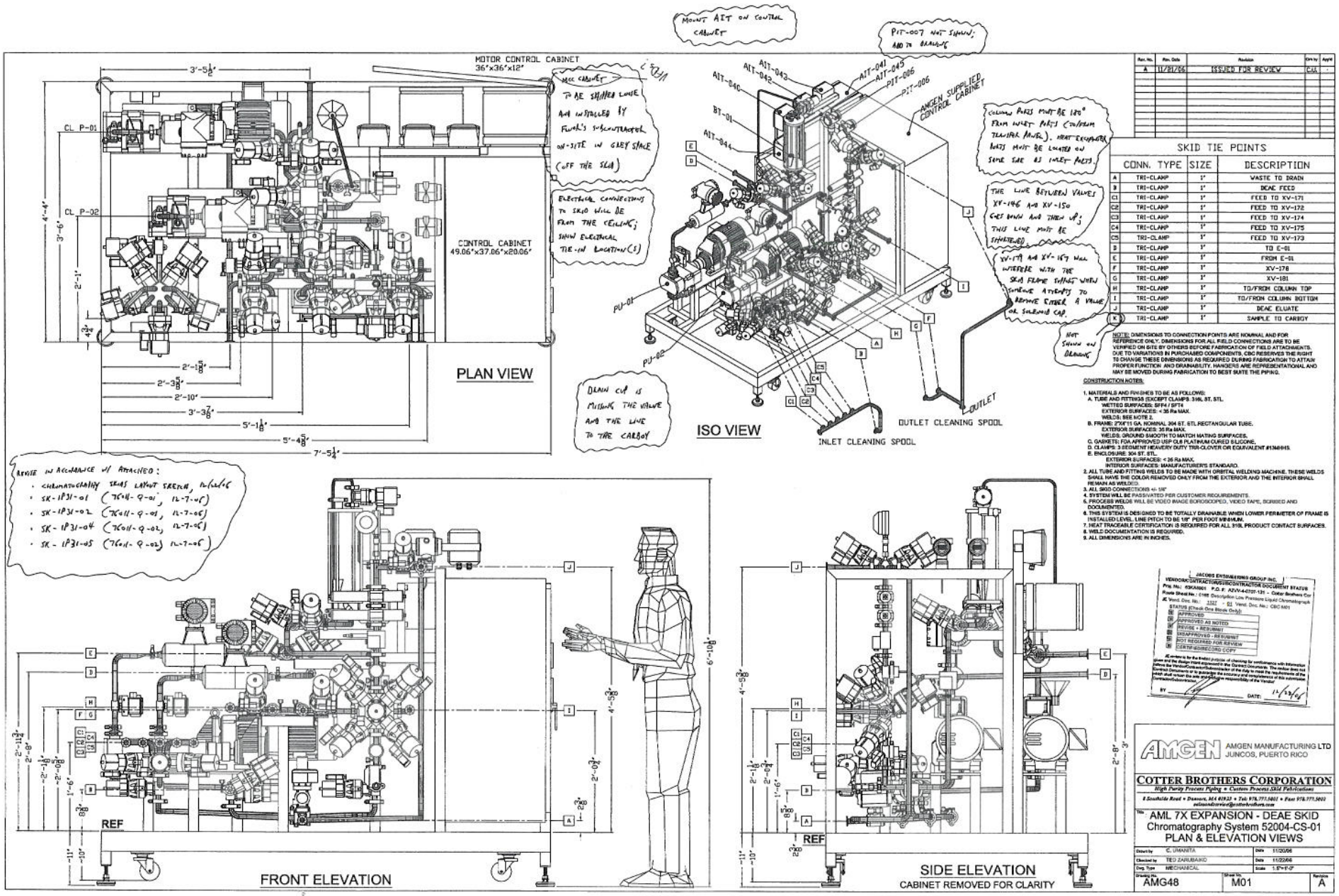
Rev. No.	Rev. Date	Revision	Chk by	Appd
A	11/21/06	ISSUED FOR REVIEW	CJL	-



SKID TIE POINTS

	CONN. TYPE	SIZE	DESCRIPTION
A	TRI-CLAMP	1"	WASTE TO DRAIN
B	TRI-CLAMP	1"	DEAE FEED
C1	TRI-CLAMP	1"	FEED TO XV-171
C2	TRI-CLAMP	1"	FEED TO XV-172
C3	TRI-CLAMP	1"	FEED TO XV-174
C4	TRI-CLAMP	1"	FEED TO XV-175
C5	TRI-CLAMP	1"	FEED TO XV-173
D	TRI-CLAMP	1"	TO E-01
E	TRI-CLAMP	1"	FROM E-01
F	TRI-CLAMP	1"	XV-178
G	TRI-CLAMP	1"	XV-181
H	TRI-CLAMP	1"	TO/FROM COLUMN TOP
I	TRI-CLAMP	1"	TO/FROM COLUMN BOTTOM
J	TRI-CLAMP	1"	DEAE ELUATE
K	TRI-CLAMP	1"	SAMPLE TO CARBOY

COLUMN PORTS MUST BE 180° FROM INLET PORTS (TO/FROM TRANSFER PANEL). HEAT EXCHANGER PORTS MUST BE LOCATED ON SAME SIDE AS INLET PORTS.

