



June 20, 1997

U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Document Control Desk

Subject: RAI Response for Emergency Core Cooling System Venting Surveillance

Byron Station Unit 2
Facility Operating License NPF-37 and NPF-66
NRC Docket No. 50-454 and 50-455

Braidwood Station Unit 2
Facility Operating License NPF-72 and NPF-77
NRC Docket No. 50-456 and 50-457

- Reference:
1. T. Tulon (ComEd) letter to USNRC, Emergency Core Cooling System Venting Exigent Amendment, dated May 27, 1997.
 2. Telecon between M. Lesniak (ComEd) and G. Dick (NRR), May 30, 1997.
 3. NRC Request for Additional Information Regarding Emergency Core Cooling System Venting, dated June 6, 1997.

In Reference 1, ComEd submitted an Exigent License Amendment Request to the NRC because Byron and Braidwood Station were not in literal compliance with the wording of Technical Specification Surveillance Requirement 4.5.2.b.1.

In Reference 3, NRC requested additional information to support the technical specification request. The answers to the specific questions raised in the RAI and supporting isometric drawings with high point locations identified are contained in Attachment 1.

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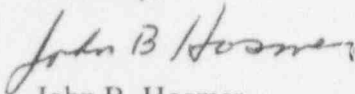


June 20, 1997

In addition, NRR requested a description of the ultrasonic procedure used to detect fluid in the piping of the Emergency Core Cooling System (ECCS). (Reference 2). Attachment 2 provides necessary information.

If you have any questions, please contact this office.

Sincerely,



John B. Hosmer
Vice President
Engineering

Attachments

cc: A. B. Beach - Regional Administrator, RIII
G. Dick, Jr. - Project Manager, NRR
S. Burgess - Senior Resident Inspector, Byron
Office of Nuclear Safety, IDNS

ATTACHMENT 1

- 1. ComEd is requested to identify any relative high points in the normal and emergency piping for the centrifugal charging (CV) discharge piping that it does not intend to vent or test with ultrasonic testing to support the technical specification request, and describe why testing or venting is not necessary. Please include the possible effects of a water hammer event and the consequences if there is piping damage. In preparing the answer, please include a discussion of how the issues contained in Information Notice 92-61, "Loss of High Head Safety Injection," affect any conclusions.**

As can be noted on the attached matrices for both Byron and Braidwood Stations, all Centrifugal Charging (CV) System discharge piping is characterized by one of the following: 1) there is flow through the lines, 2) flow is stagnant and the piping is being ultrasonically tested on a periodic basis; or 3) the piping is downstream of pressure reduction orifices and is not subject to pressure differentials which would lead to significant water hammer events. The following bullets provide technical justification for each of the three categories of high point locations.

- During normal unit operation, regardless of whether the A or B train CV pump is running, the lines annotated with a (1) in the last column of the matrices always have flow through the lines. Therefore, any gases entrapped in the water would be swept along with the flow and would not be expected to collect in any relative high points in these lines.
- All of the lines with a (2) in the last column of the attached matrices are normally stagnant. However, all of these lines either have no safety function during an accident or, if the lines were placed in service during non-emergency situations (i.e., bypass of normal charging flow), the lines would have flow through them and would not be stagnant. Therefore, in this circumstance, where the lines would be in service, the same arguments put forth for (1) above would apply.
- The miniflow lines are denoted with a (3) in the last column of the attached matrices. These miniflow lines contain pressure breakdown orifices upstream of the sections of piping which contain relative high points. These breakdown orifices drop the normal discharge pressure of the running CV pump down to approximately 85 psig. Furthermore, the separate miniflow lines join together downstream of these breakdown orifices. Therefore, both lines are pressurized to approximately 85 psig when either CV pump is running. During an accident condition where the second CV pump were to start, the differential pressure between the starting CV pump and the running CV pump in the miniflow lines

would be small. Any air pockets in the relative high points in the miniflow lines would already be pressurized and there would be no large change in either pressure or water velocity that would initiate a water hammer event. Additionally, due to the low pressure in these lines (maximum operating pressure of 150 psig), a water hammer of a large enough magnitude to challenge piping integrity or support damage is not credible -- any water hammer loads would be insignificant compared to design seismic loads.

Byron and Braidwood Stations have rereviewed NRC Information Notice (IEN) 92-61 "Loss of High Head Injection" for applicability to Byron and Braidwood. The alternate minimum flow path described in the IEN does not exist at either Byron or Braidwood Stations. The modification proposed by the licensee in IEN 92-61, Carolina Power and Light, (CP&L) mimics their normal minimum flow path. The proposal in IEN 92-61 would be similar to the current Byron/ Braidwood configuration. That is, CP&L would be installing pressure breakdown orifices to reduce the pressure in the alternate minimum flowpath. Additionally, the event described in the IEN, was the result of improper venting upon return to service. At Byron and Braidwood Stations, post maintenance venting is procedurally controlled. In summary, we believe that the scenario presented in the IEN is not a credible scenario when applied to Byron and Braidwood Stations.

- 2. The proposed technical specification bases state that system pressure is sufficient to provide confidence that water hammer is not a concern. This is not consistent with the surveillance requirements that include surveillances on pressurized piping. Please provide additional justification why voids in pressurized piping do not cause water hammer, or revise the statement accordingly.**

ComEd will revise the statement to eliminate the words "and/or pressures prevalent" from the last paragraph of B 3/4 5-2 of the Proposed Technical Specification Amendment Bases.

ATTACHMENT 2

DESCRIPTION OF ULTRASONIC INSPECTION PROCEDURE

Scope

The procedure covers pulse-echo, single element, straight beam and longitudinal wave techniques.

The examinations are performed from the outside diameter of pipe.

Pipe diameters ranging from 1.5 inches to 24 inches and temperatures ranging from 50° F to 180° F are applicable. The examinations may be performed on other pipe diameters and temperatures provided those parameters are qualified.

Requirements

All personnel performing and evaluating ultrasonic measurements are certified Level II examiners, as a minimum. Level I examiners may be used to perform scanning while under the direct supervision of a Level II or III examiner.

The suggested ultrasonic search unit frequency is 5.0 MHZ, but frequencies ranging from 2.25 to 5.0 MHZ are acceptable. Search units having 0.250 inch to 0.500 inch diameter elements are used, as applicable.

There are two methods of establishing the screen range. One is by using a reference standard, such as an IIW-2 block or other applicable blocks and the other method is by using a known diameter water filled pipe or container. The screen range shall be long enough to see entirely through the water filled pipe and resolve the backwall reflection.

The examination surface is to be free of irregularities, loose material or coatings which interfere with ultrasonic wave transmission. Excessive differences between component and reference standard temperature affect ultrasonic inspection results. The component temperature should be within 100° F of the reference standard to ensure adequate accuracy.

Calibration

Calibration includes the complete ultrasonic examination system. Any change in search units, couplants, cables, instruments, personnel, recording devices or any other parts of the examination system is cause for recalibration. The original calibration is made on the proper reference standards for the sound path ranges being examined. Simulator blocks are used for calibration checks provided they are documented on the calibration form.

Initial calibrations are performed at the beginning and end of each day of examinations. A calibration verification is made at least every four hours during examinations. Calibrations and calibration verification times are recorded on the calibration form.

Recalibration

If any indication that the sweep position has moved on the sweep line more than ten percent of the calibrated sweep, the sweep range calibration is corrected and noted. All recorded data is evaluated to determine if reexaminations are necessary, and if so, a new calibration is completed and recorded, and the affected examinations shall be repeated.

Specific Calibration

The ultrasonic instrument screen range is established by using an acoustically similar steel calibration standard as the pipe being examined. The screen range may also be established using known diameter pipes or containers filled with water. A convenient screen range covers the expected pipe wall thickness plus the water sound path. If a steel calibration standard is used rather than a water filled pipe or container standard, the examiner calculates for an approximate 4 times faster sound velocity in steel. The calibration standard is within 100° F of the pipe being examined.

Examination

As a minimum one reading is taken at 0° or the top of the pipe. If the pipe is full of water the ultrasound penetrates entirely through the pipe diameter and a reflection from the backwall is obtained. For verification and evaluation purposes it may be necessary to take readings at other locations around the pipe diameter.

Reference points and examination areas are determined by the station or engineering department. Typical reference points are the top and bottom dead center clock positions of the pipe.

Reporting

All procedures and equipment are identified sufficiently to permit duplication of the examination at a later date. This includes equipment, calibration, examination and any other significant data.

All ultrasonic data (i.e., pipe is full of water or air detected) is recorded on the applicable data and sketch sheets.

ComEd Byron Station UNIT 1 CV SYSTEM DISCHARGE PIPING

| ISOMETRIC DRAWING | LOOP IDENTIF. | LINE NUMBER | LINE FUNCTION WITHIN CV SYSTEM | MAX TEMP. | MAX PRESS. | RESULTS OF EVALUATION OF LOOP CONFIGURATION / FUNCTION |
|--|------------------|----------------|--|--------------|---------------|---|
| CV-1 | L-1-1 | 1CV08AA-4" | "A" CV PP. DISCHARGE HEADER TO CHECK VALVE | 130 | 2800 | UT or flow |
| CV-1 | L-1-1 | 1CV42AA-2" | "A" CV PP. MINIFLOW LINE TO CHECK VALVE | 115 | 2800 | UT or flow |
| CV-1 | L-1-2 | 1CV08BA-4" | "B" CV PP. DISCHARGE HEADER TO CHECK VALVE | 130 | 2800 | UT or flow |
| CV-1 | L-1-2 | 1CV42AB-2" | "B" CV PP. MINIFLOW LINE TO CHECK VALVE | 115 | 2800 | UT or flow |
| CV-1 | L-1-3 | 1CV08BA-4" | "B" CV PP. DISCHARGE HEADER | 130 | 2800 | UT or flow |
| CV-2 | L-1-4 | 1CV12AB-3" | "B" CV PP. DISCHARGE HEADER BYPASS | 130 | 2800 | Flow or no differential pressure (2) |
| CV-2 | L-1-5 | 1CV12AA-3" | "A" CV PP. DISCHARGE HEADER BYPASS | 130 | 2800 | Flow or no differential pressure (2) |
| CV-2 | L-1-6 | 1CVJ3A-3" | CHG. HDR. BACK PRESS. VA. (1CV182) BYPASS | 130 | 2800 | Flow (1) |
| CV-2 | L-1-7 | 1CV09D-3" | CHARGING SUPPLY HEADER | 130 | 2800 | Flow (1) |
| CV-33 | L-1-8 | 1CV17C-3" | SEAL WATER HEAT EXCHANGER INLET HEADER | 180 | 85 | Flow (1) |
| CV-33 | L-1-9 | 1CV17C-3" | SEAL WATER HEAT EXCHANGER INLET HEADER | 180 | 85 | Flow (1) |
| CV-33 | L-1-10 | 1CV17C-3" | SEAL WATER HEAT EXCHANGER INLET HEADER | 180 | 85 | Flow (1) |
| CV-35 | L-1-11 | 1CV14B-3" | RCP SEAL INJECTION SUPPLY HEADER | 130 | 2800 | Flow (1) |
| CV-35 | L-1-12 | 1CV14B-3" | RCP SEAL INJECTION SUPPLY HEADER | 130 | 2800 | Flow (1) |
| CV-35 | L-1-13 | 1CV14B-3" | RCP SEAL INJECTION SUPPLY HEADER | 130 | 2800 | Flow (1) |
| CV-36 | L-1-14 | 1CV13B-3" | CHARGING SUPPLY HEADER | 130 | 2800 | Flow (1) |
| S-CV-100-6 | L-1-15 | 1CV42CA-2" | "A" CENTRIFUGAL CHARGING PP. MINIFLOW LINE | 115 | 2800 | Flow or no differential pressure (3) |
| S-CV-100-9 | L-1-16 | 1CV42CB-2" | "B" CENTRIFUGAL CHARGING PP. MINIFLOW LINE | 115 | 2800 | Flow or no differential pressure (3) |
| S-CV-100-9 | L-1-17 | 1CV42CB-2" | "B" CENTRIFUGAL CHARGING PP. MINIFLOW LINE | 115 | 2800 | Flow or no differential pressure (3) |
| SI-12 | L-1-18 | 1S08B-4" | CHARGING PPS. TO COLD LEG INJECTION HEADER | 300 | 2735 | UT, High Point |
| Notes: | | | | | | |
| 1) Flow from either pump during normal operation. | | | | | | |
| 2) Normally not in service; if in service, flow through line, & has no emergency function. | | | | | | |
| 3) Without differential pressure, no waterhammer is postulated. | | | | | | |
| That is, both sides of the high point loops are approximately the same pressure during normal operation and when a second pump is turned on. | | | | | | |
| ISOMETRIC DRAWING SUMMARY | | | | | | |
| ISOMETRIC | REVISION | LOOP QTY | | | | |
| CV-1 | 20 | 3 | | | | |
| CV-2 | 14 | 4 | | | | |
| CV-33 | 11 | 3 | | | | |
| CV-35 | 12 | 3 | | | | |
| CV-36 | 8 | 1 | | | | |
| S-CV-100-8 | 27 | 1 | | | | |
| S-CV-100-9 | 188 | 2 | | | | |
| SI-12 | 12 | 1 | | | | |
| | Total | 18 | | | | |

ComEd Byron Station UNIT 2 CV SYSTEM DISCHARGE PIPING

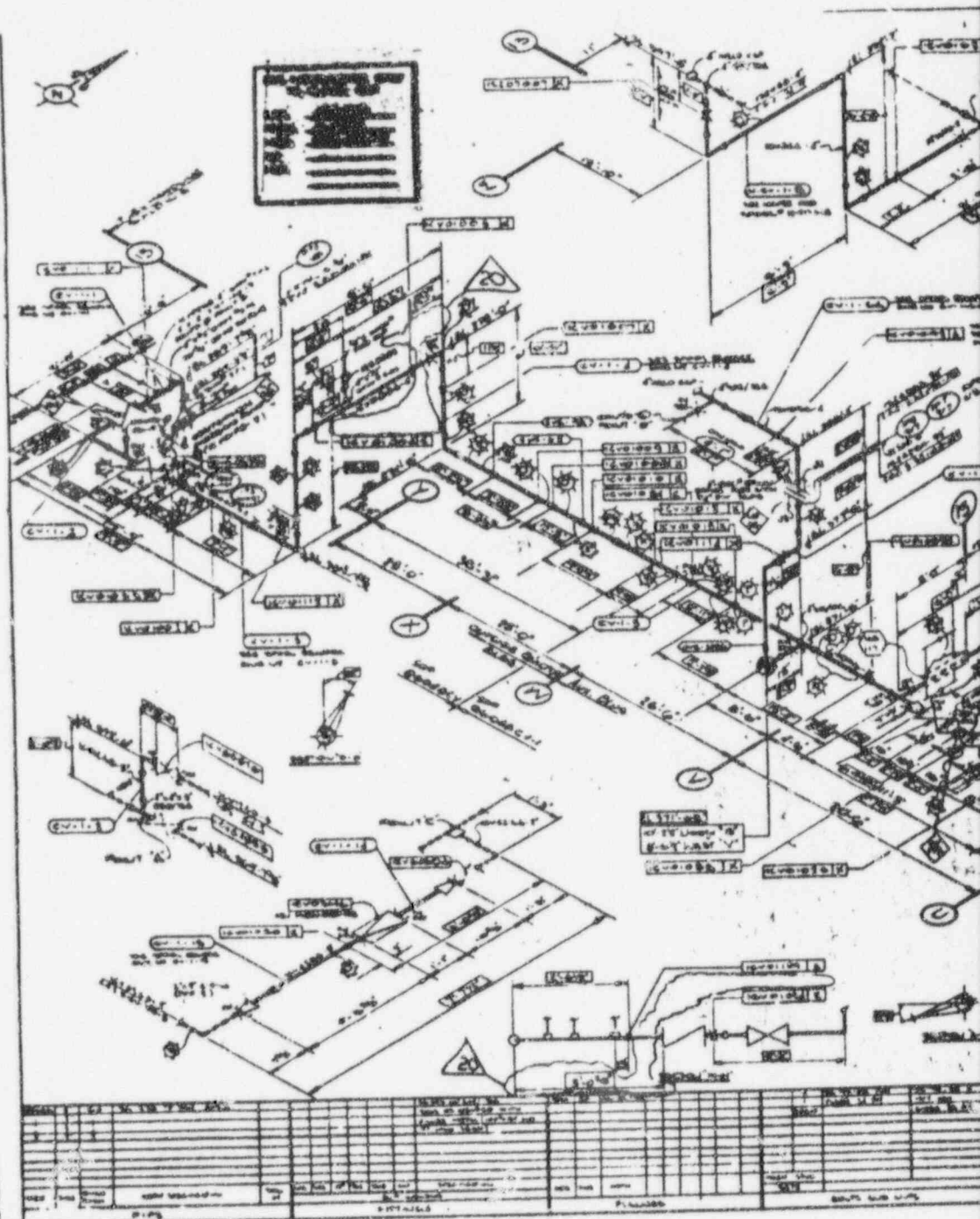
| ISOMETRIC DRAWING | LOOP IDENTIF | LINE NUMBER | LINE FUNCTION WITHIN CV SYSTEM | MAX. TEMP. | MAX. PRESS. | RESULTS OF EVALUATION OF LOOP CONFIGURATION / FUNCTION |
|--|-----------------|----------------|--|---------------|----------------|---|
| CV-19 | L-2-1 | 2CV08BA-4" | "B" CV PP. DISCHARGE HEADER | 130 | 2600 | UT or flow |
| CV-19 | L-2-2 | 2CV08BA-4" | "B" CV PP. DISCHARGE HEADER TO CHECK VALVE | 130 | 2600 | UT or flow |
| CV-19 | L-2-3 | 2CV42AB-2" | "B" CV PP. MINIFLOW LINE TO CHECK VALVE | 115 | 2600 | UT or flow |
| CV-20 | L-2-1 | 2CV12AB-3" | "B" CV PP. DISCHARGE HEADER BYPASS | 130 | 2600 | Flow or no differential pressure (2) |
| CV-20 | L-2-1 | 2CV08AA-4" | "A" CV PP. DISCHARGE HEADER TO CHECK VALVE | 130 | 2600 | UT or flow |
| CV-20 | L-2-4 | 2CV42AA-2" | "A" CV PP. MINIFLOW LINE TO CHECK VALVE | 115 | 2600 | UT or flow |
| CV-20 | L-2-5 | 2CV13B-3" | COMMON DISCHARGE HEADER BYPASS | 130 | 2600 | Flow or no differential pressure (2) |
| CV-20 | L-2-6 | 2CV12AA-3" | "A" CV PP. DISCHARGE HEADER BYPASS | 130 | 2600 | Flow or no differential pressure (2) |
| CV-20 | L-2-7 | 2CVJ3A-3" | CHG. HDG. BACK PRESS. VA. (2CV182) BYPASS | 130 | 2600 | Flow (1) |
| CV-20 | L-2-8 | 2CV09D-3" | CHARGING SUPPLY HEADER | 130 | 2600 | Flow (1) |
| CV-22 | L-2-9 | 2CV17C-3" | SEAL WATER HEAT EXCHANGER INLET HEADER | 160 | 85 | Flow (1) |
| CV-22 | L-2-10 | 2CV17C-3" | SEAL WATER HEAT EXCHANGER INLET HEADER | 160 | 85 | Flow (1) |
| CV-27 | L-2-11 | 2CV13B-3" | CHARGING SUPPLY HEADER | 130 | 2600 | Flow (1) |
| CV-28 | L-2-12 | 2CV14B-3" | RCP SEAL INJECTION SUPPLY HEADER | 130 | 2600 | Flow (1) |
| CV-28 | L-2-13 | 2CV14B-3" | RCP SEAL INJECTION SUPPLY HEADER | 130 | 2600 | Flow (1) |
| CV-28 | L-2-14 | 2CV14B-3" | RCP SEAL INJECTION SUPPLY HEADER | 130 | 2600 | Flow (1) |
| CV-28 | L-2-15 | 2CV14B-3" | RCP SEAL INJECTION SUPPLY HEADER | 130 | 2600 | Flow (1) |
| S-CV-100-244 | L-2-16 | 2CV42CA-2" | "A" CHARGING PP. MINIFLOW LINE | 115 | 2600 | Flow or no differential pressure (3) |
| S-CV-100-245 | L-2-17 | 2CV42CB-2" | "B" CV PP. MINIFLOW LINE | 115 | 2600 | Flow or no differential pressure (3) |
| S-CV-100-246 | L-2-18 | 2CV42CB-2" | "B" CV PP. MINIFLOW LINE | 115 | 2600 | Flow or no differential pressure (3) |
| SI-41 | L-2-19 | 2SI08B-4" | CHARGING PPS. TO COLD LEG INJECTION HEADER | 300 | 2735 | UT, High Point |
| Notes: | | | | | | |
| 1) Flow from either pump during normal operation. | | | | | | |
| 2) Normally not in service; if in service, flow through line, & has no emergency function. | | | | | | |
| 3) Without differential pressure, no waterhammer is postulated. | | | | | | |
| That is, both sides of the high point loops are approximately the same pressure during normal operation and when a second pump is turned on. | | | | | | |
| ISOMETRIC DRAWING SUMMARY | | | | | | |
| ISOMETRIC | REVISION | LOOP QTY | | | | |
| CV-19 | 7T | 2 | | | | |
| CV-20 | 8 | 6 | | | | |
| CV-22 | 4F | 2 | | | | |
| CV-27 | 10 | 1 | | | | |
| CV-28 | 11 | 4 | | | | |
| S-CV-100-244 | 06B | 1 | | | | |
| S-CV-100-245 | 1A | 1 | | | | |
| S-CV-100-246 | 4A | 1 | | | | |
| SI-41 | 3A | 1 | | | | |
| | Total | 19 | | | | |

