System P&ID (Sheet 1 of 3)

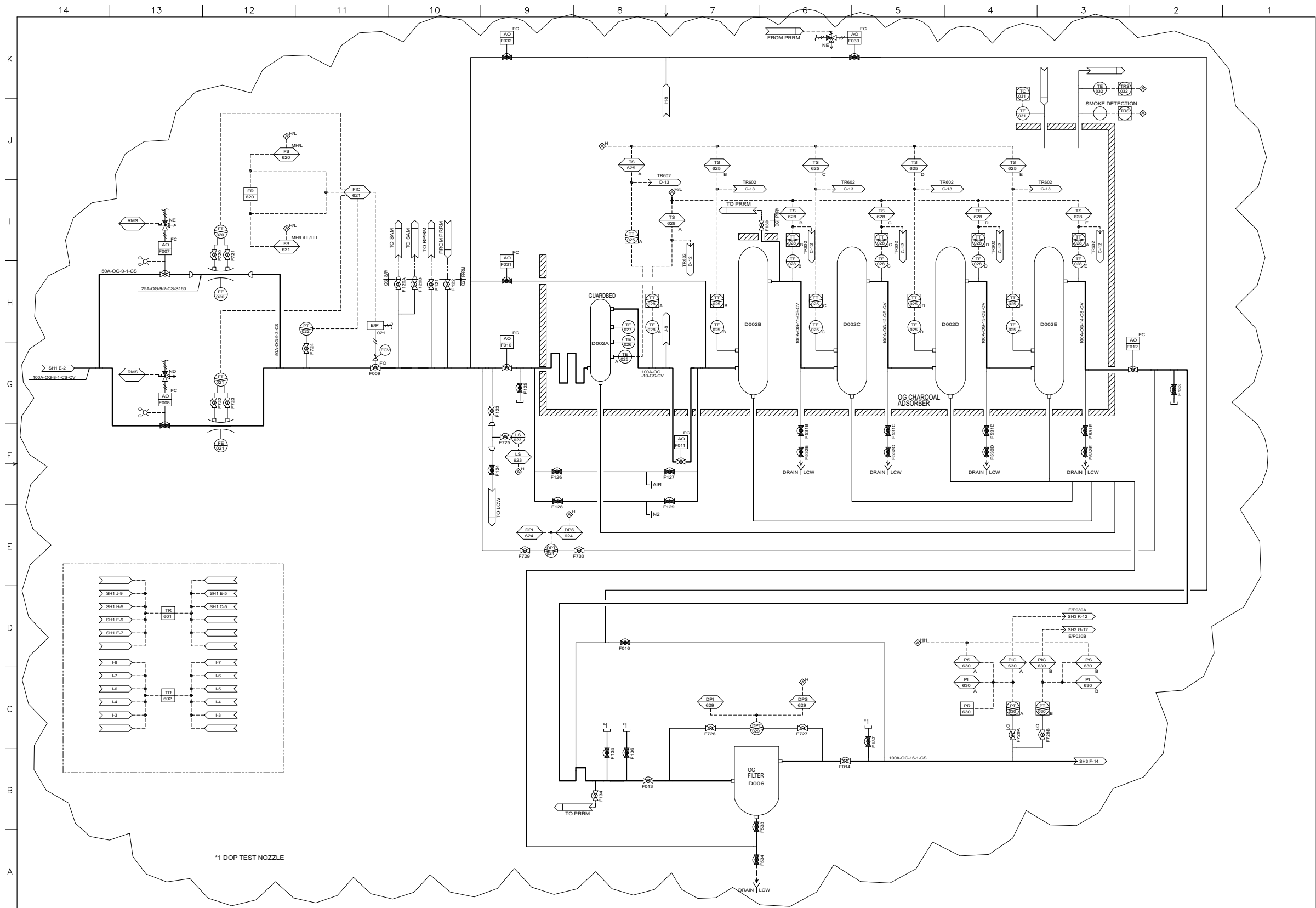


Figure 11.3-2 – Offgas System P&ID (Sheet 2 of 3)