THE LINE BETWEEN VALVES XV-146 AND XV-150 GOES DOWN AND THEN UP; THIS LINE MUST BE STRAIGHTENED

XV-179 AND XV-167 WILL INTERFERE WITH THE SKID FRAME SUPPORT WHEN SOMEONE ATTEMPTS TO REMOVE EITHER A VALVE OR SOLENOID CAP.

NOTE: DIMENSIONS TO CONNECTION POINTS ARE NOMINAL AND FOR REFERENCE ONLY. DIMENSIONS FOR ALL FIELD CONNECTIONS ARE TO BE VERIFIED ON SITE BY OTHERS BEFORE FABRICATION OF FIELD ATTACHMENTS. DUE TO VARIATIONS IN PURCHASED COMPONENTS, CBC RESERVES THE RIGHT TO CHANGE THESE DIMENSIONS AS REQUIRED DURING FABRICATION TO ATTAIN PROPER FUNCTION AND DRAINABILITY. HANGERS ARE REPRESENTATIONAL AND MAY BE MOVED DURING FABRICATION TO BEST SUITE THE PIPING.

CONSTRUCTION NOTES:

1. MATERIALS AND FINISHES TO BE AS FOLLOWS:
   A. TUBE AND FITTINGS (EXCEPT CLAMPS 316L ST. STL.
      WETTED SURFACES: SF4 / SF4
      EXTERIOR SURFACES: < 35 Ra MAX.
      WELDS: SEE NOTE 2.
   B. FRAME: 2"X4"11 GA. NOMINAL 304 ST. STL RECTANGULAR TUBE.
      EXTERIOR SURFACES: 35 Ra MAX.
      WELDS: GROUND SMOOTH TO MATCH MATING SURFACES.
   C. GASKETS: FDA APPROVED USP CLS PLATINUM CURED SILICONE.
   D. CLAMPS: 3 SEGMENT HEAVERY DUTY TRI-CLOVER OR EQUIVALENT #13461HS.
   E. ENCLOSURE: 304 ST. STL.
      EXTERIOR SURFACES: < 35 Ra MAX.
      INTERIOR SURFACES: MANUFACTURER'S STANDARD.
2. ALL TUBE AND FITTING WELDS TO BE MADE WITH ORBITAL WELDING MACHINE. THESE WELDS SHALL HAVE THE COLOR REMOVED ONLY FROM THE EXTERIOR AND THE INTERIOR SHALL REMAIN AS WELDED.
3. ALL SKID CONNECTIONS 4- 1/4"
4. SYSTEM WILL BE PASSIVATED PER CUSTOMER REQUIREMENTS.
5. PROCESS WELDS WILL BE VIDEO IMAGE BORIOSCOPED, VIDEO TAPE, BORSED AND DOCUMENTED.
6. THIS SYSTEM IS DESIGNED TO BE TOTALLY DRAINABLE WHEN LOWER PERIMETER OF FRAME IS INSTALLED LEVEL. LINE PITCH TO BE 1/8" PER FOOT MINIMUM.
7. HEAT TRACEABLE CERTIFICATION IS REQUIRED FOR ALL 316L PRODUCT CONTACT SURFACES.
8. WELD DOCUMENTATION IS REQUIRED.
9. ALL DIMENSIONS ARE IN INCHES.

JACOBS ENGINEERING GROUP INC.
VENDOR/CONTRACTOR/SUBCONTRACTOR DOCUMENT STATUS
Proj. No.: 63KA065 P.O.#: A2VV-4-0707-131 - Cotter Brothers Cor
Route Sheet No.: 0148 Description: Low Pressure Liquid Chromatograph
JE Vend. Doc. No.: 1337 - 01 Vend. Doc. No.: CBC M01
STATUS (Check One Block Only)
☐ APPROVED
☐ APPROVED AS NOTED
☐ REVISE - RESUBMIT
☐ DISAPPROVED - RESUBMIT
☐ NOT REQUIRED FOR REVIEW
☐ CERTIFIED RECORD COPY
JE review is for the limited purpose of checking for conformance with information given and the design intent expressed in the Contract Documents. The review does not extend to the Vendor/Contractor/Subcontractor of the duty to meet the requirements of the Contract Documents or to guarantee the accuracy and completeness of this information. Contractor/Subcontractor is the responsible of the Vendor
BY: DATE: 11/28/06

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JUNCOS, PUERTO RICO

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Title: AML 7X EXPANSION - DEAE SKID
Chromatography System 52004-CS-01
PLAN & ELEVATION VIEWS

Drawn by	C. UMANITA	Date	11/20/06
Checked by	TED ZARUBAIKO	Date	11/22/06
Dwg. Type	MECHANICAL	Scale	1.5"=1'-0"
Drawing No. AMG48	Sheet No. M01	Revision A	