ComEd Braidwood Station UNIT 1 CV SYSTEM DISCHARGE PIPING

| ISOMETRIC DRAWING | LOOP IDENTIF. | LINE NUMBER | LINE FUNCTION WITHIN CV SYSTEM | MAX TEMP | MAX PRESS. | RESULTS OF EVALUATION OF LOOP CONFIGURATION / FUNCTION |
|--|------------------|----------------|--|-------------|---------------|---|
| 1A-CV-1 | L-1-1 | 1CV08AA-4" | "A" CV PP. DISCHARGE HEADER TO CHECK VALVE | 130 | 2600 | UT or flow |
| 1A-CV-1 | L-1-1 | 1CV42AA-2" | "A" CV PP. MINIFLOW LINE TO CHECK VALVE | 115 | 2600 | UT or flow |
| 1A-CV-1 | L-1-2 | 1CV08BA-4" | "B" CV PP. DISCHARGE HEADER TO CHECK VALVE | 130 | 2600 | UT or flow |
| 1A-CV-1 | L-1-2 | 1CV42AB-2" | "B" CV PP. MINIFLOW LINE TO CHECK VALVE | 115 | 2600 | UT or flow |
| 1A-CV-1 | L-1-3 | 1CV08BA-4" | "B" CV PP. DISCHARGE HEADER | 130 | 2600 | UT or flow |
| 1A-CV-2 | L-1-4 | 1CV12AB-3" | "B" CV PP. DISCHARGE HEADER BYPASS | 130 | 2600 | Flow or no differential pressure (2) |
| 1A-CV-2 | L-1-5 | 1CV12AA-3" | "A" CV PP. DISCHARGE HEADER BYPASS | 130 | 2600 | Flow or no differential pressure (2) |
| 1A-CV-2 | L-1-6 | 1CVJ3A-3" | CHG. HDR. BACK PRESS. VA. (1CV182) BYPASS | 130 | 2600 | Flow (1) |
| 1A-CV-2 | L-1-7 | 1CV09D-3" | CHARGING SUPPLY HEADER | 130 | 2600 | Flow (1) |
| 1A-CV-33 | L-1-8 | 1CV17C-3" | SEAL WATER HEAT EXCHANGER INLET HEADER | 160 | 85 | Flow (1) |
| 1A-CV-33 | L-1-9 | 1CV17C-3" | SEAL WATER HEAT EXCHANGER INLET HEADER | 160 | 85 | Flow (1) |
| 1A-CV-33 | L-1-10 | 1CV17C-3" | SEAL WATER HEAT EXCHANGER INLET HEADER | 160 | 85 | Flow (1) |
| 1A-CV-35 | L-1-11 | 1CV14B-3" | RCP SEAL INJECTION SUPPLY HEADER | 130 | 2600 | Flow (1) |
| 1A-CV-35 | L-1-12 | 1CV14B-3" | RCP SEAL INJECTION SUPPLY HEADER | 130 | 2600 | Flow (1) |
| 1A-CV-35 | L-1-13 | 1CV14B-3" | RCP SEAL INJECTION SUPPLY HEADER | 130 | 2600 | Flow (1) |
| 1A-CV-35 | L-1-14 | 1CV14B-3" | RCP SEAL INJECTION SUPPLY HEADER | 130 | 2600 | Flow (1) |
| 1A-CV-36 | L-1-15 | 1CV13B-3" | CHARGING SUPPLY HEADER | 130 | 2600 | Flow (1) |
| PG-2546A-8 | L-1-16 | 1CV42CA-2" | "A" CENTRIFUGAL CHARGING PP. MINIFLOW LINE | 115 | 2600 | Flow or no differential pressure (3) |
| PG-2546A-9 | L-1-17 | 1CV42CB-2" | "B" CENTRIFUGAL CHARGING PP. MINIFLOW LINE | 115 | 2600 | Flow or no differential pressure (3) |
| PG-2546A-9 | L-1-18 | 1CV42CB-2" | "B" CENTRIFUGAL CHARGING PP. MINIFLOW LINE | 115 | 2600 | Flow or no differential pressure (3) |
| 1A-SI-12 | L-1-19 | 1SI08B-4" | CHARGING PPS. TO COLD LEG INJECTION HEADER | 300 | 2735 | UT, High Point |
| Notes: | | | | | | |
| 1) Flow from either pump during normal operation. | | | | | | |
| 2) Normally not in service, if in service, flow through line, & has no emergency function. | | | | | | |
| 3) Without differential pressure, no waterhammer is postulated. | | | | | | |
| That is, both sides of the high point loops are approximately the same pressure during normal operation and when a second pump is turned on. | | | | | | |
| ISOMETRIC DRAWINGS THAT WERE REVIEWED | | | | | | |
| ISOMETRIC | REVISION | LOOP QTY | | | | |
| 1A-CV-1 | E | 3 | | | | |
| 1A-CV-2 | F | 4 | | | | |
| 1A-CV-33 | F | 3 | | | | |
| 1A-CV-35 | B | 4 | | | | |
| 1A-CV-36 | B | 1 | | | | |
| PG-2546A-6 | C | 0 | | | | |
| PG-2546A-7 | P | 0 | | | | |
| PG-2546A-6 | J | 1 | | | | |
| PG-2546A-9 | H | 2 | | | | |
| PG-2546A-32 | C | 0 | | | | |
| PG-2546A-71 | B | 0 | | | | |
| PG-2546A-74 | G | 0 | | | | |
| PG-2546A-75 | H | 0 | | | | |
| PG-2546A-83 | F | 0 | | | | |
| PG-2546A-84 | C | 0 | | | | |
| PG-2546A-85 | E | 0 | | | | |
| PG-2546A-98 | D | 0 | | | | |
| 1A-SI-12 | D | 1 | | | | |

ComEd Braidwood Station UNIT 2 CV SYSTEM DISCHARGE PIPING

| ISOMETRIC DRAWING | LOOP IDENTIF. | LINE NUMBER | LINE FUNCTION WITHIN CV SYSTEM | MAX TEMP | MAX. PRESS. | RESULTS OF EVALUATION OF LOOP CONFIGURATION / FUNCTION |
|---|------------------|----------------|--|-------------|----------------|---|
| 2A-CV-19 | L-2-1 | 2CV08BA-4" | "B" CV PP DISCHARGE HEADER | 130 | 2600 | UT or flow |
| 2A-CV-19 | L-2-2 | 2CV08BA-4" | "B" CV PP DISCHARGE HEADER TO CHECK VALVE | 130 | 2600 | UT or flow |
| 2A-CV-19 | L-2-2 | 2CV42AB-2" | "B" CV PP MINIFLOW LINE TO CHECK VALVE | 115 | 2600 | UT or flow |
| 2A-CV-20 | L-2-3 | 2CV12AB-3" | "B" CV PP DISCHARGE HEADER BYPASS | 130 | 2600 | Flow or no differential pressure (2) |
| 2A-CV-20 | L-2-4 | 2CV08AA-4" | "A" CV PP DISCHARGE HEADER TO CHECK VALVE | 130 | 2600 | UT or flow |
| 2A-CV-20 | L-2-4 | 2CV42AA-2" | "A" CV PP MINIFLOW LINE TO CHECK VALVE | 115 | 2600 | UT or flow |
| 2A-CV-20 | L-2-5 | 2CV13B-3" | COMMON DISCHARGE HEADER BYPASS | 130 | 2600 | Flow or no differential pressure (2) |
| 2A-CV-20 | L-2-5 | 2CV12AB-3" | "B" CV PP DISCHARGE HEADER BYPASS | 130 | 2600 | Flow or no differential pressure (2) |
| 2A-CV-20 | L-2-6 | 2CV12AA-3" | "A" CV PP DISCHARGE HEADER BYPASS | 130 | 2600 | Flow or no differential pressure (2) |
| 2A-CV-20 | L-2-7 | 2CVJ3A-3" | CHG. HDR. BACK PRESS. VA. (2CV182) BYPASS | 130 | 2600 | Flow (1) |
| 2A-CV-20 | L-2-8 | 2CV09D-3" | CHARGING SUPPLY HEADER | 130 | 2600 | Flow (1) |
| 2A-CV-22 | L-2-9 | 2CV17C-3" | SEAL WATER HEAT EXCHANGER INLET HEADER | 160 | 85 | Flow (1) |
| 2A-CV-22 | L-2-10 | 2CV17C-3" | SEAL WATER HEAT EXCHANGER INLET HEADER | 160 | 85 | Flow (1) |
| 2A-CV-27 | L-2-11 | 2CV13B-3" | CHARGING SUPPLY HEADER | 130 | 2600 | Flow (1) |
| 2A-CV-28 | L-2-12 | 2CV14B-3" | RCP SEAL INJECTION HEADER | 130 | 2600 | Flow (1) |
| 2A-CV-28 | L-2-13 | 2CV14B-3" | RCP SEAL INJECTION HEADER | 130 | 2600 | Flow (1) |
| 2A-CV-28 | L-2-14 | 2CV14B-3" | RCP SEAL INJECTION HEADER | 130 | 2600 | Flow (1) |
| 2A-CV-28 | L-2-15 | 2CV14B-3" | RCP SEAL INJECTION HEADER | 130 | 2600 | Flow (1) |
| PG-2546A-245 | L-2-16 | 2CV42CB-2" | "B" CV PP MINIFLOW LINE | 115 | 2600 | Flow or no differential pressure (3) |
| PG-2546A-246 | L-2-17 | 2CV42CB-2" | "B" CV PP MINIFLOW LINE | 115 | 2600 | Flow or no differential pressure (3) |
| 2A-SI-41 | L-2-18 | 2SI08BB-4" | CHARGING PPS. TO COLD LEG INJECTION HEADER | 300 | 2735 | UT, High Point |
| Notes | | | | | | |
| 1) Flow from either pump during normal operation | | | | | | |
| 2) Normally not in service, if in service, flow through line, & has no emergency function | | | | | | |
| 3) Without differential pressure, no waterhammer is postulated | | | | | | |
| That is, both sides of the high point loops are approximately the same pressure during normal operation and when a second pump is turned on | | | | | | |
| ISOMETRIC DRAWINGS THAT WERE REVIEWED | | | | | | |
| ISOMETRIC | REVISION | LOOP QTY | | | | |
| 2A-CV-19 | H | 2 | | | | |
| 2A-CV-20 | H | 6 | | | | |
| 2A-CV-22 | C | 2 | | | | |
| 2A-CV-27 | E | 1 | | | | |
| 2A-CV-28 | C | 4 | | | | |
| PG-2539A-87 | B | 0 | | | | |
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| PG-2546A-223 | F | 0 | | | | |
| PG-2546A-224 | D | 0 | | | | |
| PG-2546A-227 | D | 0 | | | | |
| PG-2546A-228 | F | 0 | | | | |
| PG-2546A-230 | F | 0 | | | | |
| PG-2546A-233 | F | 0 | | | | |
| PG-2546A-243 | M | 0 | | | | |
| PG-2546A-244 | R | 0 | | | | |
| PG-2546A-245 | D | 1 | | | | |
| PG-2546A-246 | J | 1 | | | | |
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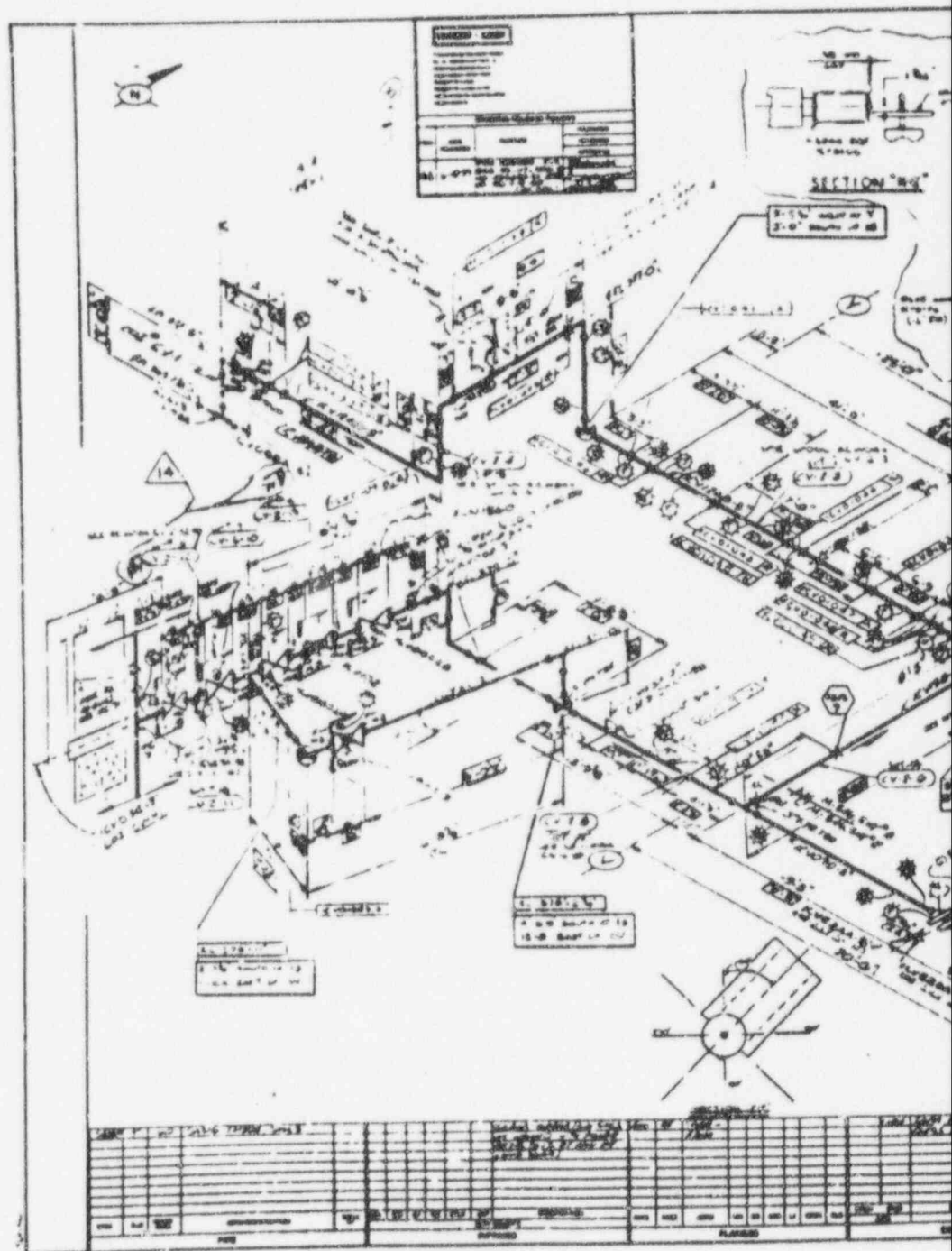
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STW 0641 79-1

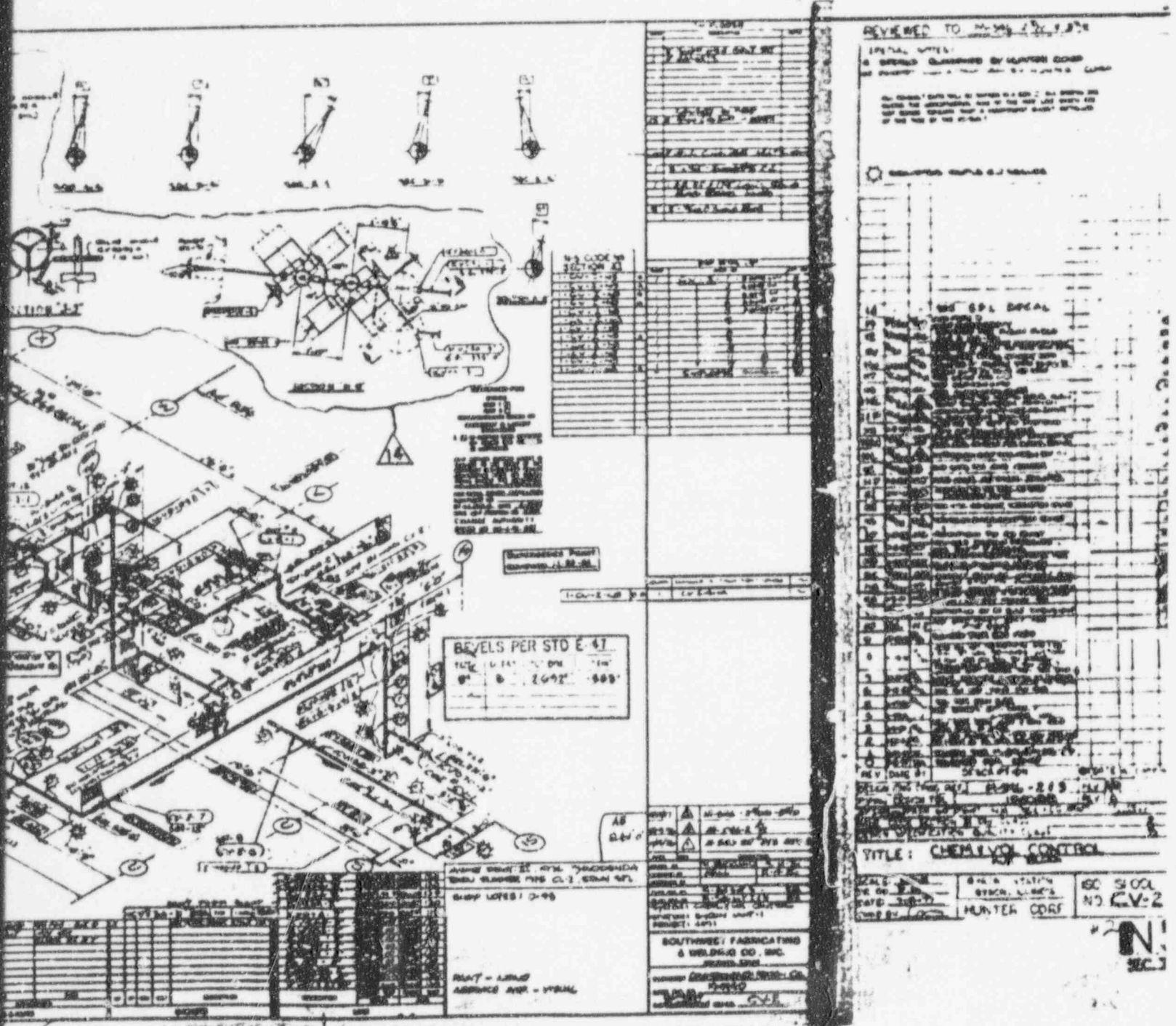
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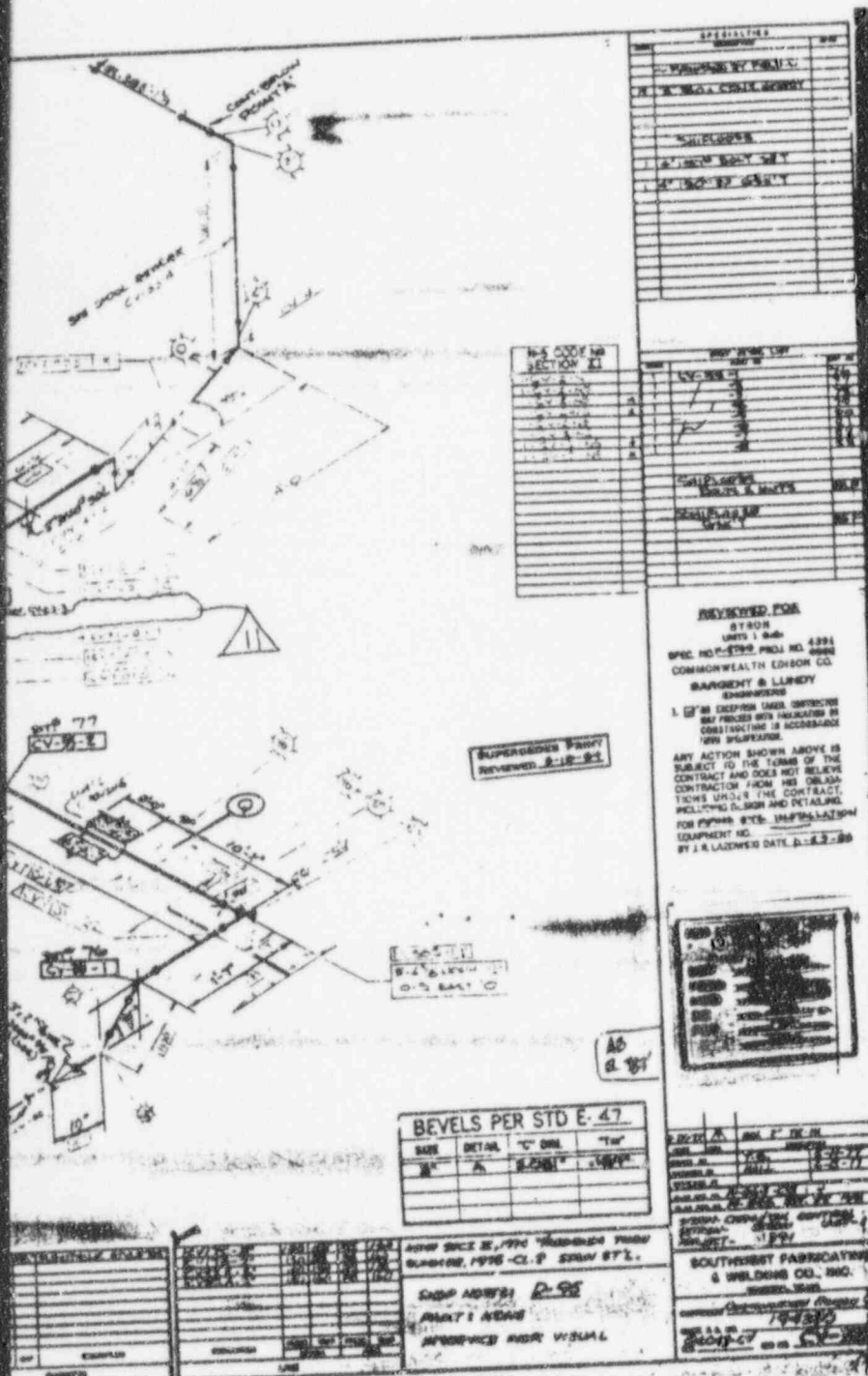


ANSTEC APERTURE CARD

Also Available on
Aperture Card



**Also Available on
Aperture Card**



REVIEWED TO: M-54-1116, M-54-227

SPECIAL NOTES:

ALL STATION DATA WILL BE SHOWN IN A TABLE FOR EACH STATION
ALONG THE LONGITUDINAL AXIS OF THE TUNNEL AND ALSO
NOTED INDICATE THE COMPONENTS OF THE STATION AND
AT THE TIME OF THE STATION

☀️ **உயிர் தரும் உணவுகள்**

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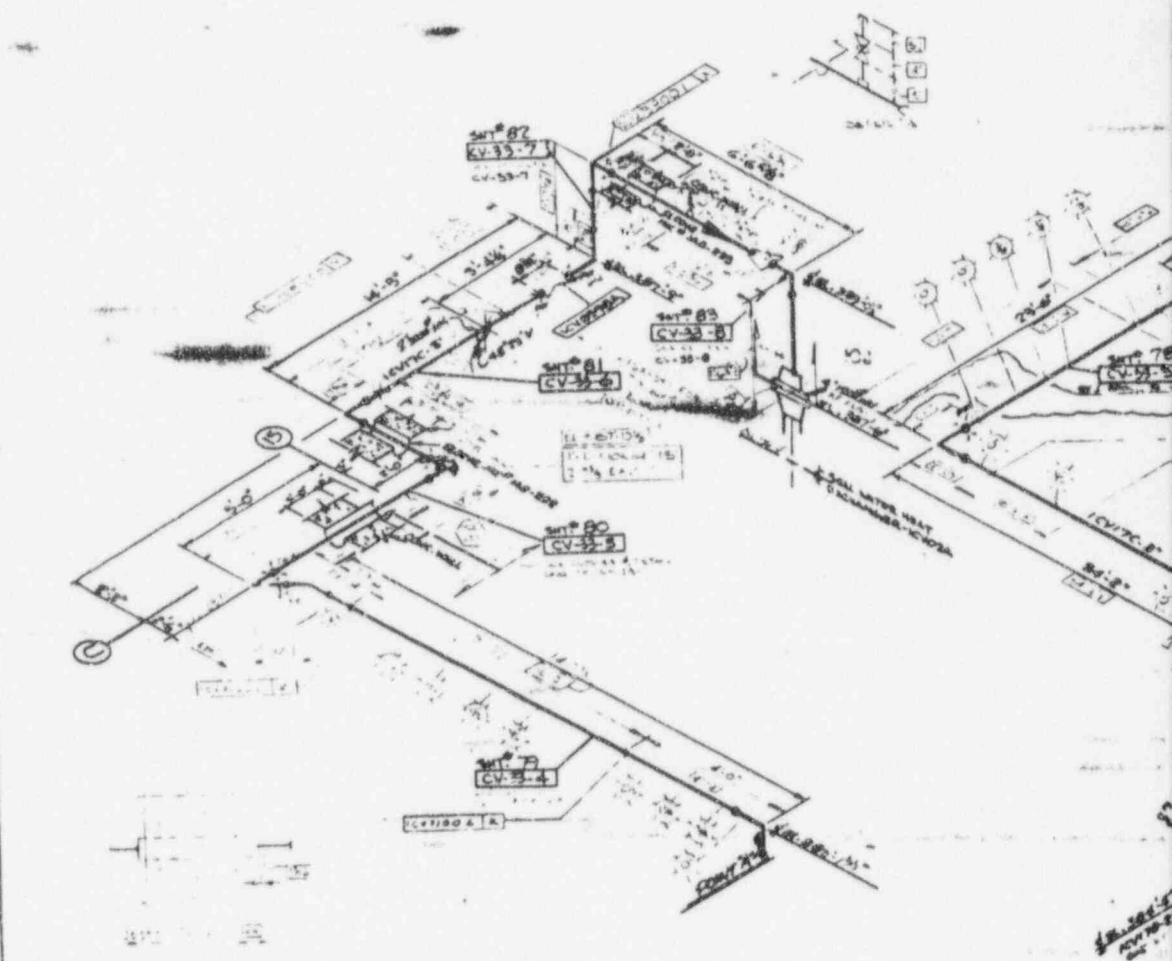
TITLE: CHEM & VOL CON

| | |
|-----------------------|---------------------------|
| NAME - <u>WILLIAM</u> | DATE - <u>10/10/10</u> |
| CR BY - <u>RA</u> | BRANCH - <u>10/10/10</u> |
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| INT - <u>10/10/10</u> | |