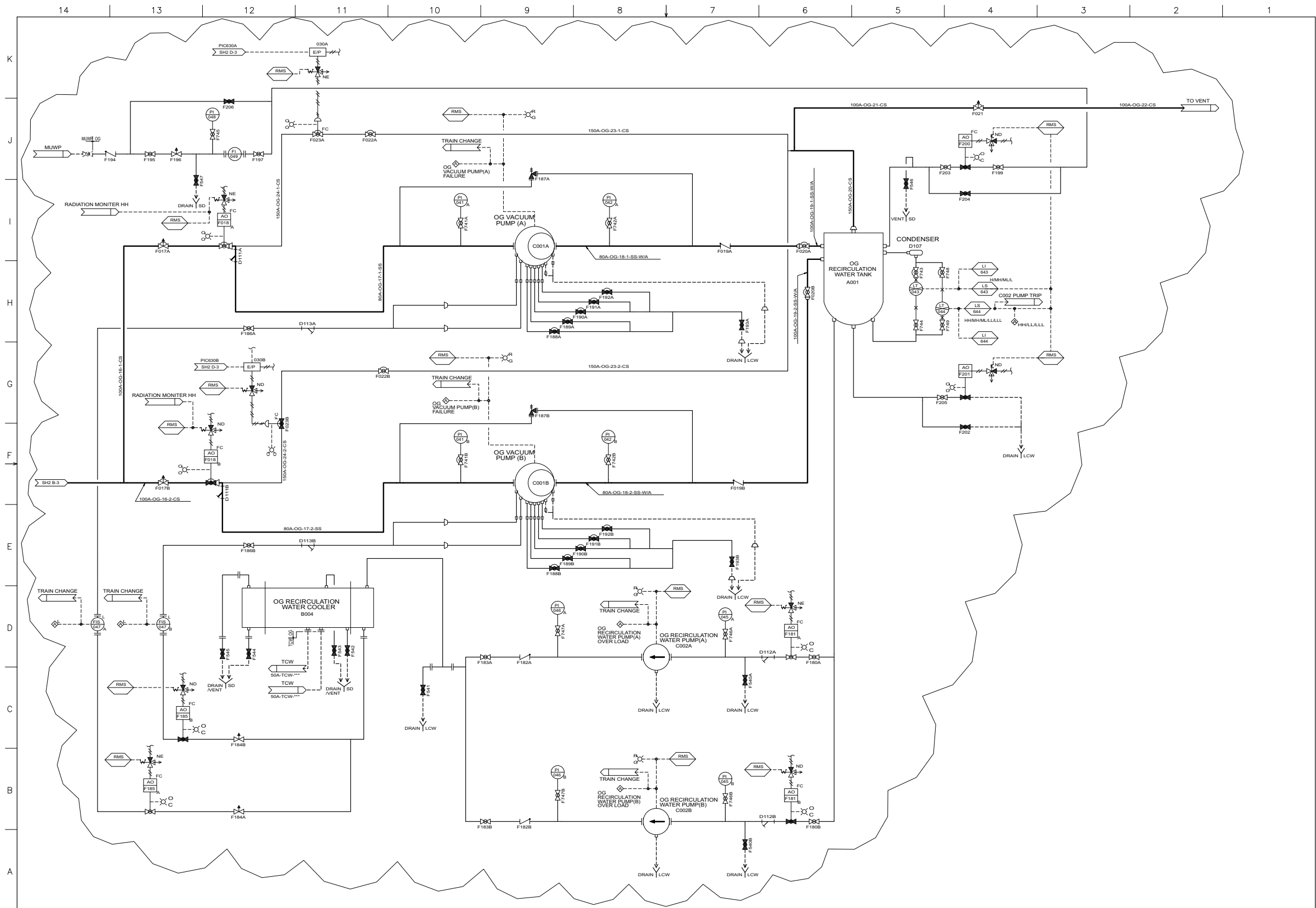


Figure 11.3-2 – Offgas System P&ID (Sheet 3 of 3)