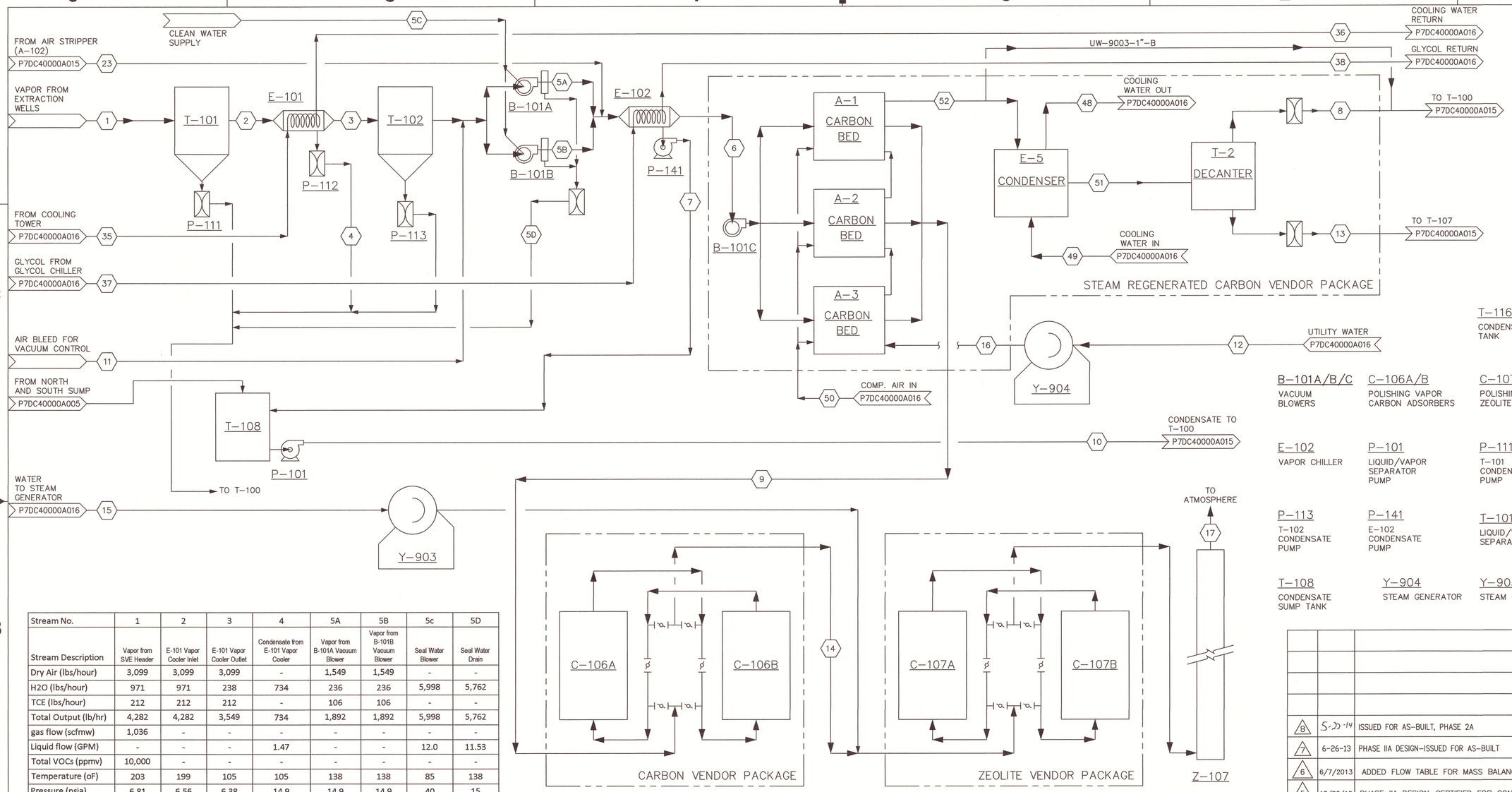

NOTES:

1. EQUIPMENT INSIDE "STEAM REGENERATED CARBON VENDOR PACKAGE" BOUNDARY WILL BE SUPPLIED AS A SKID-MOUNTED SYSTEM. EQUIPMENT VENDOR WILL SUPPLY A COMPLETE SYSTEM INCLUDING ALL EQUIPMENT AND INSTRUMENTATION INSIDE THE SKID LIMITS. EQUIPMENT WILL BE SUPPLIED PRE-PIPED AND PRE-WIRED WITH A CONTROL PANEL AND PLC.

T-116 CONDENSER TANK	T-117 DECANTER TANK		
B-101A/B/C VACUUM BLOWERS	C-106A/B POLISHING VAPOR CARBON ADSORBERS	C-107A/B POLISHING VAPOR ZEOLITE SYSTEM	E-101 VAPOR COOLER	R-101A CARBON REGENERATION BED #1
E-102 VAPOR CHILLER	P-101 LIQUID/VAPOR SEPARATOR PUMP	P-111 T-101 CONDENSATE PUMP	P-112 E-101 CONDENSATE PUMP	R-101B CARBON REGENERATION BED #2
P-113 T-102 CONDENSATE PUMP	P-141 E-102 CONDENSATE PUMP	T-101 LIQUID/VAPOR SEPARATOR 1	T-102 LIQUID/VAPOR SEPARATOR 2	R-101C CARBON REGENERATION BED #3
T-108 CONDENSATE SUMP TANK	Y-904 STEAM GENERATOR	Y-903 STEAM GENERATOR	Z-107 STACK	