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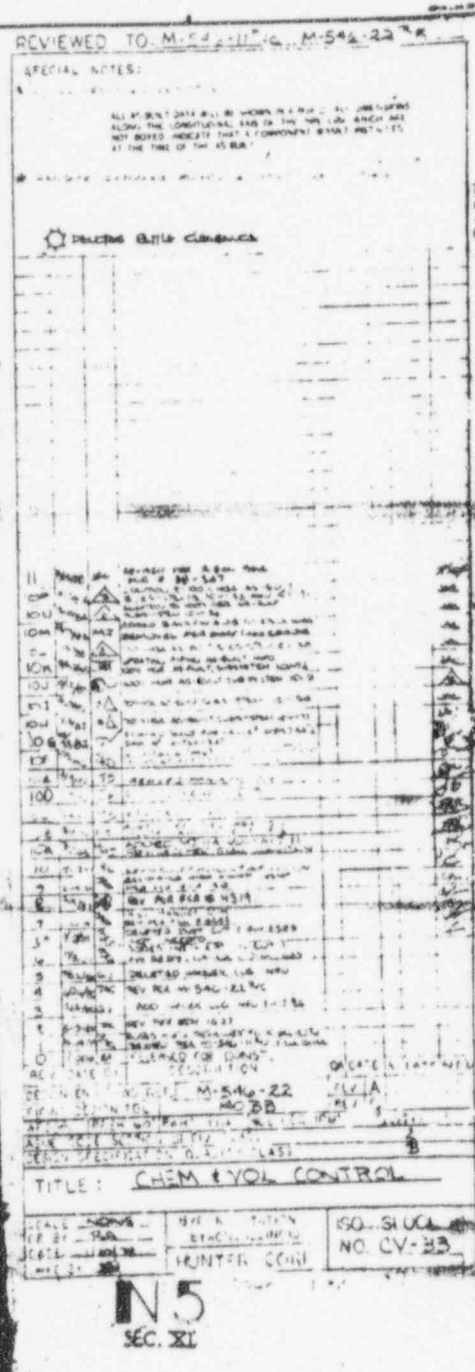
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| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| <p>1. Name of the person: [Name]</p> <p>2. Address: [Address]</p> <p>3. Date of birth: [Date]</p> <p>4. Place of birth: [Place]</p> <p>5. Date of death: [Date]</p> <p>6. Cause of death: [Cause]</p> <p>7. Date of burial: [Date]</p> <p>8. Place of burial: [Place]</p> <p>9. Name of the person: [Name]</p> <p>10. Address: [Address]</p> <p>11. Date of birth: [Date]</p> <p>12. Place of birth: [Place]</p> <p>13. Date of death: [Date]</p> <p>14. Cause of death: [Cause]</p> <p>15. Date of burial: [Date]</p> <p>16. Place of burial: [Place]</p> <p>17. Name of the person: [Name]</p> <p>18. Address: [Address]</p> <p>19. Date of birth: [Date]</p> <p>20. Place of birth: [Place]</p> <p>21. Date of death: [Date]</p> <p>22. Cause of death: [Cause]</p> <p>23. Date of burial: [Date]</p> <p>24. Place of burial: [Place]</p> <p>25. Name of the person: [Name]</p> <p>26. Address: [Address]</p> <p>27. Date of birth: [Date]</p> <p>28. Place of birth: [Place]</p> <p>29. Date of death: [Date]</p> <p>30. Cause of death: [Cause]</p> <p>31. Date of burial: [Date]</p> <p>32. Place of burial: [Place]</p> <p>33. Name of the person: [Name]</p> <p>34. Address: [Address]</p> <p>35. Date of birth: [Date]</p> <p>36. Place of birth: [Place]</p> <p>37. Date of death: [Date]</p> <p>38. Cause of death: [Cause]</p> <p>39. Date of burial: [Date]</p> <p>40. Place of burial: [Place]</p> <p>41. Name of the person: [Name]</p> <p>42. Address: [Address]</p> <p>43. Date of birth: [Date]</p> <p>44. Place of birth: [Place]</p> <p>45. Date of death: [Date]</p> <p>46. Cause of death: [Cause]</p> <p>47. Date of burial: [Date]</p> <p>48. Place of burial: [Place]</p> <p>49. Name of the person: [Name]</p> <p>50. Address: [Address]</p> <p>51. Date of birth: [Date]</p> <p>52. Place of birth: [Place]</p> <p>53. Date of death: [Date]</p> <p>54. Cause of death: [Cause]</p> <p>55. Date of burial: [Date]</p> <p>56. Place of burial: [Place]</p> <p>57. Name of the person: [Name]</p> <p>58. Address: [Address]</p> <p>59. Date of birth: [Date]</p> <p>60. Place of birth: [Place]</p> <p>61. Date of death: [Date]</p> <p>62. Cause of death: [Cause]</p> <p>63. Date of burial: [Date]</p> <p>64. Place of burial: [Place]</p> <p>65. Name of the person: [Name]</p> <p>66. Address: [Address]</p> <p>67. Date of birth: [Date]</p> <p>68. Place of birth: [Place]</p> <p>69. Date of death: [Date]</p> <p>70. Cause of death: [Cause]</p> <p>71. Date of burial: [Date]</p> <p>72. Place of burial: [Place]</p> <p>73. Name of the person: [Name]</p> <p>74. Address: [Address]</p> <p>75. Date of birth: [Date]</p> <p>76. Place of birth: [Place]</p> <p>77. Date of death: [Date]</p> <p>78. Cause of death: [Cause]</p> <p>79. Date of burial: [Date]</p> <p>80. Place of burial: [Place]</p> <p>81. Name of the person: [Name]</p> <p>82. Address: [Address]</p> <p>83. Date of birth: [Date]</p> <p>84. Place of birth: [Place]</p> <p>85. Date of death: [Date]</p> <p>86. Cause of death: [Cause]</p> <p>87. Date of burial: [Date]</p> <p>88. Place of burial: [Place]</p> <p>89. Name of the person: [Name]</p> <p>90. Address: [Address]</p> <p>91. Date of birth: [Date]</p> <p>92. Place of birth: [Place]</p> <p>93. Date of death: [Date]</p> <p>94. Cause of death: [Cause]</p> <p>95. Date of burial: [Date]</p> <p>96. Place of burial: [Place]</p> <p>97. Name of the person: [Name]</p> <p>98. Address: [Address]</p> <p>99. Date of birth: [Date]</p> <p>100. Place of birth: [Place]</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

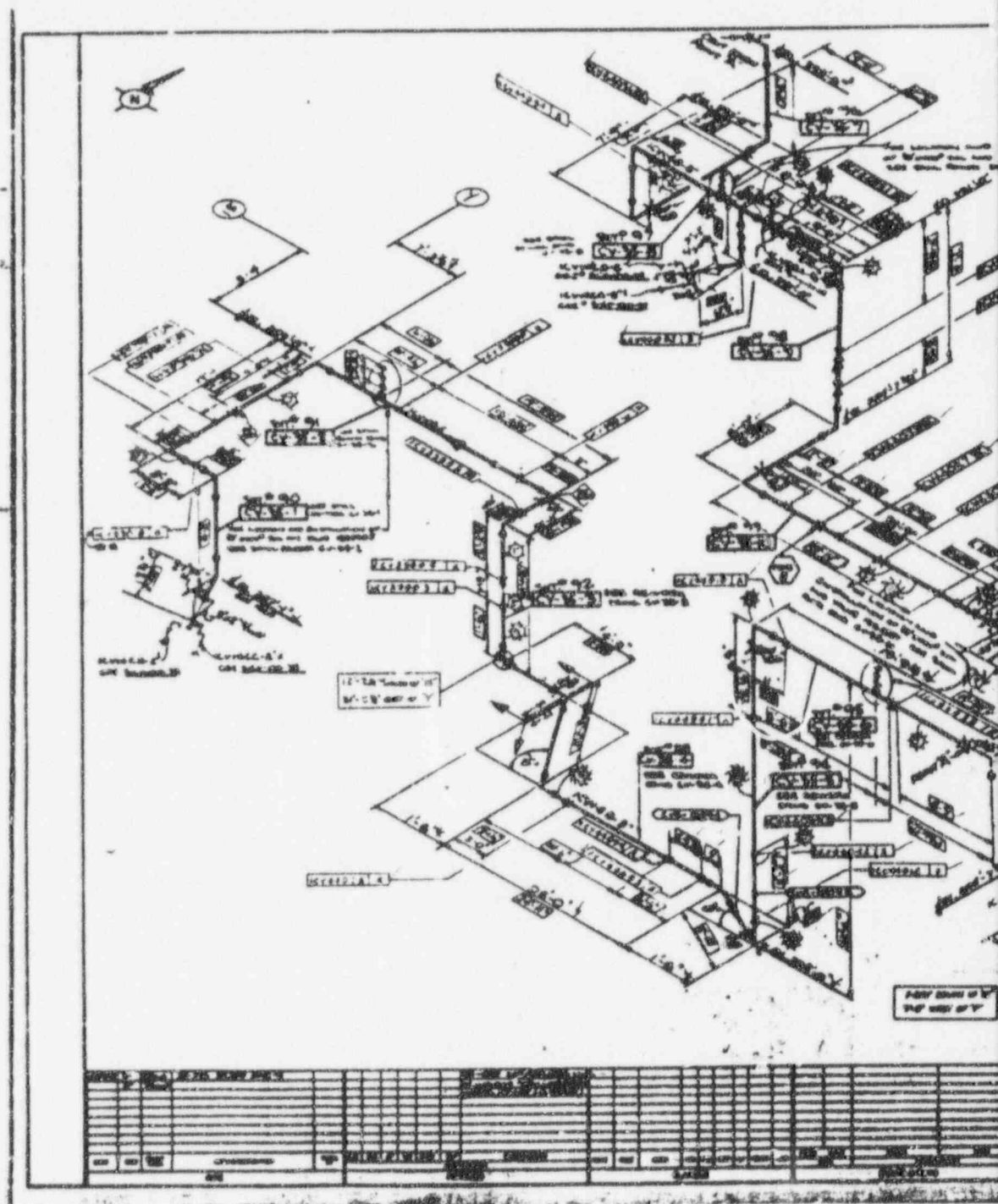
**Also Available on
Aperture Card**

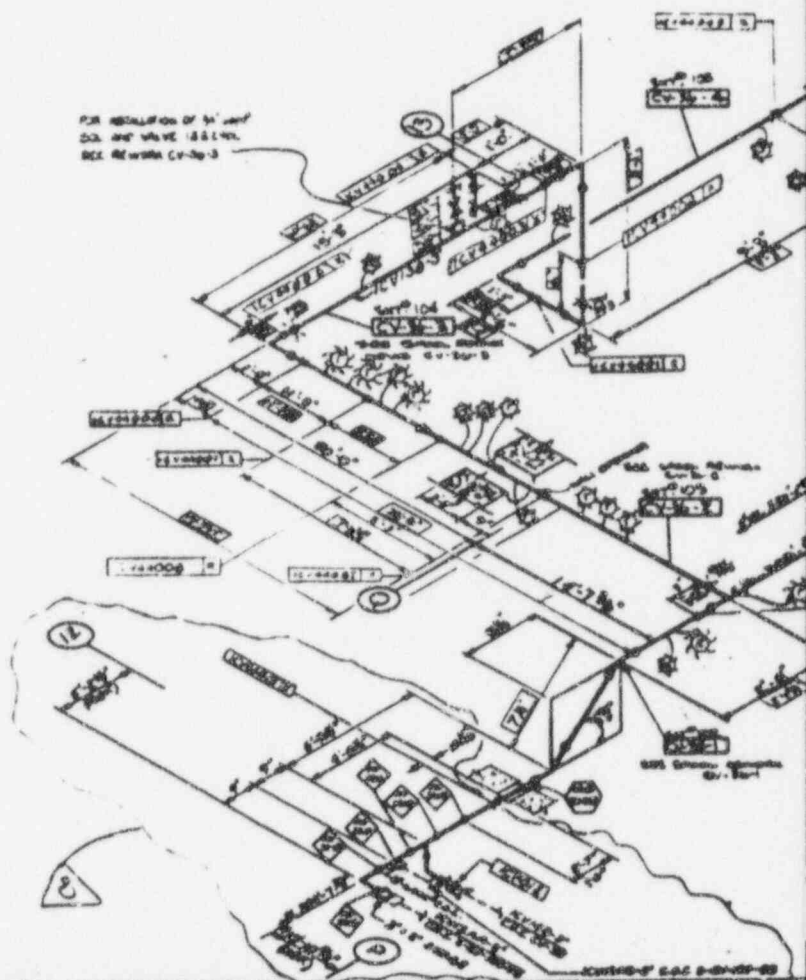
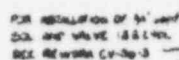


CV-33



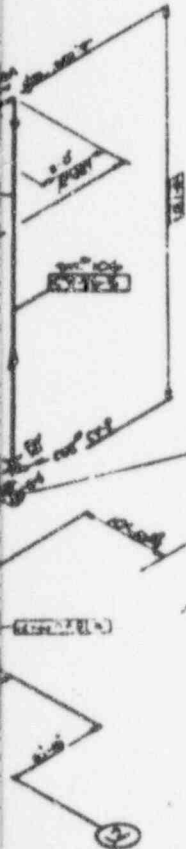
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**Also Available on
Aperture Card**

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| N-1 CODE | | N-2 CODE | |
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| 8 | 9 | 0 | 1 |
| 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 |
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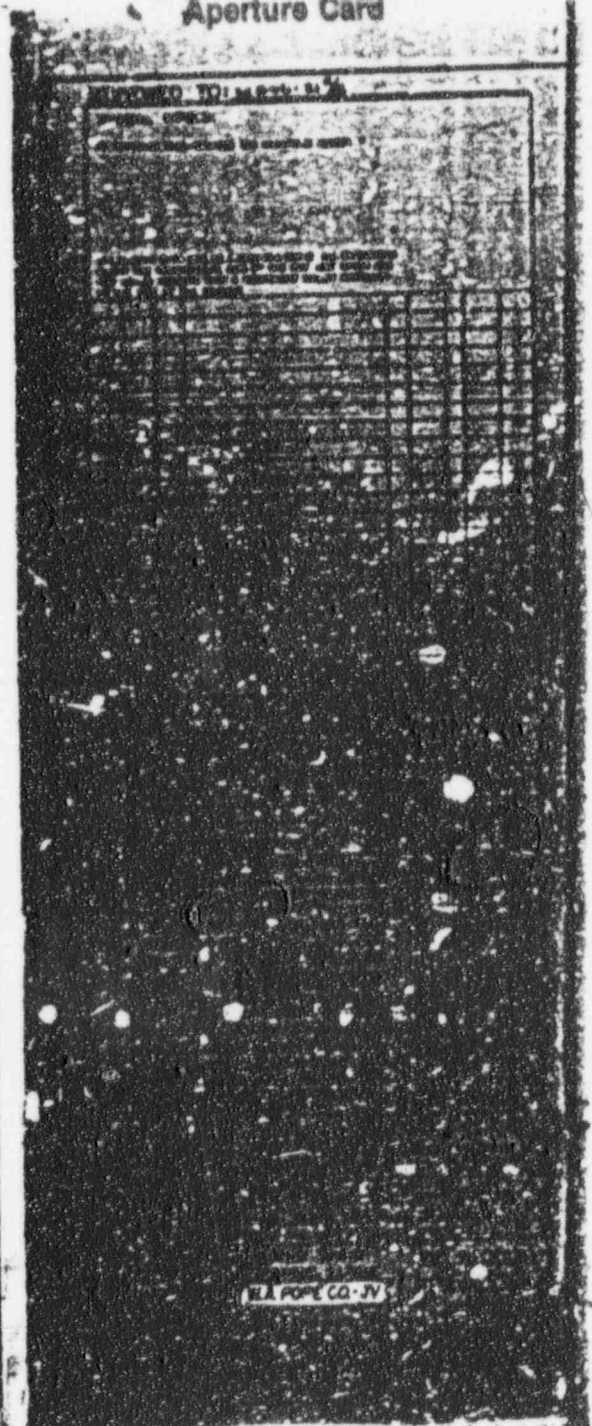
FOR RECORD
TO CLOSE OUT
DIC# KL 81-188
PECH# NO. 2-6280
EMPH# NO. 188-188-008
DC NO. C.V. 187
PCR
REV A

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DOUGHERTY PASS-GATES & WELDING CO., INC.

SHOP NOTE: 1 D-91
 PARTS: INC: 43
 WORKING: 10/11/1961

The image shows a close-up of a document with a grid pattern, likely a ledger or a form. The grid consists of horizontal and vertical lines forming a series of small squares. Some of the squares contain text, which is partially obscured by a dark, irregular shape that appears to be a shadow or a piece of tape. The text is mostly illegible due to the low resolution and the presence of the dark shape.



CV-36

9706240075-05

9706240075.06



COMMONWEALTH Edison Co

1. NO EMPLOYMENT WITH CONTRACTOR
AND FINANCIAL OR PERSONAL
CONNECTIONS OR ASSOCIATION
WITH SPYMASTER.

RECEIVED BY A. Q. LABOWSKI DATE 8-18-1961

BY A.D. LABOWSKI DATE 8-18-88

DATE: 11/11/1964

(CONT. FROM)

| | | | | | | | | |
|----|-------|-----|------|-----|----|------|------------------------|------|
| GA | STATE | ORG | NAME | DOB | PO | DATE | DESCRIPTION OF SERVICE | APPT |
|----|-------|-----|------|-----|----|------|------------------------|------|

**NUCLEAR SAFETY RELATED
ITEMS ARE SHOWN ON THIS DRAWING
(FOR SAFETY CLASSIFICATION SEE PIPING,
EQUIPMENT, VALVE OR INSTRUMENT LISTS.)**

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| S-CV-100-9-5 | 4781 |
| SPOOL NO | RFA NO |

| NO | DATE | BY | REV | DATE | DESCRIPTION OF REVISION | APP'D |
|-----|----------|-----|-----|------|-------------------------|-------|
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| 106 | 10/24/70 | 106 | 1 | | ADD T-OUT TO OK-GR-00 | 717 |
| 107 | 10/24/70 | 107 | 1 | | ADD T-OUT TO OK-GR-00 | 717 |
| 108 | 10/24/70 | 108 | 1 | | ADD T-OUT TO OK-GR-00 | 717 |
| 109 | 10/24/70 | 109 | 1 | | ADD T-OUT TO OK-GR-00 | 717 |
| 110 | 10/24/70 | 110 | 1 | | ADD T-OUT TO OK-GR-00 | 717 |
| 111 | 10/24/70 | 111 | 1 | | ADD T-OUT TO OK-GR-00 | 717 |
| 112 | 10/24/70 | 112 | 1 | | ADD T-OUT TO OK-GR-00 | 717 |
| 113 | 10/24/70 | 113 | 1 | | ADD T-OUT TO OK-GR-00 | 717 |
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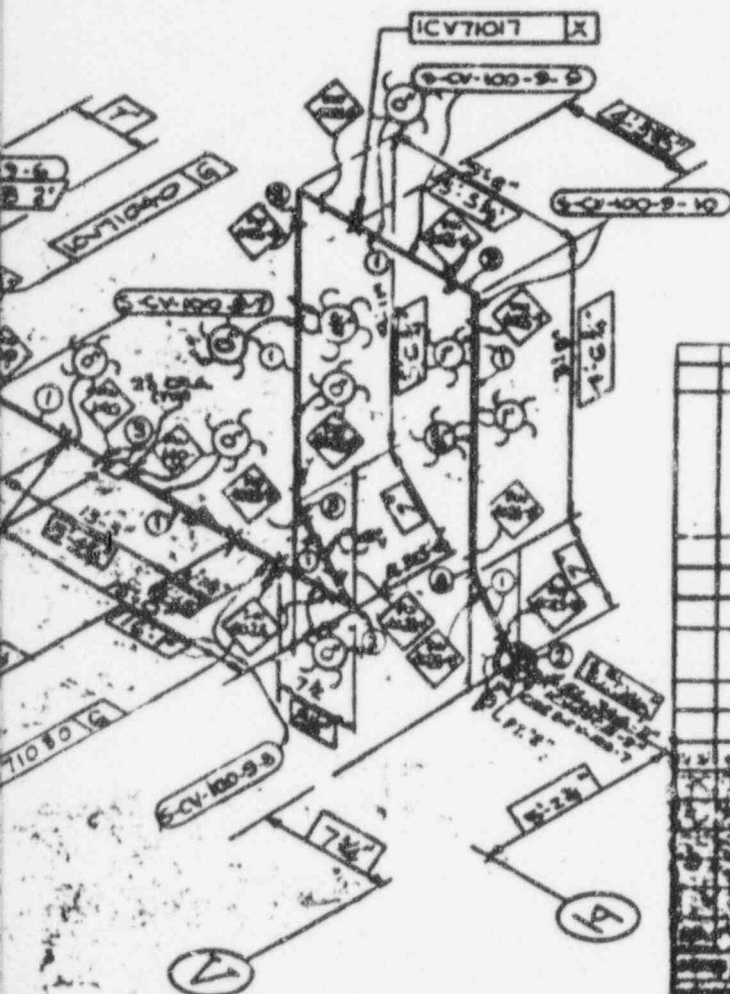


ANSTEC APERTURE CARD

Also Available on
Aperture Card

NOTE

- 1 ALL DIMENSIONAL DATA SHOWN HERE HAS BEEN VERIFIED AND FOUND TO BE WITHIN TOLERANCE OF THE DRAWING.
- 2
- 3



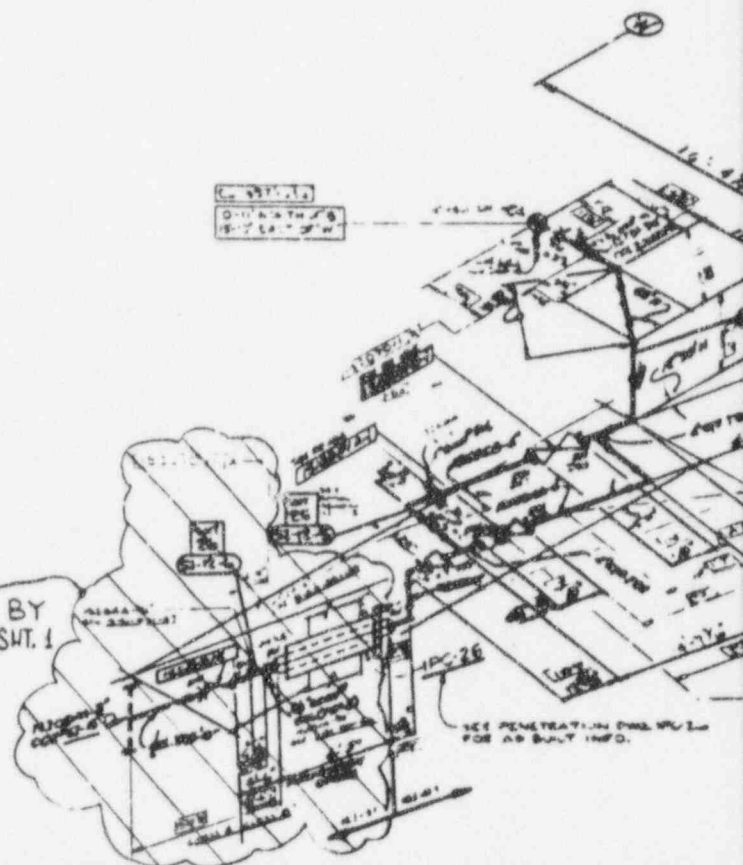
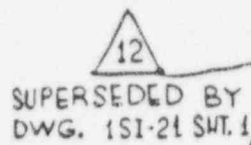
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| 10 | P | 4/23/8 | DELTA - P-11-71 | 717 |
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| 7 | Q | 4/23/8 | DELTA - P-11-71 | 717 |
| 6 | Q | 4/23/8 | DELTA - P-11-71 | 717 |



N5
SEC. XI

S-CV-100-9

9706240075-07

[illegible]

Also Available on
Aperture Card

REVIEWED TO: 11-22-11-1

SPECIAL NOTE 8

SPECIAL NOTE 5:
In addition to the volume of material covered

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE
DATE 08-19-2007 BY SP-6 JAC/jac

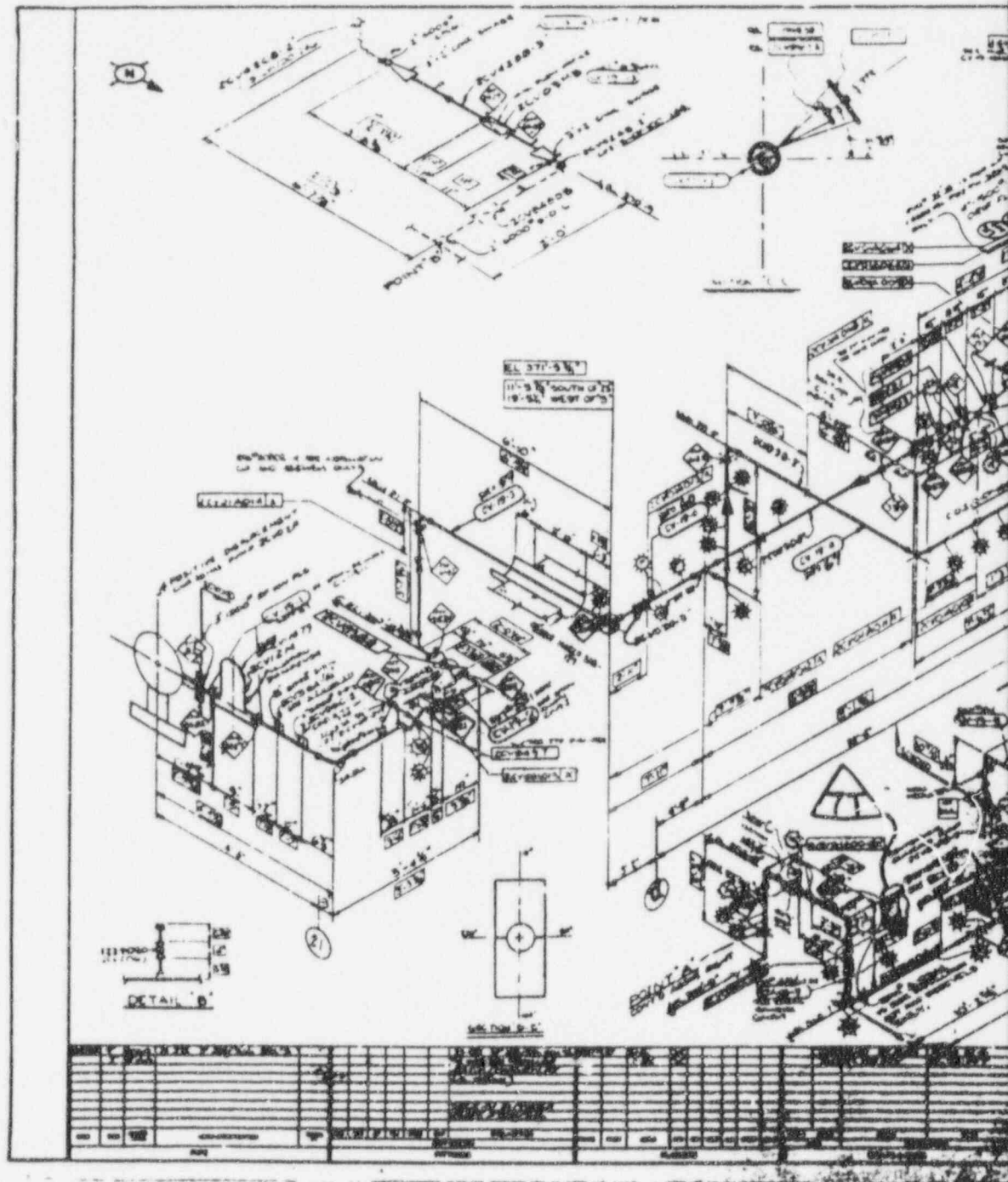
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 3. **TIME:**
 4. **LOCATION:**
 5. **WIND:**
 6. **SEA:**
 7. **WEATHER:**
 8. **MOON:**
 9. **STAR:**
 10. **PLANET:**
 11. **COMET:**
 12. **ASTEROID:**
 13. **NEBULA:**
 14. **CLUSTER:**
 15. **SHOCK:**
 16. **WAVE:**
 17. **SWELL:**
 18. **ICE:**
 19. **FOG:**
 20. **SMOG:**
 21. **HAZE:**
 22. **RAIN:**
 23. **SNOW:**
 24. **ICEBERG:**
 25. **SHIP:**
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 88. **FLYING:**
 89. **BOATING:**
 90. **CLIMBING:**
 91. **SKATING:**
 92. **SKIING:**
 93. **SNOWBOARDING:**
 94. **WATER SKIING:**
 95. **WIND SURFING:**
 96. **KAYAKING:**
 97. **CANOEING:**
 98. **ROWING:**
 99. **SWIMMING:**
 100. **WALKING:**
 101. **DRIVING:**
 102. **FLYING:**
 103. **BOATING:**
 104. **CLIMBING:**
 105. **SKATING:**
 106. **SKIING:**
 107. **SNOWBOARDING:**
 108. **WATER SKIING:**
 109. **WIND SURFING:**
 110. **KAYAKING:**
 111. **CANOEING:**
 112. **ROWING:**
 113. **SWIMMING:**
 114. **WALKING:**
 115. **DRIVING:**
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 118. **CLIMBING:**
 119. **SKATING:**
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 121. **SNOWBOARDING:**
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 136. **WATER SKIING:**
 137. **WIND SURFING:**
 138. **KAYAKING:**
 139. **CANOEING:**
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 142. **WALKING:**
 143. **DRIVING:**
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 147. **SKATING:**
 148. **SKIING:**
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 167. **CANOEING:**
 168. **ROWING:**
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 171. **DRIVING:**
 172. **FLYING:**
 173. **BOATING:**
 174. **CLIMBING:**
 175. **SKATING:**
 176. **SKIING:**
 177. **SNOWBOARDING:**
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 179. **WIND SURFING:**
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 187. **BOATING:**
 188. **CLIMBING:**
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 193. **WIND SURFING:**
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 204. **SKIING:**
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 206. **WATER SKIING:**
 207. **WIND SURFING:**
 208. **KAYAKING:**
 209. **CANOEING:**
 210. **ROWING:**
 211. **SWIMMING:**
 212. **WALKING:**
 213. **DRIVING:**
 214. **FLYING:**
 215. **BOATING:**
 216. **CLIMBING:**
 217. **SKATING:**
 218. **SKIING:**
 219. **SNOWBOARDING:**
 220. **WATER SKIING:**
 221. **WIND SURFING:**
 222. **KAYAKING:**
 223. **CANOEING:**
 224. **ROWING:**
 225. **SWIMMING:**
 226. **WALKING:**
 227. **DRIVING:**
 228. **FLYING:**
 229. **BOATING:**
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 231. **SKATING:**
 232. **SKIING:**
 233. **SNOWBOARDING:**

[illegible]

SI-12

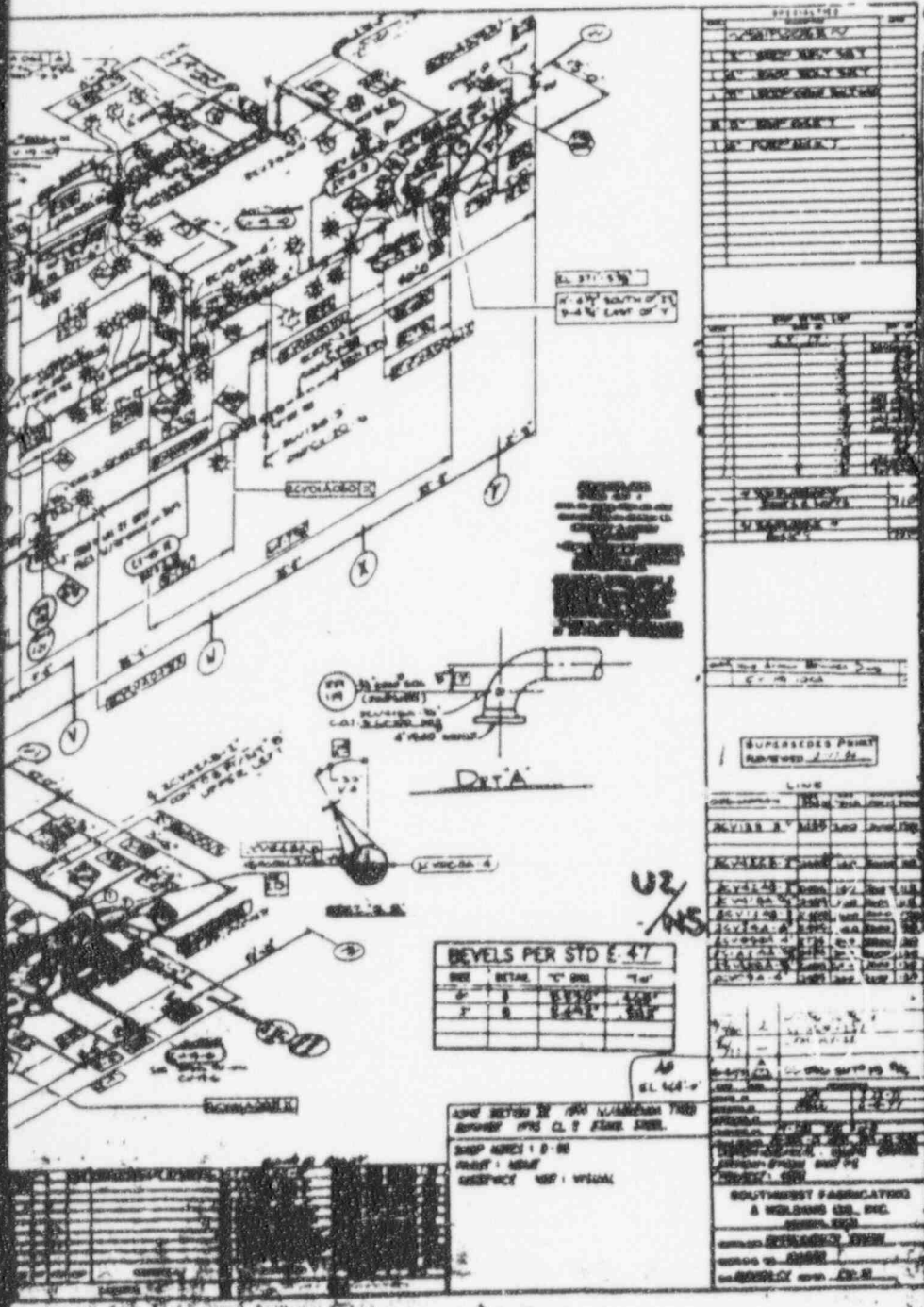
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MC



ANSTEC APERTURE CARD

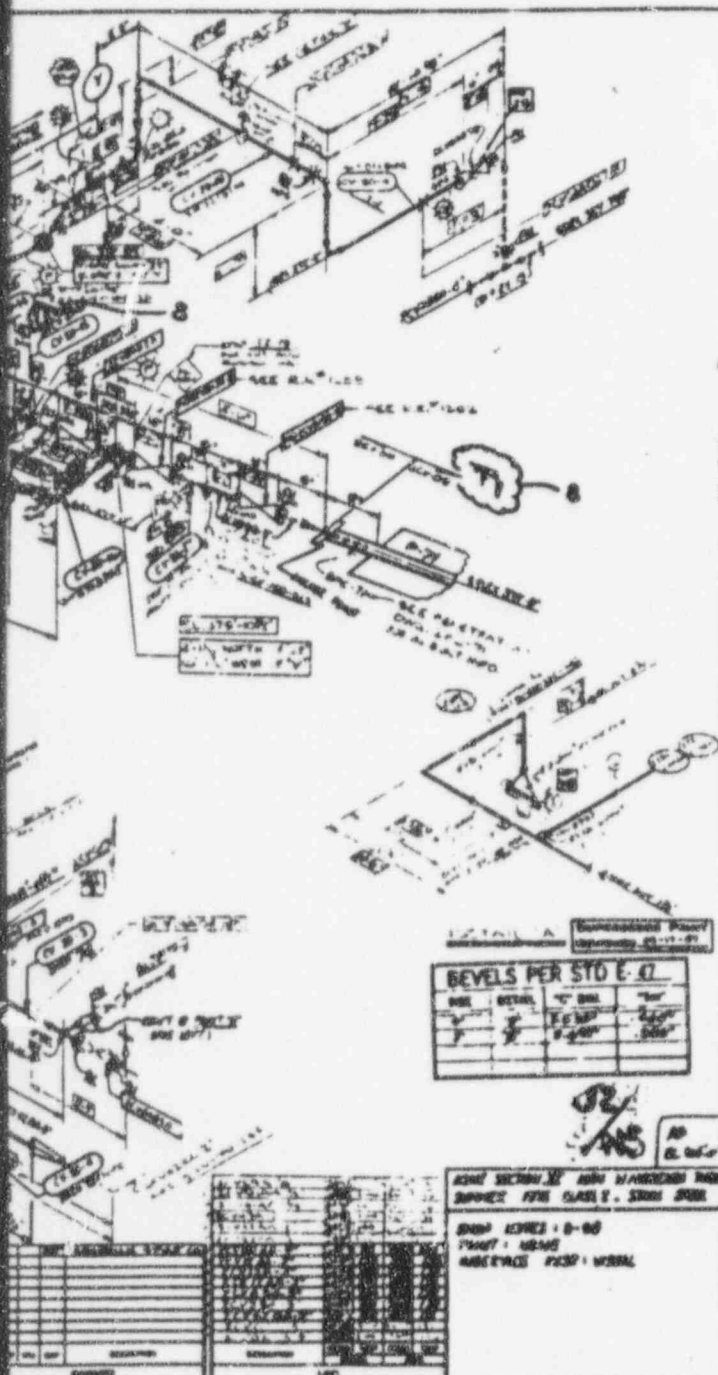
Also Available on
Aperture Card



CV-19

9706240075-09

**Also Available on
Aperture Card**

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The image shows a document with a header section containing a logo and text. Below the header is a table with several columns. The text is mostly illegible due to blurring.

[illegible]

SOUTHWEST FABRICATING
• 2000 S. 10th St. • Phoenix, AZ 85004

1. NAME JOHN J. BROWN
 2. DATE 11/11/68
 3. TIME 11:11
 4. PLACE 1111

REVIEWED TO: [redacted]

SPECIAL NOTES:
A Bureau To Ed [unclear] the [unclear] Com
[unclear] [unclear] [unclear] [unclear]
 DROPPED CATTLE ALLEGATIONS

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN
OTHERWISE. DATE 10-10-2001 BY 60322 UCBAW/STP

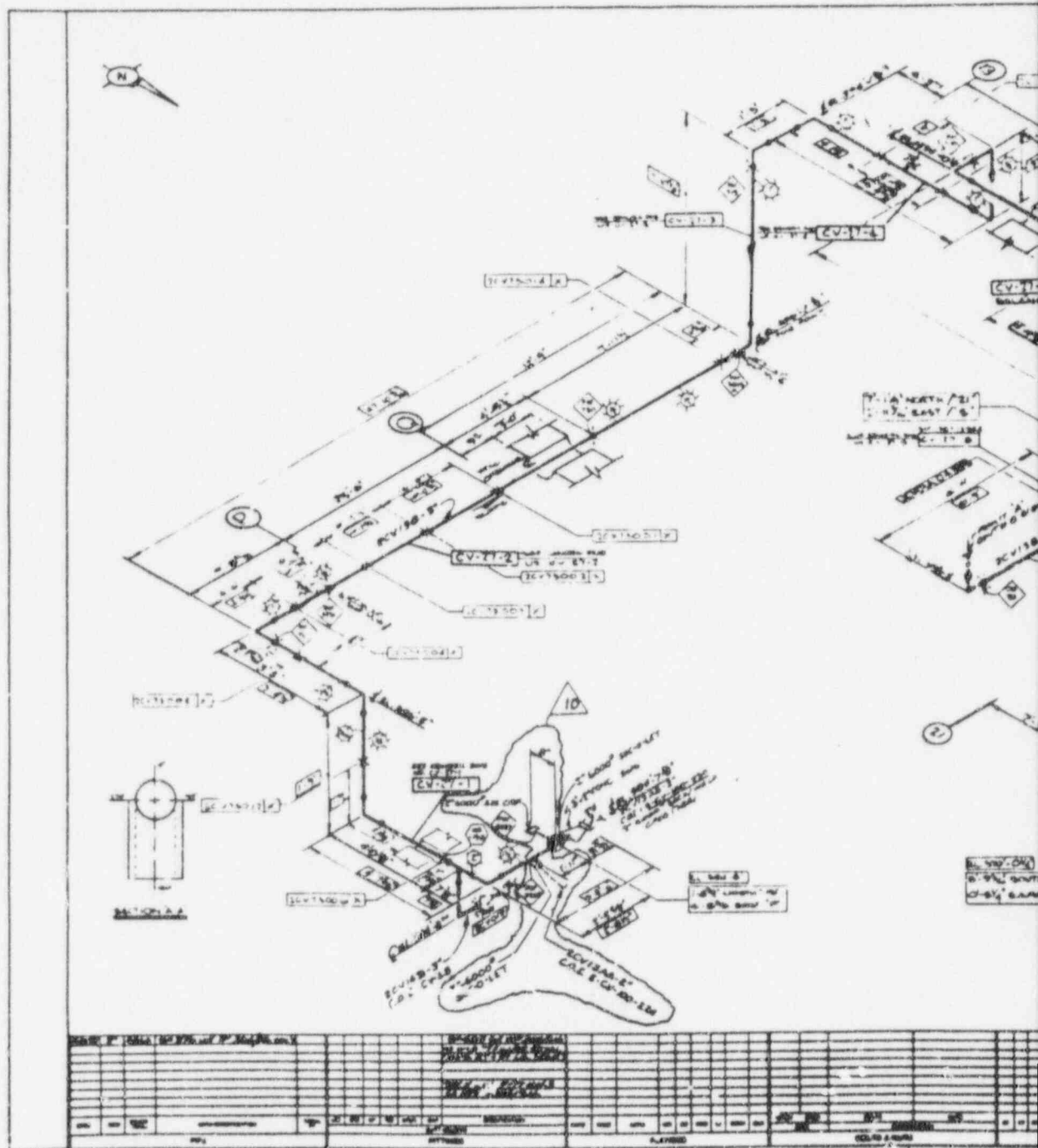
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Dev. Sci., 2002, 5, 2

MP

CV-20

9706240075-10



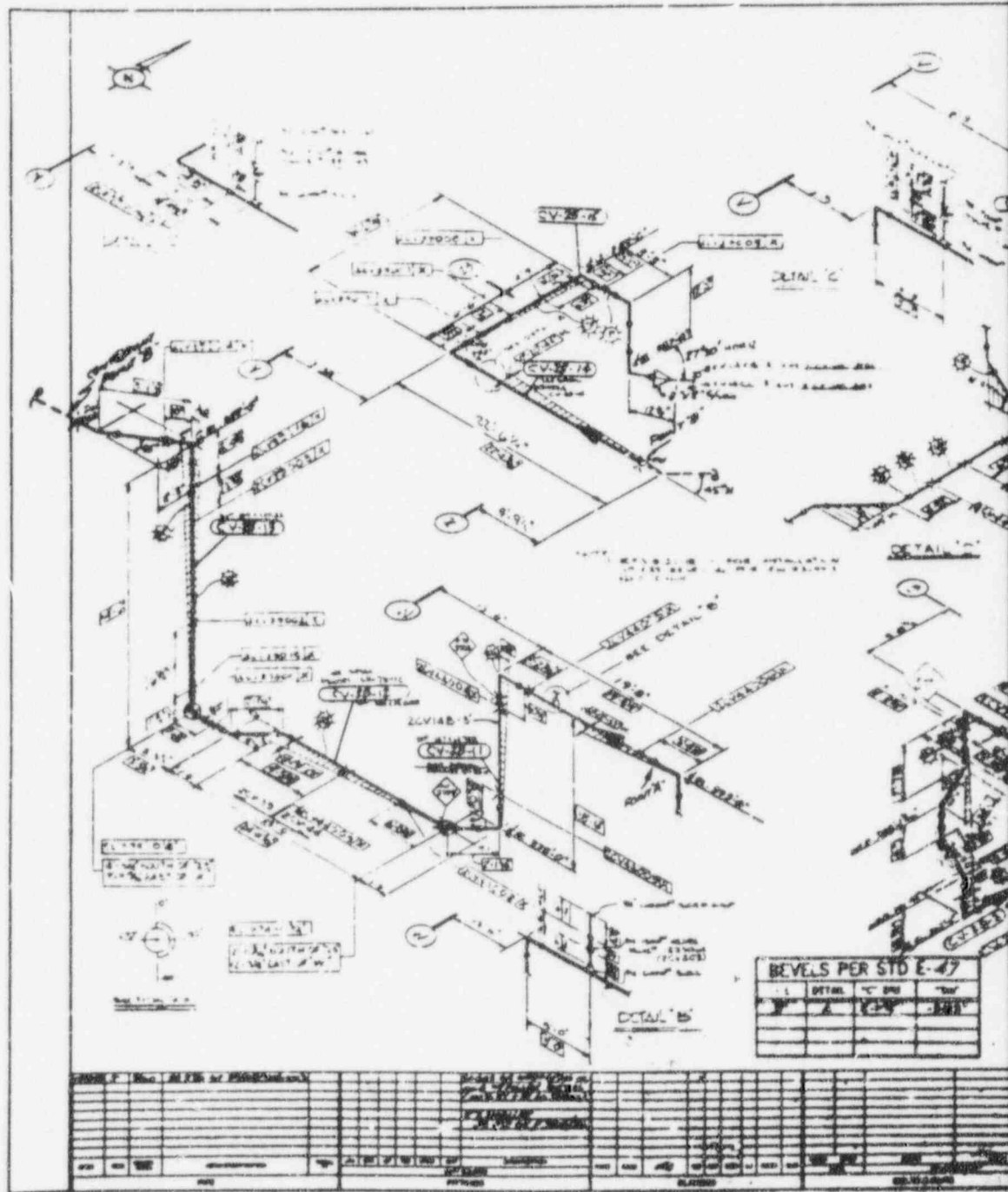
**Also Available on
Aperture Card**



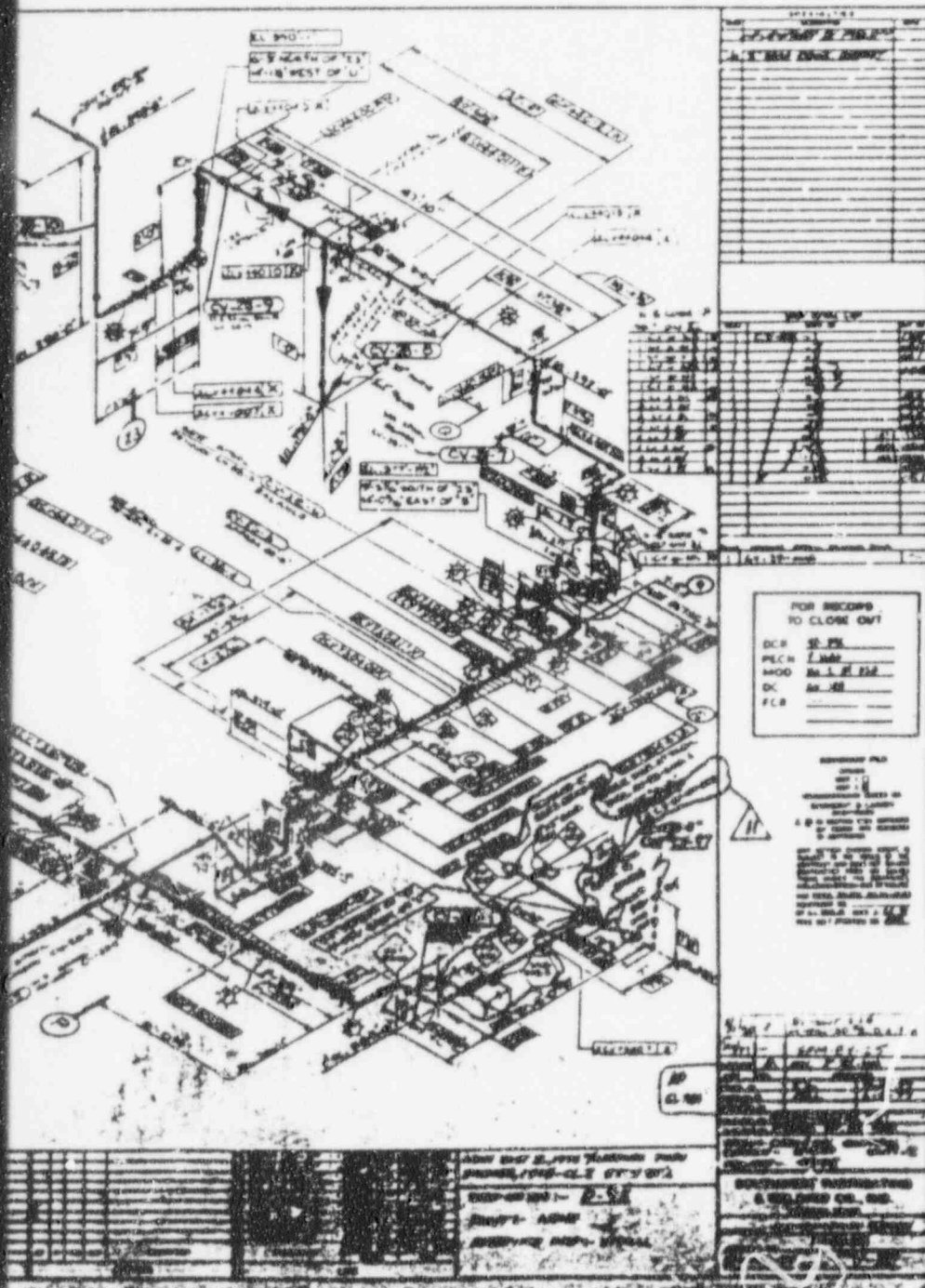
MC

CV-27

9706240075-11



**Also Available on
Aperture Card**

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MC

CV-28

9706240075-12

SEP 10 1964

COMMONWEALTH IN EDITION CO.