Stream No.	1	2	3	4	5A	5B	5c	5D
Stream Description	Vapor from SVE Header	E-101 Vapor Cooler Inlet	E-101 Vapor Cooler Outlet	Condensate from E-101 Vapor Cooler	Vapor from B-101A Vacuum Blower	Vapor from B-101B Vacuum Blower	Seal Water Blower	Seal Water Drain
Dry Air (lbs/hour)	3,099	3,099	3,099	-	1,549	1,549	-	-
H2O (lbs/hour)	971	971	238	734	236	236	5,998	5,762
TCE (lbs/hour)	212	212	212	-	106	106	-	-
Total Output (lb/hr)	4,282	4,282	3,549	734	1,892	1,892	5,998	5,762
gas flow (scfmw)	1,036	-	-	-	-	-	-	-
Liquid flow (GPM)	-	-	-	1.47	-	-	12.0	11.53
Total VOCs (ppmv)	10,000	-	-	-	-	-	-	-
Temperature (oF)	203	199	105	105	138	138	85	138
Pressure (psia)	6.81	6.56	6.38	14.9	14.9	14.9	40	15

Stream No.	6	7	8	9	10	11	12	13	14	15	16	17	23	35	36	37	38	48	49	50	51	52
Stream Description	E-102 Vapor Chiller Outlet	Condensate from E-102 Vapor Chiller	Aqueous from Decanter	Outlet Vapor from Carbon Beds R-101A/B/C	Condensate from Cooler/Chiller in T-108	Air Bleed for Vacuum Control	Water to Steam Boiler	TCE from Decanter	Outlet Vapor from Polishing Carbon Beds C-106A/B	Steam for humidity	Steam to Carbon Beds	Vapor to Stack	Air from Stripper A-102A/B	Cooling Water to E-101	E-101 Cooling Water Return	Glycol Solution to E-102	E-102 Glycol Return	Cooling Water Return from Condenser	Cooling Water to Condenser	Drying & Cooling Air to Carbon Beds	Liquid to Decanter	Vapor to Condensor (during regen)
Dry Air (lbs/hour)	4,449	-	-	4,449	-	-	-	-	4,449	-	-	4,449	1,350	-	-	-	-	-	-	-	-	-
H2O (lbs/hour)	71	597	1,200	71	7,093	-	1,200	-	71	-	1,200	71	195	389,407	389,407	-	60,942	61,826	61,826	-	1,200	1,200
TCE (lbs/hour)	229	-	1.32	0.31	-	-	-	228	-	-	-	-	16.86	-	-	-	-	-	-	-	229	229
Total Output (lb/hr)	4,749	597	1,201	4,520	7,093	-	1,200	228	4,520	-	1,200	4,520	1,562	389,407	389,407	-	60,942	61,826	61,826	-	1,429	1,429
gas flow (scfmw)	1,014	-	-	1,014	-	-	-	-	1,014	-	428	1,014	370	-	-	-	-	-	-	26.0	-	439
Liquid flow (GPM)	-	1.19	2.4	-	14.19	-	2.4	0.3	-	-	-	-	-	781	781	187	122	124	124	-	2.4	-
Total VOCs (ppmv)	-	-	-	15.0	-	-	-	-	-	-	-	-	2,229	-	-	-	-	-	-	-	-	-
Temperature (oF)	70	70	50	100	50	-	80	50	50	220	298	50	140	83	100	45.0	55	113	83	50	50	298
Pressure (psia)	14.7	14.95	14.9	14.9	14.7	-	70	14.9	14.9	14.9	65	14.9	14.9	50	15	50	15	50	50	105	14.9	65

REV.	DATE	DESCRIPTION	DRAWN BY	DRAFT CHK	PROJ ENGR	LEAD ENGR	CONF CTRL/ NUCL SFTY	FAC MGR	E&ITS MGR
8	5-22-14	ISSUED FOR AS-BUILT, PHASE 2A	KTW	BW	DJH	JTP	SJD	JRW	PAC
7	6-26-13	PHASE IIA DESIGN-ISSUED FOR AS-BUILT	KTW	NJB	DJH	JTP	SJD	JRW	PAC
6	6/7/2013	ADDED FLOW TABLE FOR MASS BALANCE CALCS.	TCW	TJH	TJM	TS	---	---	---
5	10/26/12	PHASE IIA DESIGN-CERTIFIED FOR CONSTRUCTION	NJB	TJH	TJM	BCK	SJD	JRW	RES

DRAWING REVISIONS

U.S. DEPARTMENT OF ENERGY
PADUCAH, PORTSMOUTH PROJECT OPERATIONS,
PADUCAH GASEOUS DIFFUSION PLANT

LPE

LATA Environmental Services of Kentucky, LLC managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC30-10CC40020 Paducah, Kentucky

DOE CONTRACT NO. DE-AC30-10CC40020

PROJECT NAME:
C-400 REMEDIATION DESIGN

TITLE:
SOIL VAPOR TREATMENT SYSTEMS
PROCESS FLOW DIAGRAM

EDCS CAD FILENAME	BUILDING	PLANT	CLASS
P7DC40000A014 REV8.DWG	C-400	PDGP	U

DATE:	SCALE:	DRAWING NUMBER	REV
PROFESSIONAL SEAL	N/A	P7DC40000A014	8