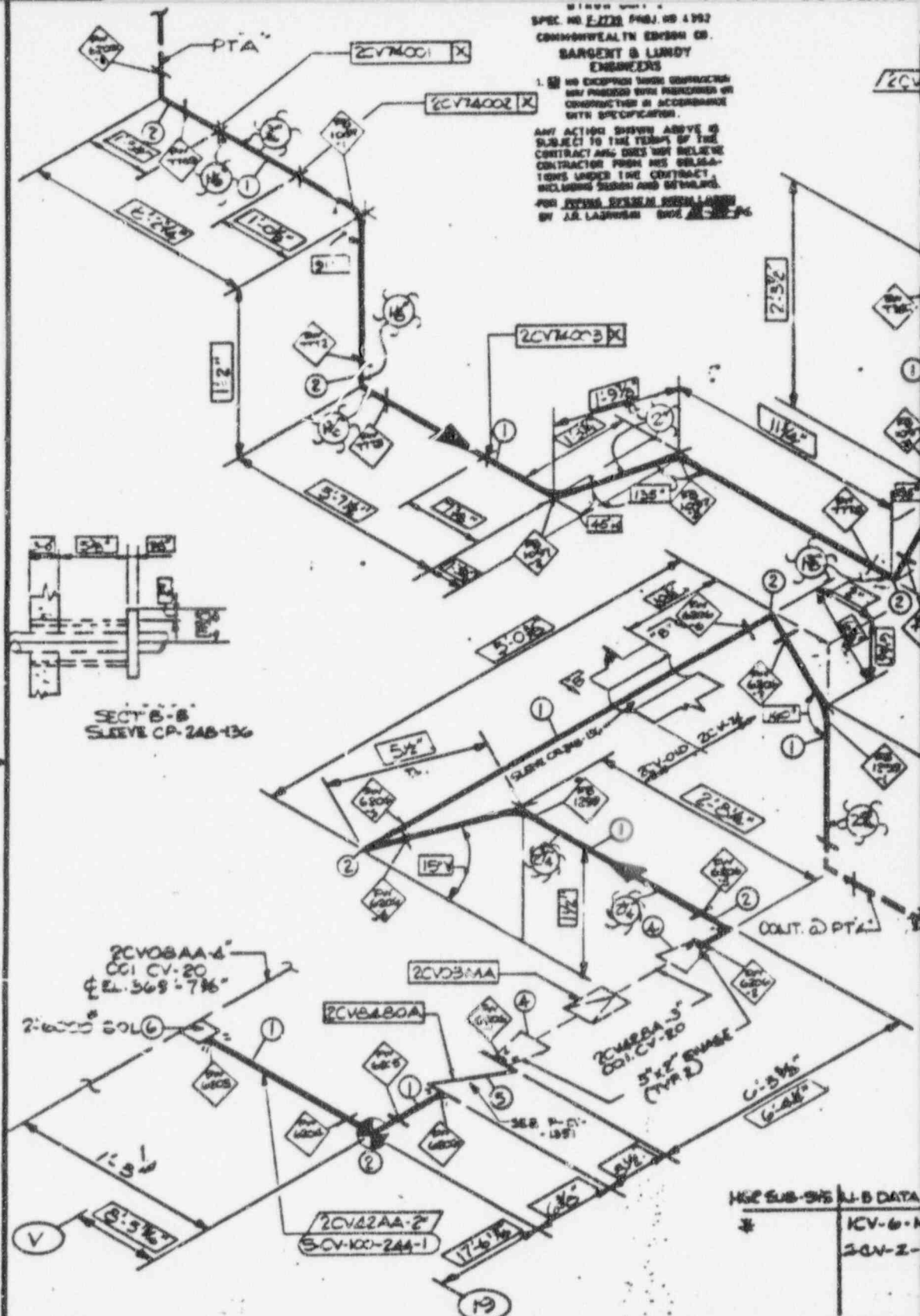
SARGENT & LINDY

ENGINEERS

1. ☒ NO EXCEPTION UNDER CONTRACT
HAS PREVENTED THE PARTICIPANT OR
CONTRACTOR IN ACCORDANCE
WITH SPECIFICATION.

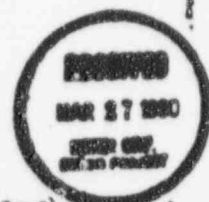
ANY ACTION TAKEN ABOVE IS
SUBJECT TO THE TERMS OF THE
CONTRACT AND DOES NOT INCLUDE
CONTRACTOR FROM HIS OBLIGA-
TIONS UNDER THE CONTRACT,
INCLUDING DESIGN AND SURVEY.

FOR FURTHER INFORMATION
ON A. R. LAZARUS SEE **AL-26**

[illegible]

~~NORTH~~
~~BYRON~~

Also Available on
Aperture Card

[illegible][illegible][illegible]

| | | | |
|--|----|----------|---------|
| TITLE: CHEM. VOL. CONTROL | | SEARCHED | INDEXED |
| DATE | BY | SERIAL | FILED |
| 7-25-82 | | 5-CV | 100-244 |
| BYRON STATION BYRON, ILLINOIS HUNTER CORP. | | | |

SUPERSEDES PRINT
REVIEWED 7-7-65

U2/N5 N5
SEC. XI

CHEMICAL FEED
& VOLUME CONTROL
AUXILIARY BUILDING
ELEV. 364'-0"

BYRON UNIT 2
COMMONWEALTH EDISON CO
CHICAGO, ILLINOIS

SARGENT & LUNDY

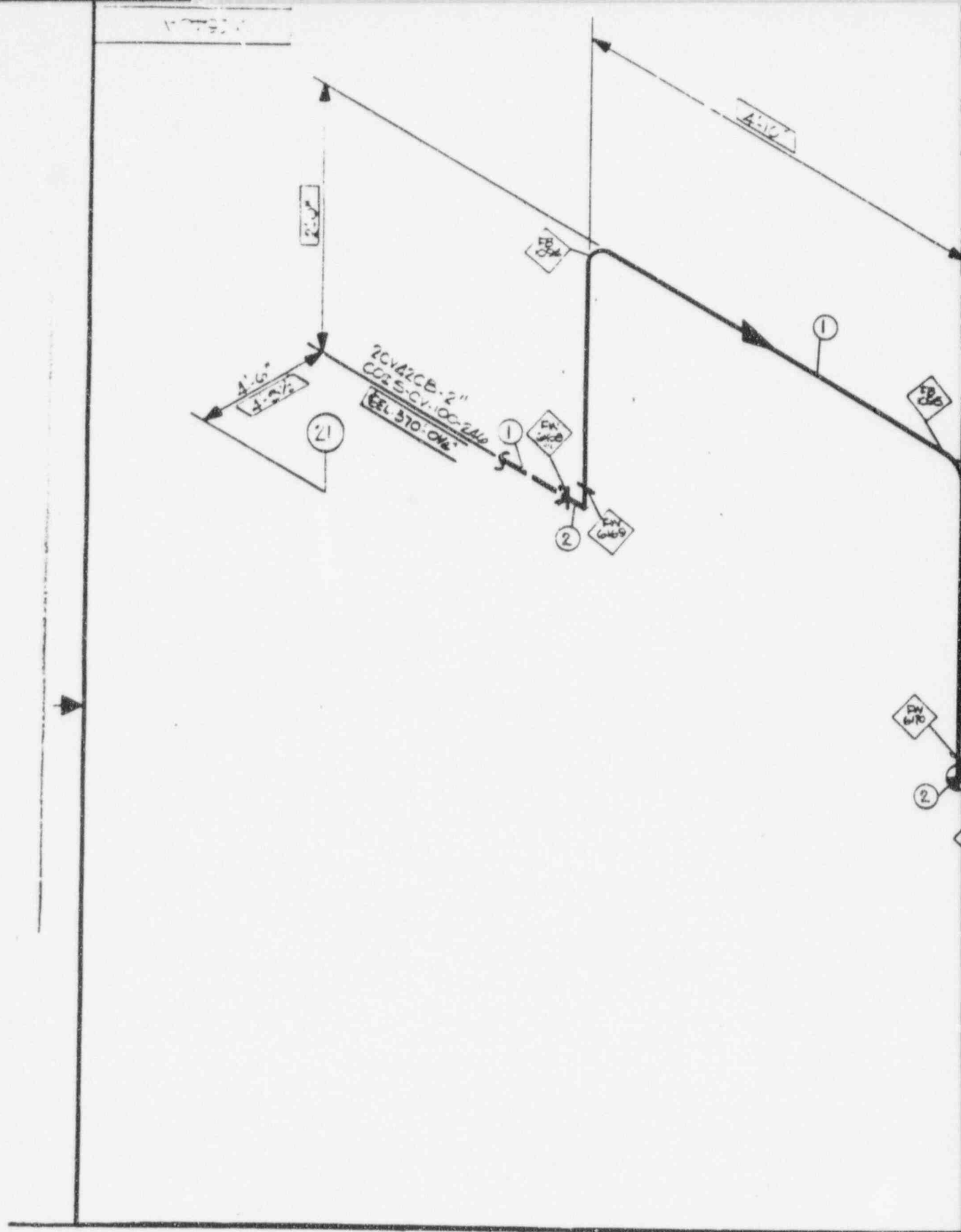
BRUNNEN, INC.

M-2546A

INDEX 244 OF

SCALE
NONE
PROJECT
4392

9706240075-5-CV-100-244
13



**ANSTEC
APERTURE
CARD**

REVIEWED FOR

✶

BY20K

UNIT 2

REF. NO. F-2147401 NO. 4192

COMMONWEALTH Edison Co.

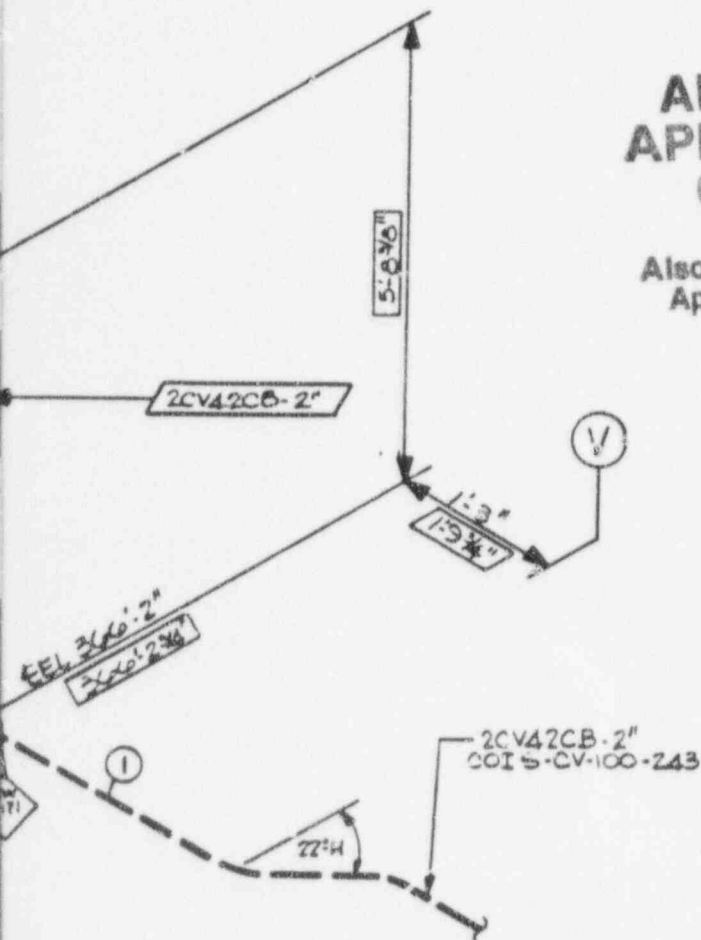
SARGENT & LUNDY
ENGINEERS

1. ☒ NO EXPIRATION TIME. CONTRACTOR MAY PROCEED WITH FABRICATION OR CONSTRUCTION IN ACCORDANCE WITH SPECIFICATIONS.

ANY ACTION SHOWN ABOVE IS
SUBJECT TO THE TERMS OF THE
CONTRACT, AND DOES NOT RELIEVE
CONTRACTOR FROM HIS OBLIGA-
TIONS UNDER THE CONTRACT,
INCLUDING DESIGN AND DETAILING.
FOR Further Information

EQUIPMENT NO.

BY A. R. LARSEN AND R. B. LARSEN



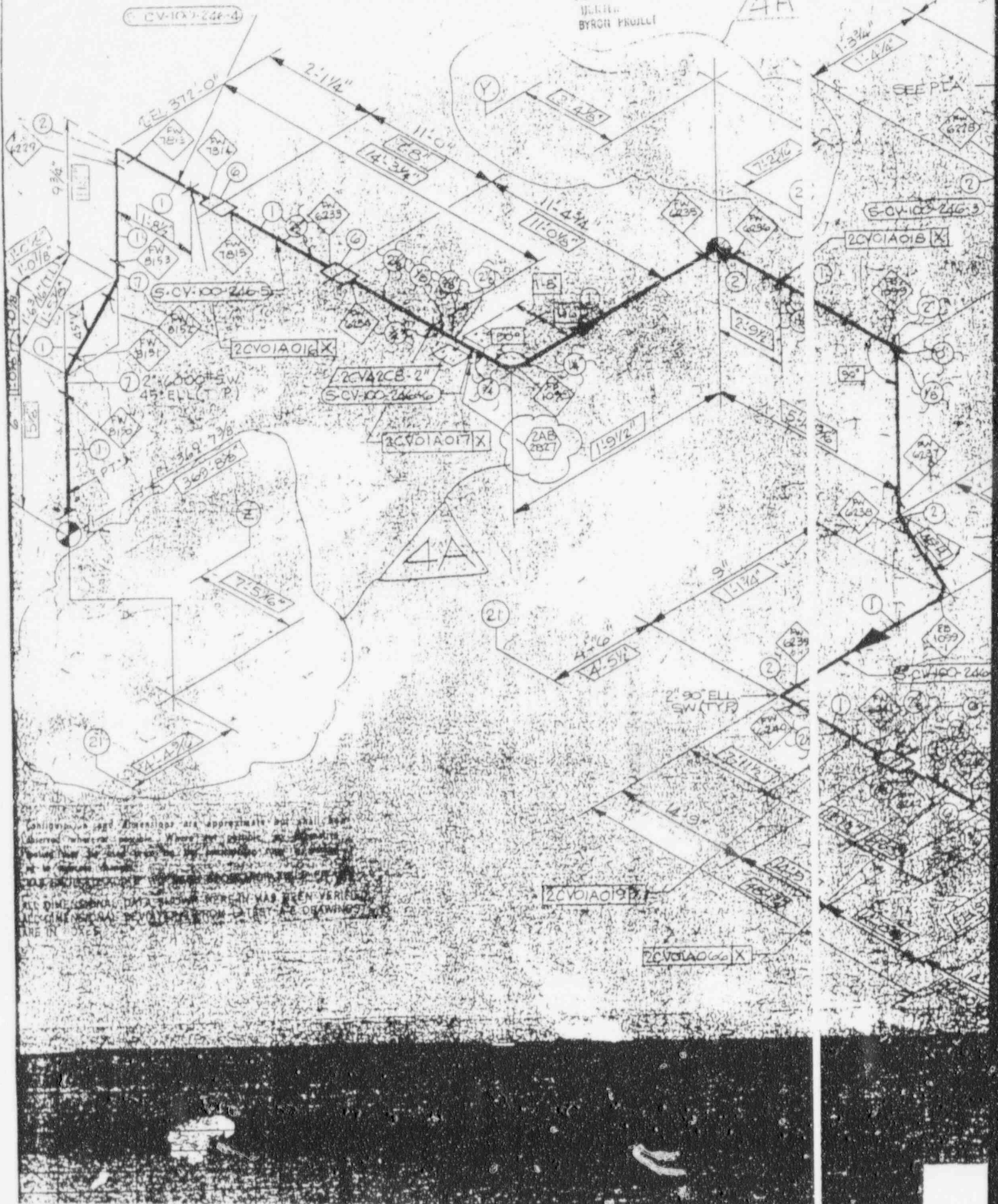
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| <div style="display: flex; justify-content: space-between;"> <div> <div>1A</div> <div>1</div> <div>QA</div> <div>0</div> </div> <div> <div>1/2</div> <div>1/2</div> <div>1/2</div> <div>1/2</div> </div> <div> <div>1/2</div> <div>1/2</div> <div>1/2</div> <div>1/2</div> </div> <div> <div>1/2</div> <div>1/2</div> <div>1/2</div> <div>1/2</div> </div> </div> | | | | | | | | | | <div style="display: flex; justify-content: space-between;"> <div> <div>ADD DUPLEX AS-BUILT</div> <div>ADD ORIGIN. ADDITIONAL</div> <div>ADD DUPLEX AS-BUILT ON</div> <div>REVIEWED DESIGN FILES</div> <div>FILE PER P-15246</div> </div> <div> <div>RELEASED FOR CONST.</div> </div> </div> | | | | | | | | | |
| <div style="display: flex; justify-content: space-between;"> <div> <div>DATE</div> <div>TIME</div> <div>SEC.</div> <div>BY</div> </div> <div> <div>DATE</div> <div>TIME</div> <div>SEC.</div> <div>BY</div> </div> </div> | | | | | | | | | | <div style="display: flex; justify-content: space-between;"> <div> <div>DESCRIPTION OF RECORD</div> </div> <div> <div>NO.</div> </div> </div> | | | | | | | | | |
| <div style="display: flex; justify-content: space-between;"> <div> <div>DESIGN NO.</div> <div>NO.</div> </div> <div> <div>M-120-5</div> <div>M-1546A-245</div> </div> <div> <div>SEC.</div> <div>1A</div> </div> </div> | | | | | | | | | | <div style="display: flex; justify-content: space-between;"> <div> <div>PREPARED BY</div> <div>NO.</div> </div> <div> <div>NA</div> </div> <div> <div>SEC.</div> <div>NA</div> </div> </div> | | | | | | | | | |
| <div style="display: flex; justify-content: space-between;"> <div> <div>1/2</div> <div>1/2</div> </div> <div> <div>2CV43CB-2"</div> </div> <div> <div>1/2</div> <div>1/2</div> </div> <div> <div>1/2</div> <div>1/2</div> </div> </div> | | | | | | | | | | <div style="display: flex; justify-content: space-between;"> <div> <div>1/2</div> <div>1/2</div> </div> <div> <div>1/2</div> <div>1/2</div> </div> <div> <div>1/2</div> <div>1/2</div> </div> <div> <div>1/2</div> <div>1/2</div> </div> </div> | | | | | | | | | |
| <div style="display: flex; justify-content: space-between;"> <div> <div>NOTE CODE SECTION IN SET 1 SLUGS</div> </div> <div> <div>2</div> </div> </div> | | | | | | | | | | <div style="display: flex; justify-content: space-between;"> <div> <div>SECTION SPECIFIC TO SLUGS</div> </div> <div> <div>B</div> </div> </div> | | | | | | | | | |
| <div style="display: flex; justify-content: space-between;"> <div> <div>1/2</div> <div>1/2</div> </div> <div> <div>1/2</div> <div>1/2</div> </div> <div> <div>1/2</div> <div>1/2</div> </div> <div> <div>1/2</div> <div>1/2</div> </div> </div> | | | | | | | | | | <div style="display: flex; justify-content: space-between;"> <div> <div>1/2</div> <div>1/2</div> </div> <div> <div>1/2</div> <div>1/2</div> </div> <div> <div>1/2</div> <div>1/2</div> </div> <div> <div>1/2</div> <div>1/2</div> </div> </div> | | | | | | | | | |
| <div style="display: flex; justify-content: space-between;"> <div> <div>DESIGN NO.</div> </div> <div> <div>140</div> </div> <div> <div>DESIGN NO.</div> </div> <div> <div>2405</div> </div> </div> | | | | | | | | | | <div style="display: flex; justify-content: space-between;"> <div> <div>NOTE REQUIREMENT</div> </div> <div> <div>SEE PROCESS SLUGS</div> </div> </div> | | | | | | | | | |
| <div style="display: flex; justify-content: space-between;"> <div> <div>TITLE: CHEM. VOL. CONTROL</div> </div> </div> | | | | | | | | | | | | | | | | | | | |
| <div style="display: flex; justify-content: space-between;"> <div> <div>SCALE</div> <div>1-20-81</div> </div> <div> <div>BYRON STATION</div> <div>BYRON, ILLINOIS</div> </div> </div> | | | | | | | | | | <div style="display: flex; justify-content: space-between;"> <div> <div>DATE</div> <div>1-20-81</div> </div> <div> <div>HUNTER CORP.</div> </div> </div> | | | | | | | | | |
| <div style="display: flex; justify-content: space-between;"> <div> <div>DATE</div> <div>1-20-81</div> </div> <div> <div>HUNTER CORP.</div> </div> </div> | | | | | | | | | | <div style="display: flex; justify-content: space-between;"> <div> <div>DATE</div> <div>1-20-81</div> </div> <div> <div>HUNTER CORP.</div> </div> </div> | | | | | | | | | |

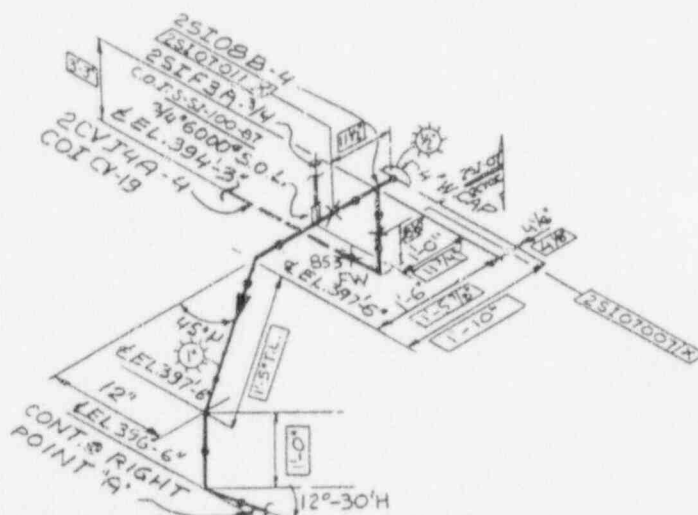
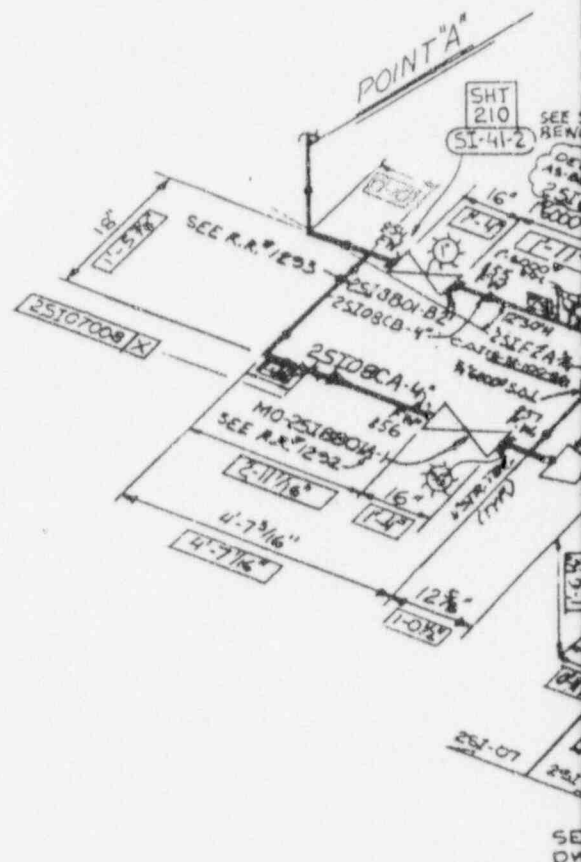
S-CV-100-245

9706240075-14

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| SEARCHED | INDEXED |
| SERIALIZED | FILED |
| MAY 25 1964 | |
| FBI - NEW YORK | |

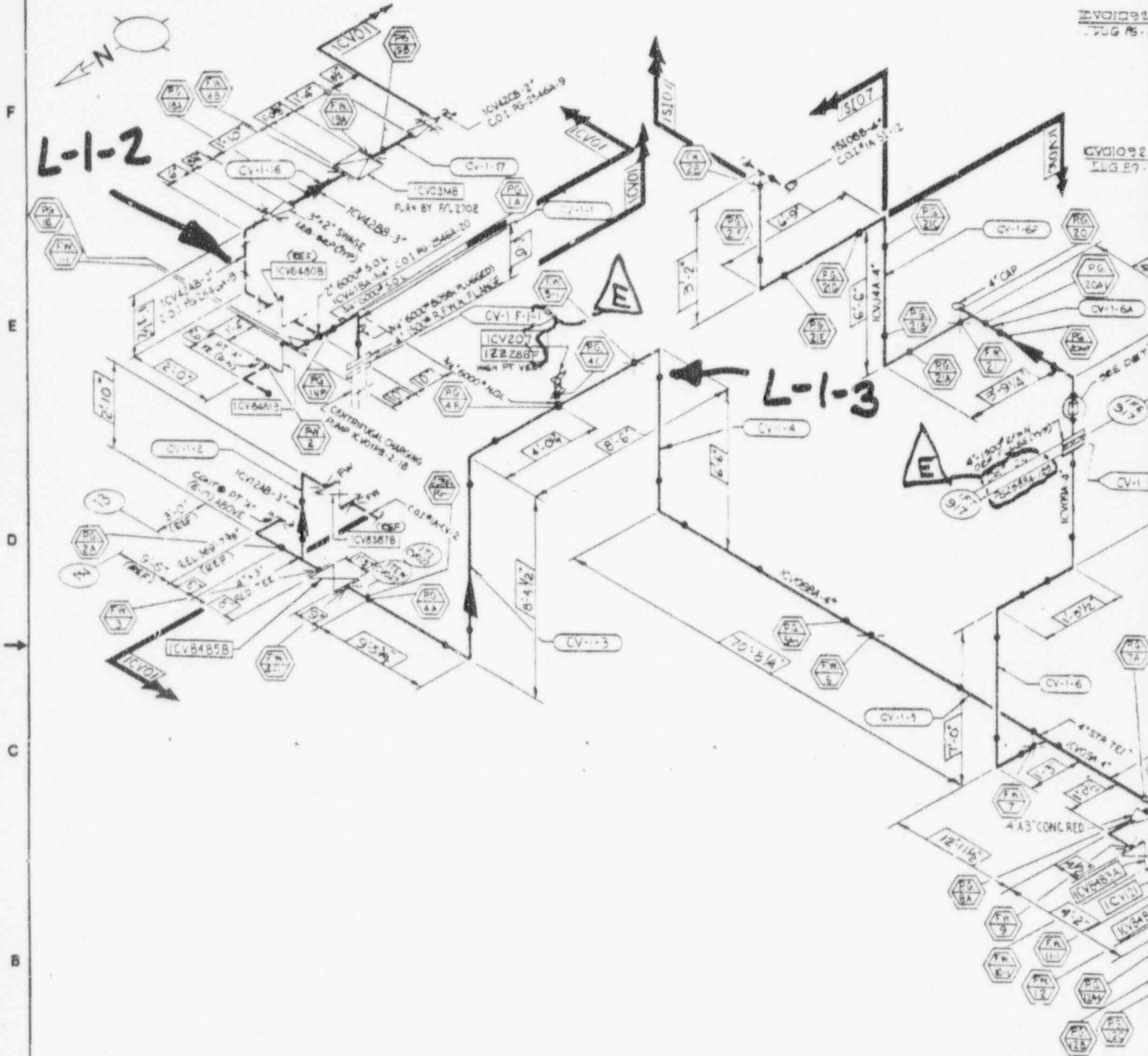
4A





| | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|
| 11 HOBBS G" 5/160 SA377 GR TP304/316SMW | | | | | | | | SA403GRWP304/316 SML'S OR WLD'D W/FILLER METAL (100% RT&PT LG SEAM) | |
| | | | | | | | | O-LETS B000#506K/M.D. SA 182 F304/316 | |
| FINISHES | | | | | | | | F ANGLES | |
| BOLT | | | | | | | | BOLT | |

9706240075-16



SUBSYSTEMS:
1)ICV01
2)ICV02
3)ICV03
4)ICV07

| LINE | DESCRIPTION | DESIGNATION |
|------|-------------|-------------|
| 1 | ICV01 | ICV01 |
| 2 | ICV02 | ICV02 |
| 3 | ICV03 | ICV03 |
| 4 | ICV07 | ICV07 |
| 5 | ICV08 | ICV08 |
| 6 | ICV09 | ICV09 |
| 7 | ICV10 | ICV10 |
| 8 | ICV11 | ICV11 |
| 9 | ICV12 | ICV12 |
| 10 | ICV13 | ICV13 |
| 11 | ICV14 | ICV14 |
| 12 | ICV15 | ICV15 |
| 13 | ICV16 | ICV16 |
| 14 | ICV17 | ICV17 |
| 15 | ICV18 | ICV18 |
| 16 | ICV19 | ICV19 |
| 17 | ICV20 | ICV20 |
| 18 | ICV21 | ICV21 |
| 19 | ICV22 | ICV22 |
| 20 | ICV23 | ICV23 |
| 21 | ICV24 | ICV24 |
| 22 | ICV25 | ICV25 |
| 23 | ICV26 | ICV26 |
| 24 | ICV27 | ICV27 |
| 25 | ICV28 | ICV28 |
| 26 | ICV29 | ICV29 |
| 27 | ICV30 | ICV30 |
| 28 | ICV31 | ICV31 |
| 29 | ICV32 | ICV32 |
| 30 | ICV33 | ICV33 |
| 31 | ICV34 | ICV34 |
| 32 | ICV35 | ICV35 |
| 33 | ICV36 | ICV36 |
| 34 | ICV37 | ICV37 |
| 35 | ICV38 | ICV38 |
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| 43 | ICV46 | ICV46 |
| 44 | ICV47 | ICV47 |
| 45 | ICV48 | ICV48 |
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| 59 | ICV62 | ICV62 |
| 60 | ICV63 | ICV63 |
| 61 | ICV64 | ICV64 |
| 62 | ICV65 | ICV65 |
| 63 | ICV66 | ICV66 |
| 64 | ICV67 | ICV67 |
| 65 | ICV68 | ICV68 |
| 66 | ICV69 | ICV69 |
| 67 | ICV70 | ICV70 |
| 68 | ICV71 | ICV71 |
| 69 | ICV72 | ICV72 |
| 70 | ICV73 | ICV73 |
| 71 | ICV74 | ICV74 |
| 72 | ICV75 | ICV75 |
| 73 | ICV76 | ICV76 |
| 74 | ICV77 | ICV77 |
| 75 | ICV78 | ICV78 |
| 76 | ICV79 | ICV79 |
| 77 | ICV80 | ICV80 |
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| 85 | ICV88 | ICV88 |
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| 87 | ICV90 | ICV90 |
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| 90 | ICV93 | ICV93 |
| 91 | ICV94 | ICV94 |
| 92 | ICV95 | ICV95 |
| 93 | ICV96 | ICV96 |
| 94 | ICV97 | ICV97 |
| 95 | ICV98 | ICV98 |
| 96 | ICV99 | ICV99 |
| 97 | ICV100 | ICV100 |

| ITEM | SIZE | UNIT | QTY | DESCRIPTION | DESIGNATION |
|------|------|------|-----|-------------|-------------|
| 1 | 1/2" | FT | 100 | PIPE | 10 |
| 2 | 1/2" | FT | 100 | PIPE | 9 |
| 3 | 1/2" | FT | 100 | PIPE | 8 |
| 4 | 1/2" | FT | 100 | PIPE | 7 |
| 5 | 1/2" | FT | 100 | PIPE | 6 |
| 6 | 1/2" | FT | 100 | PIPE | 5 |
| 7 | 1/2" | FT | 100 | PIPE | 4 |
| 8 | 1/2" | FT | 100 | PIPE | 3 |
| 9 | 1/2" | FT | 100 | PIPE | 2 |
| 10 | 1/2" | FT | 100 | PIPE | 1 |

ANSTEC APERTURE CARD

**Also Available on
Aperture Card**

**A.S.M.E.
SECTION XI**

NOTES:

THIS DRAWING IS TO SERVE AS
AN AS CONSTRUCTED PIPING
DRAWING TO REPLACE PHILLIPS,
GETSCHOWED. ISO# 1A-CV-1 REV. 0

2) ☐ DIMENSIONS ARE "AS-CONST"
DIMENSIONS FOR PIPING CONFIG.
SHOWN. ALL OTHER DIMS ARE
FOR REFERENCE ONLY

3) REFER TO S.W.C. 1209.

4.) AS-CONST. S.S. ICY01, ICVOIC,
ICY010, ISI07.

| SPONS. | | LIST | |
|--------|------------|--------------|-----------|
| PLAN | SPONS. NO. | SW. BKT. NO. | ECO. NO. |
| 1 | CV-1-1 | 1 | ICV-1004 |
| 1 | CV-1-2 | 2 | SC04 |
| 1 | CV-1-3 | 3 | KCV-17 |
| 1 | CV-1-4 | 4 | 1922-2 |
| 1 | CV-1-5 | 5 | 3136 |
| 1 | CV-1-6 | 6 | |
| 1 | CV-1-6A | 6A | ICV-1807 |
| 1 | CV-1-6P | | 995 |
| 1 | CV-1-7 | 7 | ICV-17695 |
| 1 | CV-1-8 | 8 | 5467 |
| 1 | CV-1-9 | 9 | 5501 |
| 1 | CV-1-10 | 10 | 2828 |
| 1 | CV-1-10a | | ICV-3420 |
| 1 | CV-1-11 | 11 | 2346 |
| 1 | CV-1-12 | 12 | 3580 |
| 1 | CV-1-13 | 13 | 3677 |
| 1 | CV-1-14 | 14 | 2350 |
| 1 | CV-1-15 | 14 | 2351 |
| 1 | CV-1-16 | 16 | 2378 |
| 1 | CV-1-17 | 17 | 2406 |

| VALVE ORIENTATION | | | |
|-------------------|--------|----------------|---------|
| VALVE NUMBER | DETAIL | VIEWED LOOKING | ANGLE ° |
| ICVB497 | N/A | N/A | N/A |
| ICVB338 | A | EAST | 90° |
| CVB461A | N/A | N/A | N/A |
| ICVB338B | N/A | N/A | N/A |
| CVB469A | A | WEST | 29° |
| ICVB493B | A | WEST | 80° |
| ICVB466A | A | NORTH | 68° |
| ICVB466B | A | EAST | 66° |
| ICV121 | A | WEST | 60° |
| ICV257 | D | DOWN | 90° |

| | |
|----------|------------------|
| CVR49 | 62730 J85 |
| ICV121 | 7312-95288-219-1 |
| CVB4552 | 0043 |
| CVB455A | 0042 |
| CVB453B | 0286 |
| CVB453A | 0288 |
| CVB453C | 0095 |
| CVB453B | 0094 |
| CVB453C | 210 |
| CVB457 | 0283 |
| VALVE NO | SERIAL NO |

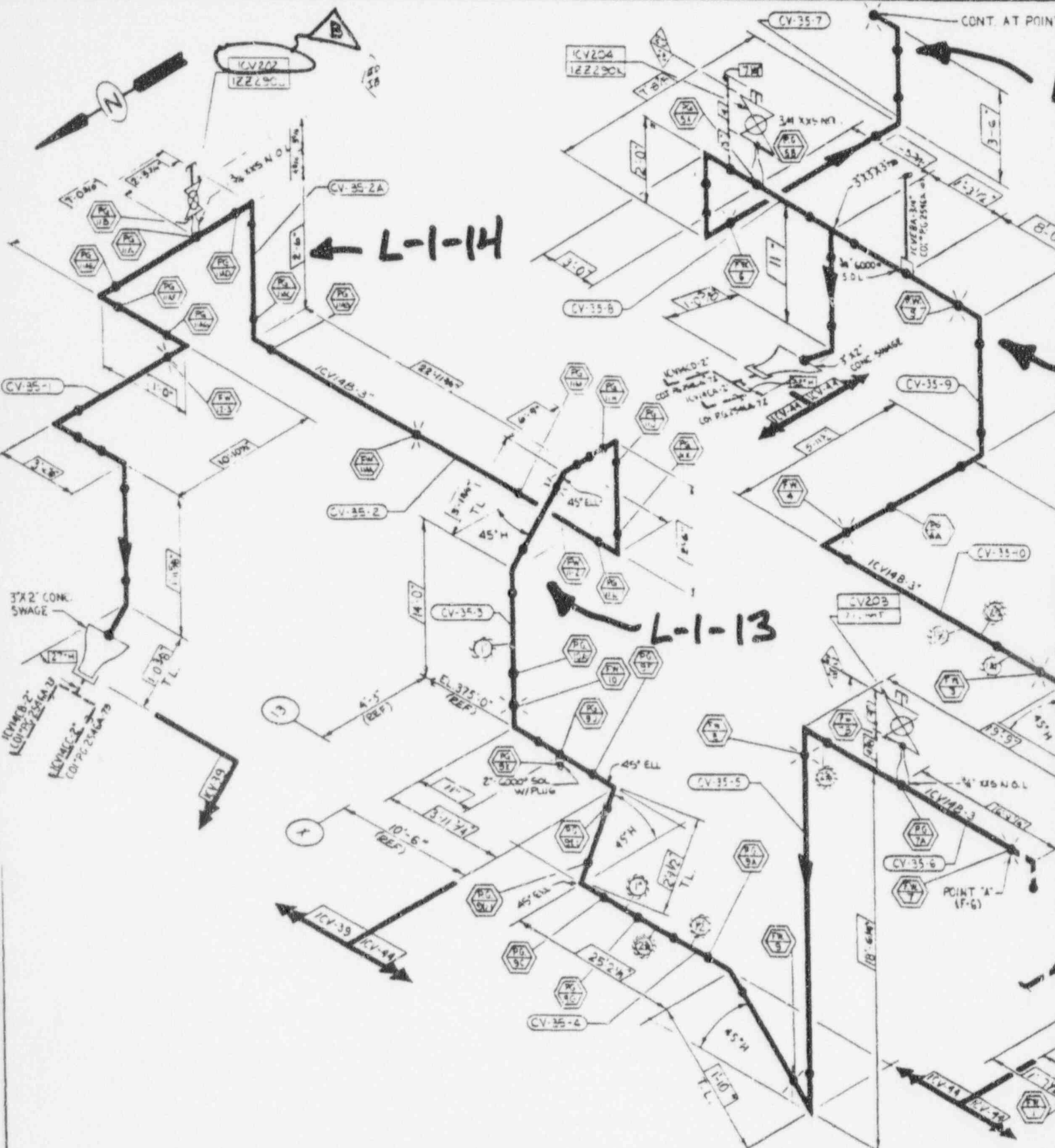
| ITEM / QUANTITY | DESCRIPTION |
|--------------------------------|-------------|
| BILL OF MATERIAL | |
| PHILLIPS, GETSCHOW CO | |
| BRAIDWOOD STATION | SPEC L-2731 |
| UNIT 1 | BUILD 2000 |
| CHEMICAL FEED / VOLUME CONTROL | |
| DWG No | 1A-CV-1 |
| | REV E |

[illegible][illegible]

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|------------|---|--|--|
| M-61-2(A) | CLASS <input checked="" type="checkbox"/> NUCLEAR | | <input type="checkbox"/> PNEUMATIC |
| M-518-706 | ID <input type="checkbox"/> NON NUC | | <input checked="" type="checkbox"/> RADIOGRAPH |
| M-521-26 | DEBRID TABLE 54082 | | <input type="checkbox"/> MAG PART |
| M-546-6 | WELD PROC | | <input type="checkbox"/> DYS PEN |
| M-546-3(B) | N/A | | <input checked="" type="checkbox"/> HYDRO |
| M-546-7(U) | REF DWS | | <input type="checkbox"/> HEAT TREAT |
| M-546-4 | SCALE NONE | | |
| M-546-3 | | | |
| M-546-3(X) | | | |

| ITEM / QUANTITY | DESCRIPTION |
|--------------------------------|-------------|
| BILL OF MATERIAL | |
| PHILLIPS, GETSCHOW CO | |
| BRAIDWOOD STATION | SPEC L-2731 |
| UNIT 1 | BUILD 2000 |
| CHEMICAL FEED / VOLUME CONTROL | |
| DWG No | 1A-CV-1 |
| | REV E |

97062400²75-17¹



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1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | |
|-------|---|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----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(B 5)

1-12

L-1-11

REVIEWED FOR
BRANDWOOD UNIT 1
SPEC NO. 1-278 PROJ NO. 1983
COMMONWEALTH COMMON CO
BARRETT & LLOYD
ENGINEERS
1. NO EXCEPTIONS MADE FOR CONSTRUCTION OF THIS DRAWING IN ACCORDANCE WITH SPECIFICATION
ANY ACTION SHOWN ABOVE IS SUBJECT TO THE TERMS OF THE CONTRACT AND DOES NOT RELIEVE CONTRACTOR FROM HIS OBLIGATION UNDER THE CONTRACT INCLUDING DESIGN AND DETAILING FOR THIS DESIGN
BY AS LADDER NO. DATE 12-1-83

NOTES:

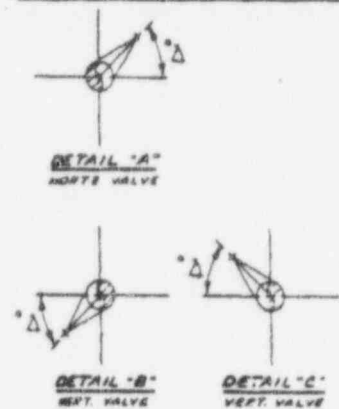
- 1) THIS DRAWING IS TO SERVE AS AN AS-CONSTRUCTED PIPING DRAWING TO REPLACE ORIGINAL SW ISC CV-35
- 2) DIMENSIONS ARE AS-CONST. DIMENSIONS FOR PIPING CONFIGURATION SHOWN. ALL OTHER DIMS ARE FOR REFERENCE ONLY
- 3) REFER TO SMO # 1516
- 4) DENOTES SYMBOL FOR RATTLE CLEARANCE AND CLEARANCE NOTIFICATION FROM NUMBER

ANSTEC APERTURE CARD

Also Available on Aperture Card

| SPOOL LIST | |
|------------|-----------|
| QUANTITY | SPOOL NO. |
| 1 | CV-35-1 |
| 1 | CV-35-2 |
| 1 | CV-35-3 |
| 1 | CV-35-4 |
| 1 | CV-35-5 |
| 1 | CV-35-6 |
| 1 | CV-35-7 |
| 1 | CV-35-8 |
| 1 | CV-35-9 |
| 1 | CV-35-10 |
| 1 | CV-35-11 |
| 1 | CV-35-12 |
| 1 | CV-35-2A |

| VALVE ORIENTATION | | | |
|-------------------|--------|---------------|---------|
| VALVE NUMBER | DETAIL | VIEWS LOOKING | ANGLE ° |
| CV-35-1 | A | 2A | 3 |
| CV-35-2 | B | 2B | 75 |
| CV-35-3 | C | 2C | |
| CV-35-4 | D | 2D | |
| CV-35-5 | E | 2E | |
| CV-35-6 | F | 2F | |
| CV-35-7 | G | 2G | |
| CV-35-8 | H | 2H | |
| CV-35-9 | I | 2I | |
| CV-35-10 | J | 2J | |
| CV-35-11 | K | 2K | |
| CV-35-12 | L | 2L | |



A.S.M.E. SECTION XI

SUBSYSTEMS:
1) CV-39
2) CV-44

ASME SECT. III 1974 W/
ADDENDA THRU SUMMER
1975 CLASS 2 STAIN. STL.

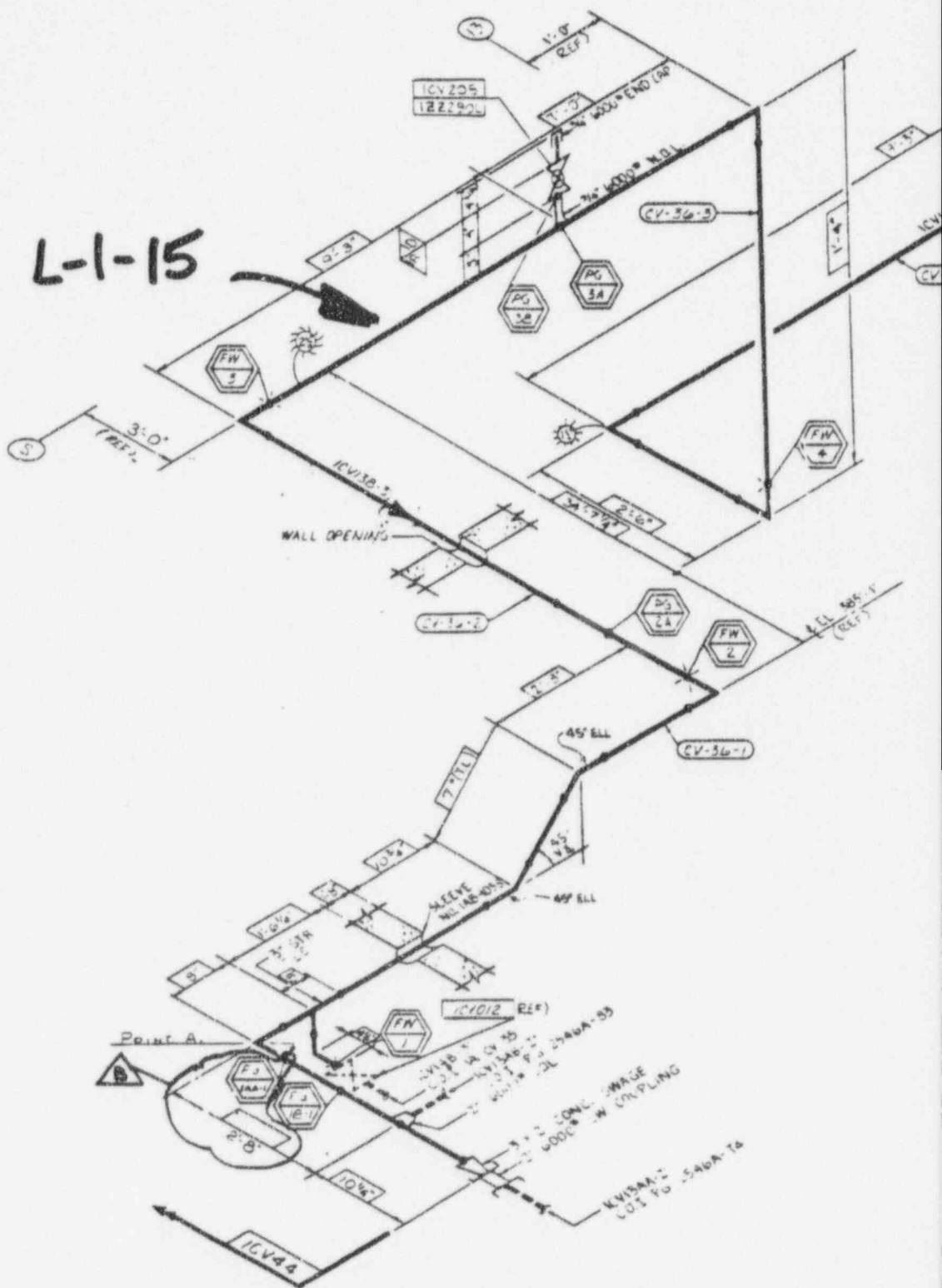
CLASS 2 NUCLEAR
DESIGN TABLE 1A
WELD PROC N/A
SCALE 1/2"

| ITEM NO. | DESCRIPTION |
|----------|-------------|
| 1 | CV-39 |
| 2 | CV-44 |
| 3 | CV-39-2 |
| 4 | CV-39-3 |
| 5 | CV-39-4 |
| 6 | CV-39-5 |
| 7 | CV-39-6 |
| 8 | CV-39-7 |
| 9 | CV-39-8 |
| 10 | CV-39-9 |
| 11 | CV-39-10 |
| 12 | CV-39-11 |
| 13 | CV-39-12 |

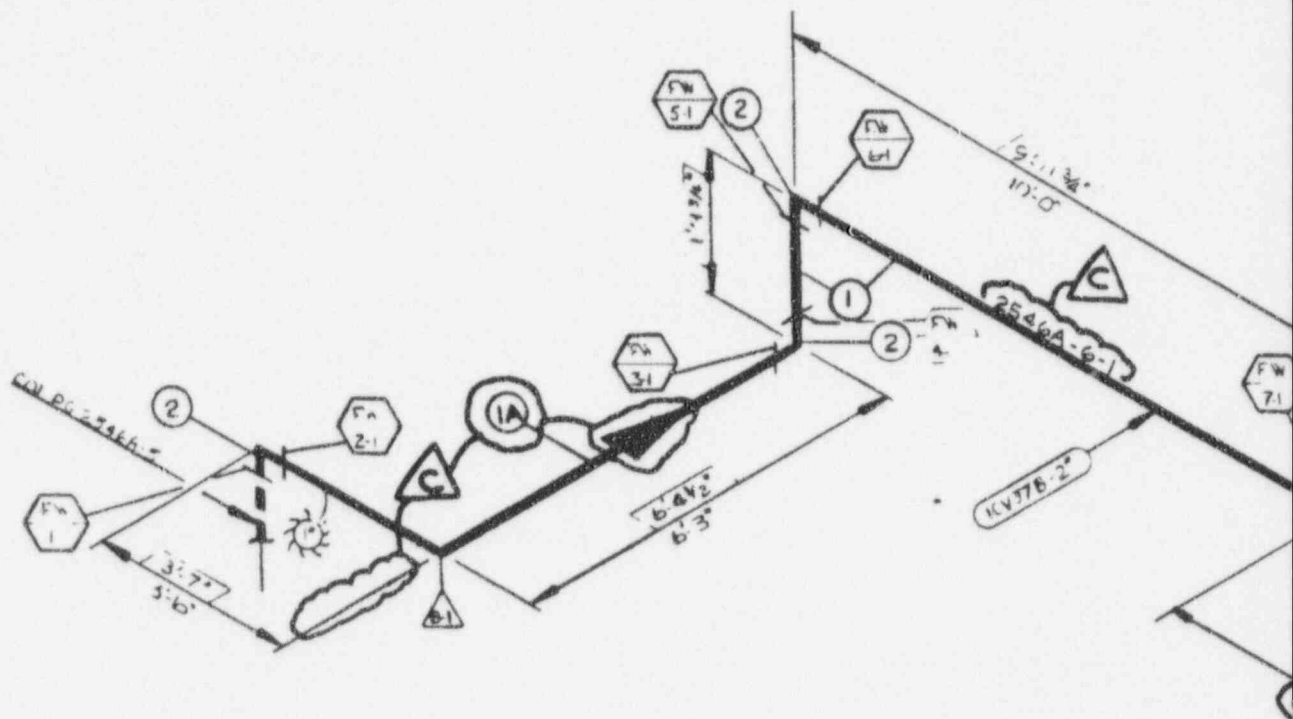
PHILLIPS, GETSCHOW CO
BRANDWOOD STATION
UNIT 1
CHEMICAL FEED (VOLUME CONTROL)
DWG NO. 1A-CV-35

9706240075-20

L-1-15



| ITEM NO. | QTY | DESCRIPTION | UNIT | REMARKS |
|----------|-----|-------------|------|---------|
| 1 | 1 | 10 1/4\" | | |
| 2 | 1 | 8\" | | |
| 3 | 1 | 6\" | | |
| 4 | 1 | 4\" | | |
| 5 | 1 | 10 1/4\" | | |
| 6 | 1 | 8\" | | |
| 7 | 1 | 6\" | | |
| 8 | 1 | 4\" | | |
| 9 | 1 | 10 1/4\" | | |
| 10 | 1 | 8\" | | |
| 11 | 1 | 6\" | | |
| 12 | 1 | 4\" | | |
| 13 | 1 | 10 1/4\" | | |
| 14 | 1 | 8\" | | |
| 15 | 1 | 6\" | | |
| 16 | 1 | 4\" | | |
| 17 | 1 | 10 1/4\" | | |
| 18 | 1 | 8\" | | |
| 19 | 1 | 6\" | | |
| 20 | 1 | 4\" | | |
| 21 | 1 | 10 1/4\" | | |
| 22 | 1 | 8\" | | |
| 23 | 1 | 6\" | | |
| 24 | 1 | 4\" | | |
| 25 | 1 | 10 1/4\" | | |
| 26 | 1 | 8\" | | |
| 27 | 1 | 6\" | | |
| 28 | 1 | 4\" | | |
| 29 | 1 | 10 1/4\" | | |
| 30 | 1 | 8\" | | |
| 31 | 1 | 6\" | | |
| 32 | 1 | 4\" | | |
| 33 | 1 | 10 1/4\" | | |
| 34 | 1 | 8\" | | |
| 35 | 1 | 6\" | | |
| 36 | 1 | 4\" | | |
| 37 | 1 | 10 1/4\" | | |
| 38 | 1 | 8\" | | |
| 39 | 1 | 6\" | | |
| 40 | 1 | 4\" | | |
| 41 | 1 | 10 1/4\" | | |
| 42 | 1 | 8\" | | |
| 43 | 1 | 6\" | | |
| 44 | 1 | 4\" | | |
| 45 | 1 | 10 1/4\" | | |
| 46 | 1 | 8\" | | |
| 47 | 1 | 6\" | | |
| 48 | 1 | 4\" | | |
| 49 | 1 | 10 1/4\" | | |
| 50 | 1 | 8\" | | |
| 51 | 1 | 6\" | | |
| 52 | 1 | 4\" | | |
| 53 | 1 | 10 1/4\" | | |
| 54 | 1 | 8\" | | |
| 55 | 1 | 6\" | | |
| 56 | 1 | 4\" | | |
| 57 | 1 | 10 1/4\" | | |
| 58 | 1 | 8\" | | |
| 59 | 1 | 6\" | | |
| 60 | 1 | 4\" | | |
| 61 | 1 | 10 1/4\" | | |
| 62 | 1 | 8\" | | |
| 63 | 1 | 6\" | | |
| 64 | 1 | 4\" | | |
| 65 | 1 | 10 1/4\" | | |
| 66 | 1 | 8\" | | |
| 67 | 1 | 6\" | | |
| 68 | 1 | 4\" | | |
| 69 | 1 | 10 1/4\" | | |
| 70 | 1 | 8\" | | |
| 71 | 1 | 6\" | | |
| 72 | 1 | 4\" | | |
| 73 | 1 | 10 1/4\" | | |
| 74 | 1 | 8\" | | |
| 75 | 1 | 6\" | | |
| 76 | 1 | 4\" | | |
| 77 | 1 | 10 1/4\" | | |
| 78 | 1 | 8\" | | |
| 79 | 1 | 6\" | | |
| 80 | 1 | 4\" | | |
| 81 | 1 | 10 1/4\" | | |
| 82 | 1 | 8\" | | |
| 83 | 1 | 6\" | | |
| 84 | 1 | 4\" | | |
| 85 | 1 | 10 1/4\" | | |
| 86 | 1 | 8\" | | |
| 87 | 1 | 6\" | | |
| 88 | 1 | 4\" | | |
| 89 | 1 | 10 1/4\" | | |
| 90 | 1 | 8\" | | |
| 91 | 1 | 6\" | | |
| 92 | 1 | 4\" | | |
| 93 | 1 | 10 1/4\" | | |
| 94 | 1 | 8\" | | |
| 95 | 1 | 6\" | | |
| 96 | 1 | 4\" | | |
| 97 | 1 | 10 1/4\" | | |
| 98 | 1 | 8\" | | |
| 99 | 1 | 6\" | | |
| 100 | 1 | 4\" | | |



| | | | | | | |
|---|--------|--------|--------|--------|--------|---------------|
| C | 1-1-80 | 3-1-80 | 3-1-80 | 3-1-80 | 3-1-80 | CLERICAL CHA |
| E | 1-1-80 | 3-1-80 | 3-1-80 | 3-1-80 | 3-1-80 | AS-CONSTRUCT |
| A | 1-1-80 | 3-1-80 | 3-1-80 | 3-1-80 | 3-1-80 | ECN 3480 |
| G | 1-1-80 | 3-1-80 | 3-1-80 | 3-1-80 | 3-1-80 | FOR FAS (ASTA |

[illegible]

R. TAGLE

NOTES:

1) - DENOTES RATTLE CLEARANCE.

2) AS-CONSTRUCTED DIMENSION SAME AS DESIGN DIMENSION

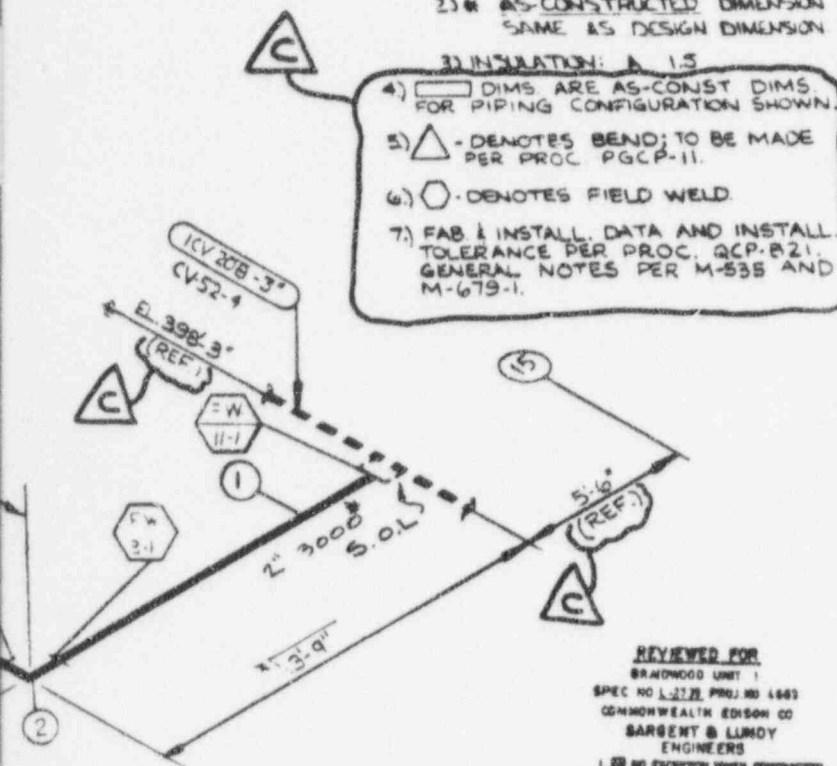
3) INSULATION: A 1.5

4) DIMS. ARE AS-CONST. DIMS. FOR PIPING CONFIGURATION SHOWN.

5) - DENOTES BEND; TO BE MADE PER PROC. PGCP-11.

6) - DENOTES FIELD WELD

7) FAB & INSTALL. DATA AND INSTALL. TOLERANCE PER PROC. QCP-B21. GENERAL NOTES PER M-535 AND M-679-1.



REVIEWED FOR

BRANDWOOD UNIT 1
SPEC NO. 1-2778 PROJ. NO. 1683
COMMONWEALTH EDISON CO
SARGENT & LUNDY
ENGINEERS

1) NO EXCEPTION UNLESS CONTRACTOR
MAY PROCEED WITH FABRICATOR OR
CONSTRUCTION IN ACCORDANCE
WITH SPECIFICATIONS.

ANY ACTION SHOWN ABOVE IS
SUBJECT TO THE TERMS OF THE
CONTRACT AND DOES NOT RELIEVE
CONTRACTOR FROM HIS OBLIGA-
TIONS UNDER THE CONTRACT
INCLUDING DESIGN AND DETAILING
FOR PIPING SYSTEM INSTALLATION
BY J.R. LAZOWSKI DATE 12-1-64

**ANSTEC
APERTURE
CARD**

Also Available on
Aperture Card



| | | | |
|--|--|--|--|
| I.S.I. SPOOL NO. 2546A-4-1 | | NONE | |
| 2 4 2' 3000# SA-182 GR F304 S.W. 90° ELBOW (5.5') HT. 4.05 | | 1 1/2 2' 3000# SA-182 GR TP204 SMLS 6.5 PIPE HT. 4.42775 | |
| ITEM | | DESCRIPTION | |
| BILL OF MATERIAL | | | |
| PHILLIPS, GETSCHOW CO | | | |
| BRANDWOOD STATE SPEC 1-2778 | | | |
| UNIT 1 BRAND BULK W/O NO 1000 | | | |
| CRITICAL FEED / VOLUME CONTROL | | | |
| SWS NO. PG-2546A-4 | | | |
| REV C | | | |
| CLASS B NUCLEAR NON NUC | | | |
| DESIGN TABLE 108B | | | |
| WELD PROC | | | |
| HYBRID | | | |
| TEST PROC | | | |
| SCALE | | | |
| PROJECT NUMBER | | | |
| A.S.M.E. SECTION XI | | | |
| SARGENT & LUNDY CHICAGO | | | |
| DRAWING NO. | | REV. | |
| MT-2546A | | C | |
| SHEET 6 OF | | | |

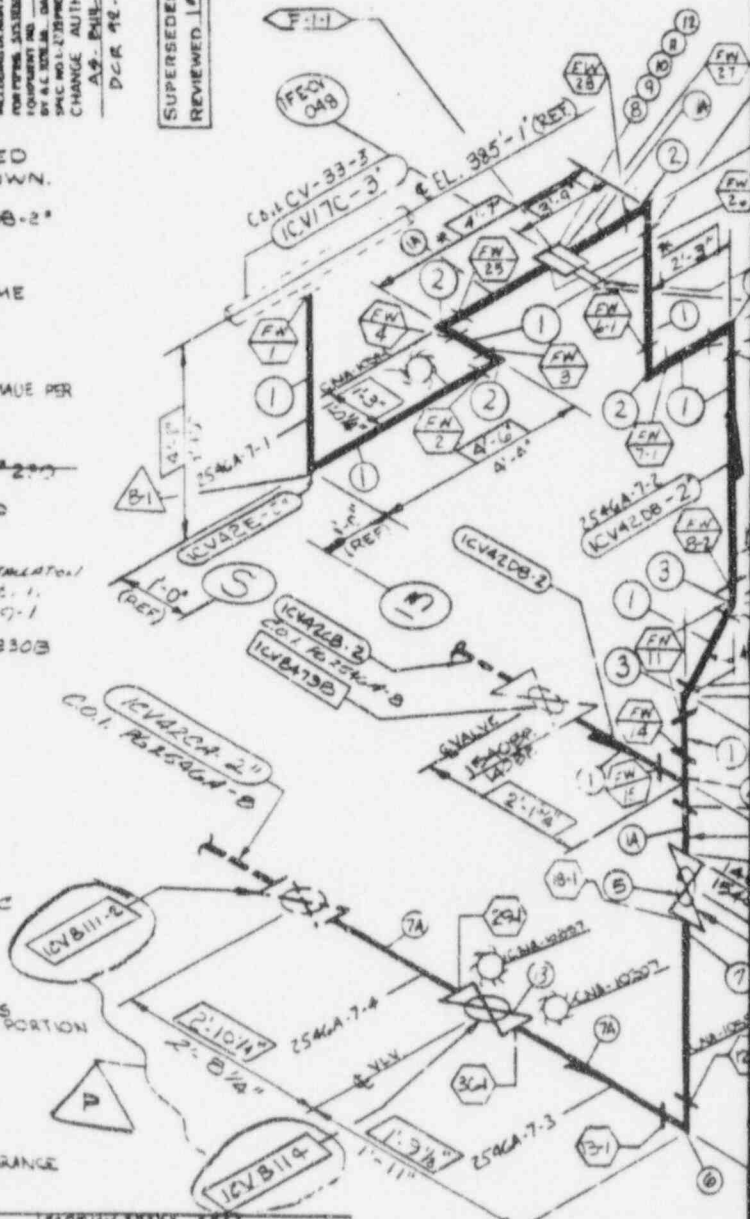
9706240075-22

RECEIVED FOR
 DE AUSTIN
 UNIT 3 10
 UNIT 3 10
 COMMERCIAL TRADING CO.
 BLAUGHEAT & LANE Y
 1. NO EXCEPT HANDS OPERATING
 MAY PROCEED WITH TAILORING
 OR CONSTRUCTION
 ANY ACTION SHOWN ABOVE IS
 SUBJECT TO THE TERMS OF THE
 CONTRACT. THE CONTRACTOR SHALL
 CONSTRUCTION FIRM AND CONTRACT
 TIONS UNDER THE CONTRACT
 FOR THE CONTRACTOR'S REGULATION
 EQUIPMENT AND
 BY A. K. KOTLA, DATE 12-18-82
 SPEC NO. 1-275-PMO ON 24432
 CHANGE AUTHORITY
 A. K. KOTLA
 DCE 92-199

SUPERSEDES PRINT
REVIEWED 10-15-84

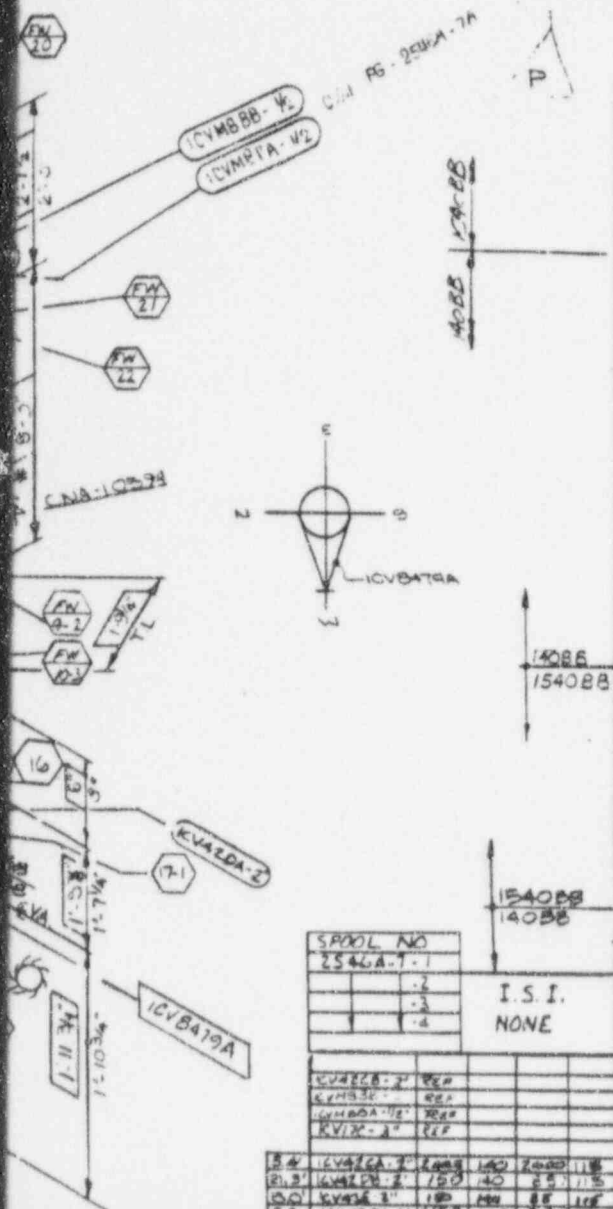
NOTES:

- NOTE: DIMS ARE AS-CONST. CONSTRUCTED FOR PIPING CONFIGURATION SHOWN.
- 2) INSULATION : ICV42CA-2" ICV42DB-2"
AND ICV42DA-2" - A-1.5"
ICV42E-2" - NONE
 - 3) * - DENOTES AS-CONST DIM. SAME AS DESIGN DIM.
 - 4) ○ - DENOTES FIELD WELD.
 - 5) △ - DENOTES BEND. BENDS TO BE MADE PER PROCEDURE PG-CP-11.
 - 6) 2'-SQL MATL SA-182 GR F304
 - 7) FCO* ICV-2782 VOIDS OUT SWO* 2309
 - 8) FCO* ICV-7309 DOES NOT VOID SWO* 230B
 - 9) FABRICATION & INSTALLATION DATA, AND INSTALLATION CLEARANCES ARE PER PROCEDURE GCP-C. 1.
GENERAL NOTES PER M-53C AND M-61Q-1
 - 10) FCO* ICV-10473 VOIDS SWO* 230B
 - 11)  DENOTES BOLT-UP CONNECTION
BOLT-UP CONN. TO BE MADE PER PROCEDURE PG-CP-15
 - 12) FCO'S ICV-7309, AND ICV-12917 APPLY TO REV K ALSO.
 - 13) WORK FCO* ICV-12917 WITH FCO* ICV-12918.
 - 14) FCO* ICV-12917 VOIDS SWO* 230C AND INCORPORATES ECN-2349A
 - 15) SCH. 80 FLGS. BORED OUT TO SCH 40 PER P.O.# 722107.
 - 16) FCO* ICV-25344 INCORPORATES ECN# 25320 AND SUPERCEDES A PORTION OF FCO* ICV-12917. REINSTATE FIELD WELOS NO. 12, 16, 17A.
 - 17) BOLT-UP TO BE COMPLETED PER FCO* ICV-7309.
 - 18)  DENOTES RATTLE POINTS + CLEARANCE NOTICE FORM NO.

[illegible][illegible]

MC

19) FCO#ICV.27832 INITIATED VTNS.
FORM: 1034 PER ECN 33599
THIS FCO DOES NOT VOID SWO 2300



| | | |
|----|-----|--|
| 3 | 1 | 2" 3000# SA-192 GR. TP 304 SOURCED ORIGINATED GLOBE VALVE # 16V3114 END |
| 12 | 7 | ORIFICE PLATE 1/8" CY48 MRR# 12434A |
| 11 | 2 | 2" 3000# FLEXITALLIC GASKET |
| 10 | 16 | 3/4" SA-192 GR 2H NUT HT# LD |
| 9 | 6 | 4 1/4" 3/4" SA-A3 GR B7 STUD BOLT HT# 226 |
| 8 | 2 | 2" 3000# SA-192 GR TP 304 SW RF ORIFICE FLANGE HT# HK 209 (SEE NOTE # 19) |
| 7 | 2-0 | 2" 3000# SA-192 GR TP 304 SMW 53 PIPE HT# 462283 |
| 6 | 1 | 2" 3000# SA-192 GR TP 304 SW 90° ELB 53 HT# PJ |
| 5 | 1 | 2" 3000# SA-192 GR TP 304 SW GLOBE VALVE KVM473A HT# 72240 |
| 4 | 1 | 2" 3000# SA-192 GR TP 304 SW STR TEE 53 HT# P456 |
| 3 | 2 | 2" 3000# SA-192 GR TP 304 SW 45° ELB 53 HT# NN1 |
| 2 | 5 | 2" 3000# SA-192 GR TP 304 SW 90° ELB (S-1) HT# PE |
| 1 | 5-0 | 2" 3000# SA-192 GR TP 304 SMW 53 PIPE HT# 462283 1A-HT# 462283 |

ANSTEC APERTURE CARD

**Also Available on
Aperture Card**

| | | | | | |
|--|----------------|--|--|------|-------------|
| AS-CONST S/WC 2308 | QUAN | DESIGNATION | ITEM | QUAN | DESCRIPTION |
| FCO# ICV-6008 | M-2064-B | LINES | BILL OF MATERIAL | | |
| FCO# KV-8722 | ECN-6039 | CLASS <input checked="" type="checkbox"/> NUCLEAR <input type="checkbox"/> NON NUC | PHILLIPS, GETSCHOW CO | | |
| FCO# ICV-2240 | RD-KV-6A | DESIGN TABLE | BRADWOOD STATION SPEC L-2798 | | |
| FCO# ICV-789 | 4546-22 | WELD PROC | UNIT L BLDG AUX W/O No 1232 | | |
| REF QTY 1.00 | M-046-30 | SCALE NTS | CHEMICAL FEED & VOLUME CONTROL | | |
| FOR FAB & INSTALL | M-2546A-7 | | DWG No PG-2546A-7 | | |
| DESCRIPTION | REF DWG | SCALE | | | |
| | SCALE | | | | |
| | PROJECT NUMBER | | | | |
| <div style="border: 1px solid black; padding: 10px; text-align: center;"> <h1>A.S.M.E.</h1> <h2>SECTION XI</h2> </div> | | | <div style="border: 1px solid black; padding: 5px; text-align: center;"> SARGENT & LUNDY <small>ENGINEERS</small> <small>CHICAGO</small> </div> | | |
| | | | <div style="border: 1px solid black; padding: 5px; text-align: center;"> DRAWING No. REV. M-2546A SHEET: 7 OF </div> | | |

9706240075-23

NOTES CONT.

7) FCO #ICV.37635 INITIATED
VTN S FORMS: 1033, 11035
PER ESN: 33699
THIS FCO DOES NOT VOID S NO: 505B

ICV05AA-4
C.O.: CV

CONT. AT POINT "A"
POINT "A"

SA 182 GB, F304
2' 600" S.O.L.

ICV03MA
ICV42BA-3
COL CV-115

L-1-16

CUT @ POINT "B"
BELOW

SECTION "A-A"
VALVE CV81A

C.O.I. PE25461
SA 9

ICV81104
POINT "B"

| REV | DATE | DRAWN | CHECKED | QC APP | SAI APP | DE |
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| 1 | 03/18/81 | ... | ... | ... | ... | ... |
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| 10 | 03/18/81 | ... | ... | ... | ... | ... |

DRAWING RELEASE RECORD

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REVIEWED FOR
BRAIDWOOD
UNIT 1 & 2
COMMONWEALTH BRON CO.
SARGENT & LUNDY
ENGINEERS
1. NO EXISTING LINE OR EQUIPMENT
IS TO BE REMOVED OR
MODIFIED.
2. ANY ACTION SHOWN ABOVE IS
TO BE TAKEN TO THE TERMS OF THE
CONTRACT. THE CONTRACTOR SHALL
BE RESPONSIBLE FOR THE CONTRACT
CONDITIONS UNDER THE CONTRACT
INCLUDING DESIGN AND DETAILING
FOR DESIGN, DESIGN, INSTALLATION,
COMPLETION, AND TESTING.
3. NO EXISTING LINE OR EQUIPMENT
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NOTES:
1. INSULATION
2. AS CONST DIM SAME AS DESIGN
3. DIMS. ARE AS-CONST DIMS. FOR
PIPING CONFIGURATION SHOWN
4. FCO # CV-12916 IN CODE BOOKS
ECN # 23494 AND VOLS 50
505A.
5. FIB & INSTALL, GASKET, AND METAL
FLER, FOR FCO, OCP-21,
GEN. NOTES PRE M-535 #679-1
6. PENCILES WELD.
7. FCO # CV-12916 IN CODE BOOKS
TO REVISION (P) OF H.S. DRAWING.
8. * DENOTES RATTLE POINTS & CORRUPTION
NOTIFICATION FORM NUMBER.

SPPOOL NO
2546A-B-1
2546A-B-2
2546A-B-3
2546A-B-4
2546A-B-5

I.S.I
NONE

DESIGNATION
DESIGN
OPER

CLASS
NUCLEAR
NON NUC

DESIGN TABLE
1540 BE

WELD PROC
RT

SCALE
NONE

PHILLIPS, GETSCHOW CO
BRAIDWOOD STATION
SPEC 2728
UNIT 1 BLDG 111 W/O NO 1000
CHEMICAL FEED & VOL CONT'L
DWG NO
PG-2546A-B

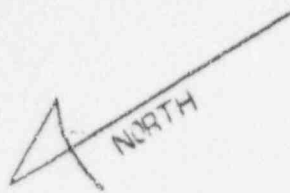
A.S.M.E.
SECTION XI

DRAWING NO
REV.
2546A
SHEET 5 OF

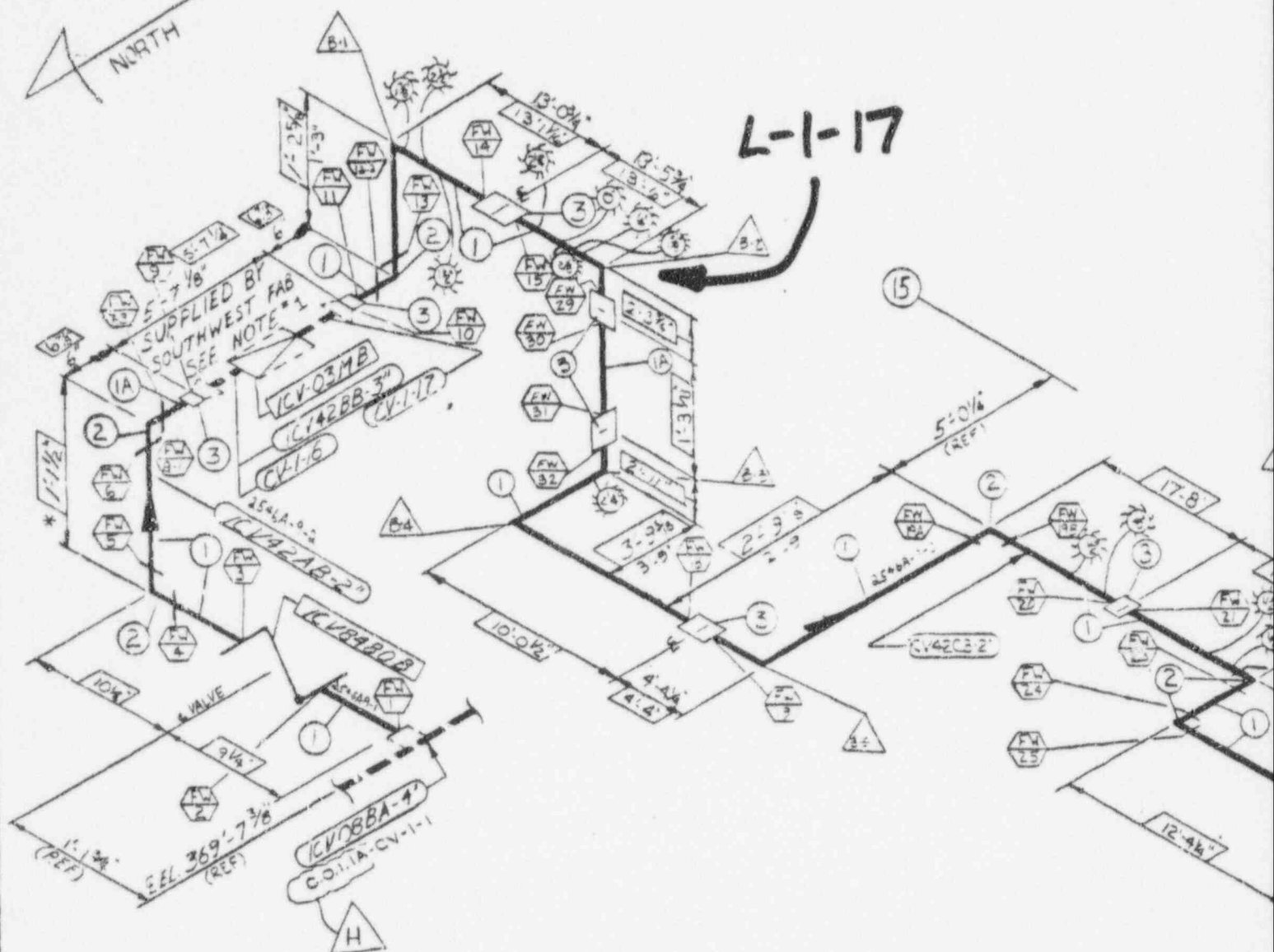
ANSTEC
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CARD

Also Available on
Aperture Card

9706240075-24






L-1-17



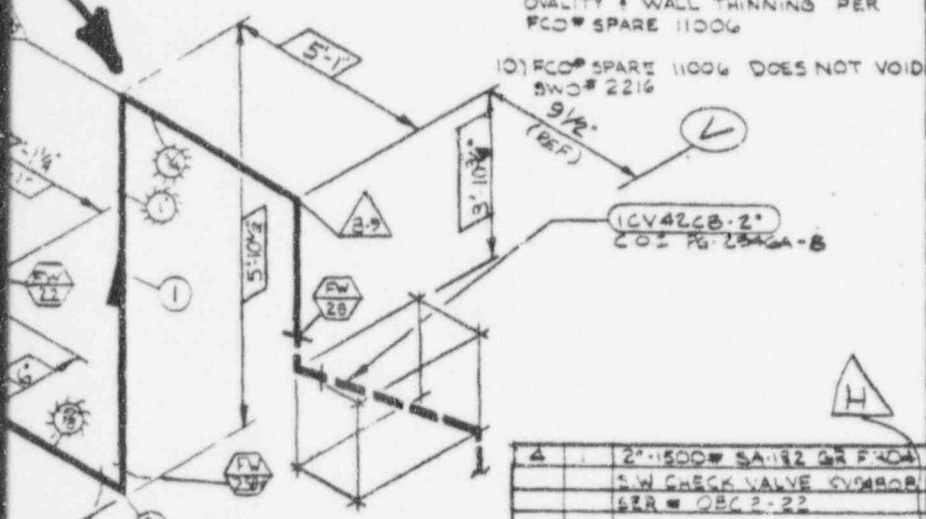
| REV | DATE | DRAWN | CHECKED | QC APP | SIG APP | DESC |
|-----|---------|-------|---------|--------|---------|----------|
| 1 | 7-15-64 | JRK | JRK | JRK | JRK | CLERICAL |
| 2 | 7-16-64 | JRK | JRK | JRK | JRK | RETA... |
| 3 | 7-17-64 | JRK | JRK | JRK | JRK | SEC... |
| 4 | 7-18-64 | JRK | JRK | JRK | JRK | SEC... |
| 5 | 7-19-64 | JRK | JRK | JRK | JRK | AS CONST |
| 6 | 7-20-64 | JRK | JRK | JRK | JRK | FCO... |
| 7 | 7-21-64 | JRK | JRK | JRK | JRK | AS CONST |
| 8 | 7-22-64 | JRK | JRK | JRK | JRK | FCO... |
| 9 | 7-23-64 | JRK | JRK | JRK | JRK | FCO... |
| 10 | 7-24-64 | JRK | JRK | JRK | JRK | FCO... |

| DRAWING RELEASE RECORD | | | | | | |
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| REV. | DATE REL'D | PREPARED | REVIEWED | APPROVED | PURPOSE | FILM |
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NOTES

- 1) FOR DETAILS OF ICV-03MB REFER TO CENTRIFUGAL CHARGING PUMP SPEC. # 27020205, DRAWING MF-49770 PAGE 1 OF 1.
- 2) DIM'S ARE AS CONST. DIM'S FOR PIPING CONFIGURATION.
- 3) * **AS-CONST.** DIM. SAME AS DESIGN DIM.
- 4)  - DENOTES RATTLE CLEARANCE
- 5) INSULATION - A-1/2"
- 6) FAB AND INSTALL DATA AND INSTALL TOLERANCE PER PROC QCP-82; GENERAL NOTES PER M-533 AND M-619-1.
- 7)  - DENOTES FIELD WELD
- 8)  - DENOTES BENDS TO BE MADE PER PROC PGCP-11.
- 9) BEND # 5-1 TO BE INSPECTED FOR QUALITY & WALL THINNING PER PCO # SPARE 11006
- 10) PCO # SPARE 11006 DOES NOT VOID S.W. # 2216

L-1-18



**ANSTEC
APERTURE
CARD**

Also Available on
Aperture Card

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|---|--|---|--|
| I.S.I. NONE | | SPOOL NO. AS46A-9-1 AS46A-9-2 AS46A-9-3 | |
| (118.2) (3.3) ICV42CB-2 ICV42CB-2 ICV42CB-2 | | 12037 1A 2-0 HT 1A-4138V3 1-42289 | |
| DESIGNATION PRESS. TEMP. PRESS. TEMP. DESIGN. SPEC. | | ITEM QUANTITY DESCRIPTION | |
| LINES | | BILL OF MATERIAL | |
| CLASS <input checked="" type="checkbox"/> NUCLEAR <input type="checkbox"/> NON NUC | | PNEUMATIC RADIOGRAPH MAG PART DYE PEN HYDRO HEAT TREAT | |
| DESIGN TABLE 1340 BE | | PHILLIPS, GETSCHOW CO BRAIDWOOD STATION SPEC L-2738 | |
| WELD PROC NA | | UNIT L BLDG AVE W/O NO 1050 CHEMICAL FEED & VOL. CONT. OL | |
| SCALE NONE | | DWG NO PS-2546A-9 | |

**A.S.M.E.
SECTION XI**

STA #3
 SARGENT & LUNDY
 CHICAGO
 DRAWING NO. PS-2546A
 SHEET 9 OF

9706240075-25

NOTES:

1) DIMS ARE AS-CONST
DIMS FOR PIPING CONFIGURATION
SHOWN

2) INSULATION: F 1.5"

3) * [AS-CONST DIM. SAME AS
AS DESIGN DIM.

4) FAB AND INSTALL D.T.A AND INSTALL
TOLERANCE PER PROC. QCP-82L
GENERAL NOTES PER M-535
AND M-579-1

5) O: DENOTES FIELD WELDS

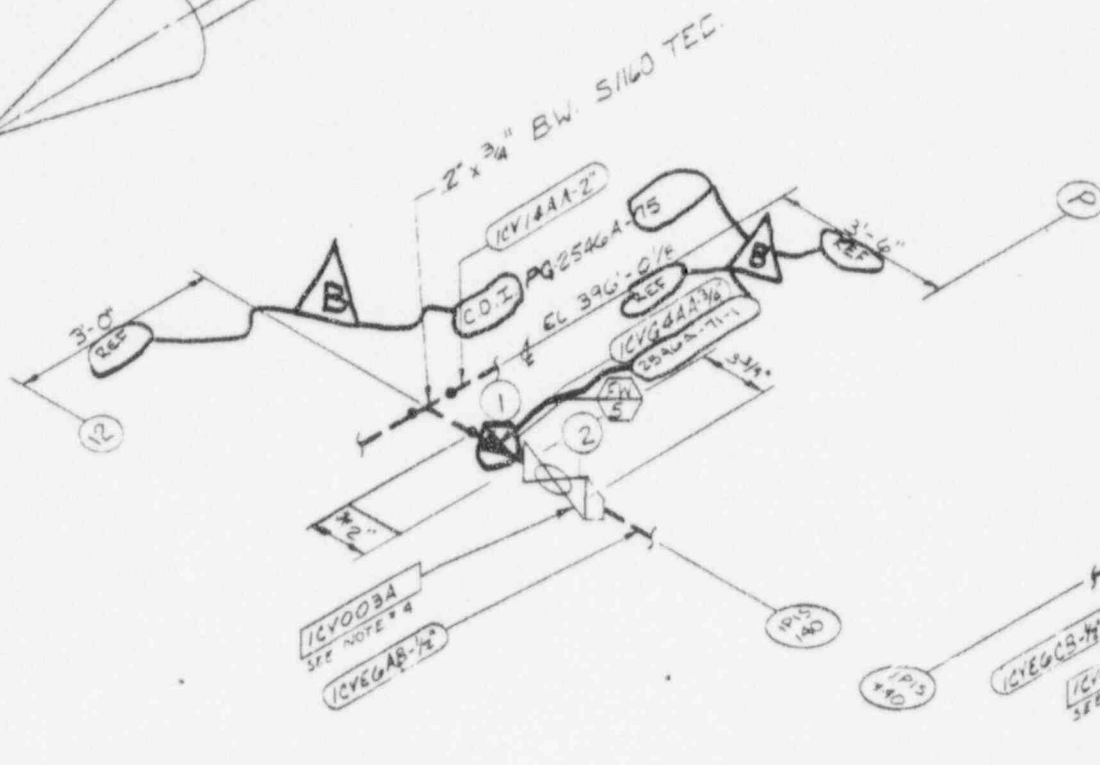
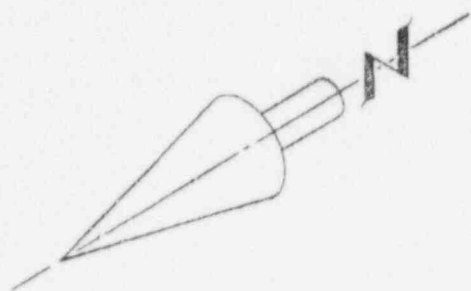
6) Δ: DENOTES BENDS TO BE
MADE PER PROC QCP-11

ANSTEC APERTURE CARD

Also Available on
Aperture Card

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| <p>ISI</p> <p>SPPOOL NO</p> <p>254A-32-1</p> <p>254A-32-2</p> | | <p>1 1" 50 SA-182 F-816</p> <p>SW. CHECK VALVE ICV8436</p> <p>SER# 10061-10</p> | |
| <p>2 1" 150 SA-354 C-8</p> <p>SW. DIAPH. SET VALVE</p> <p>ICV8436 SER# 10061-10</p> | | <p>3 1" 3000 SA-182 GR F-304</p> <p>SW. TEE 155</p> <p>HT 155</p> | |
| <p>2 3 1" 3000 SA-182 GR F-304</p> <p>SW. 90° ELBOW 55</p> <p>HT 155</p> | | <p>1 23.6 1" 540V SA-312 TP-304</p> <p>STAINLESS PIPE</p> <p>HT 155</p> | |
| <p>ITEM QUANTITY</p> <p>DESCRIPTION</p> | | <p>PHILLIPS, GETSCHOW CO</p> <p>BRANDWOOD STATION SPEC L-1738</p> <p>UNIT 1 BLDG 811 W O No 1050</p> <p>CHEMICAL FEED & VOL. CONTROL</p> <p>DWG No PG-254A-32-1</p> | |
| <p>CLASS OF NUCLEAR</p> <p>6 NON NUC</p> <p>DESIGN TABLE</p> <p>140BB</p> | | <p>PNEUMATIC</p> <p>RADIOGRAPH</p> <p>MAG PART</p> <p>DYE PEN</p> <p>HYBRID</p> <p>HEAT TREAT</p> | |
| <p>SCALE</p> <p>PROJECT NUMBER</p> | | <p>DOC. STA. 2</p> <p>SARGENT & LUNDY</p> <p>CHICAGO</p> <p>DRAWING NO. REV.</p> <p>M-254A</p> <p>SHEET 32 OF</p> | |

9706240075-26



| REV | DATE | DRAWN | CHECKED | QC APP | SM APP | DES |
|-----|---------|--------------|---------------|---------------|---------------|----------|
| 3 | 11/1/76 | S. J. HARRIS | ST. J. HARRIS | ST. J. HARRIS | ST. J. HARRIS | CLERICAL |
| A | 9-11-83 | R. J. L. | ST. J. HARRIS | ST. J. HARRIS | ST. J. HARRIS | AS-CO |
| 0 | 11/1/81 | COP | ST. J. HARRIS | ST. J. HARRIS | ST. J. HARRIS | FOR-AS |

DRAWING RELEASE RECORD

| REV. | DATE REL'D | PREPARED | REVIEWED | APPROVED | PURPOSE | FILM |
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NOTES:

1) FAB AND INSTALL DATA AND INSTALL TOLERANCE PER PROC. QCP-821, GENERAL NOTES PER M-535 AND M-619-1

2) * ~~AS-CONST~~ DIM. SAME AS DESIGN DIM.

3) INSULATION A - 1.5" THICK

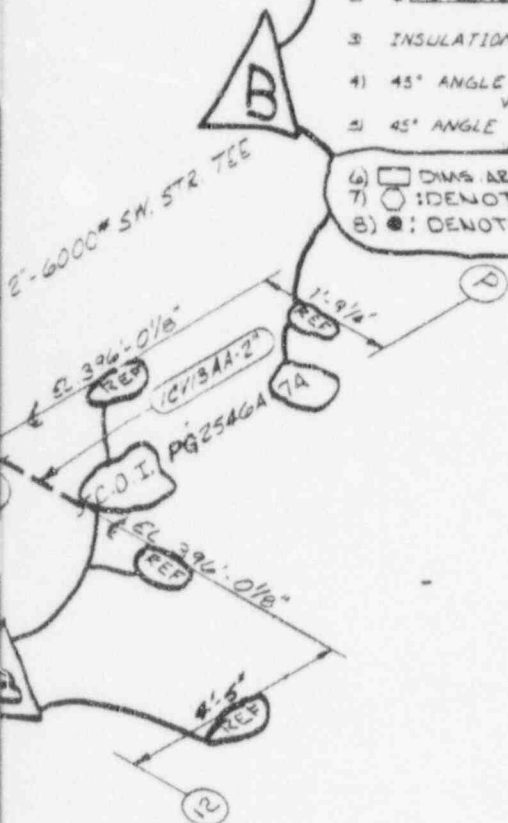
4) 45° ANGLE VALVE STEM FACES WEST
VERT & PLUMB

5) 45° ANGLE VALVE STEM FACES NORTH
VERT & PLUMB

6) ☐ DIMS ARE AS-CONST. DIMS FOR PIPING CONFIG SHOWN

7) : DENOTES FIELD WELDS

8) : DENOTES BUTT WELDS

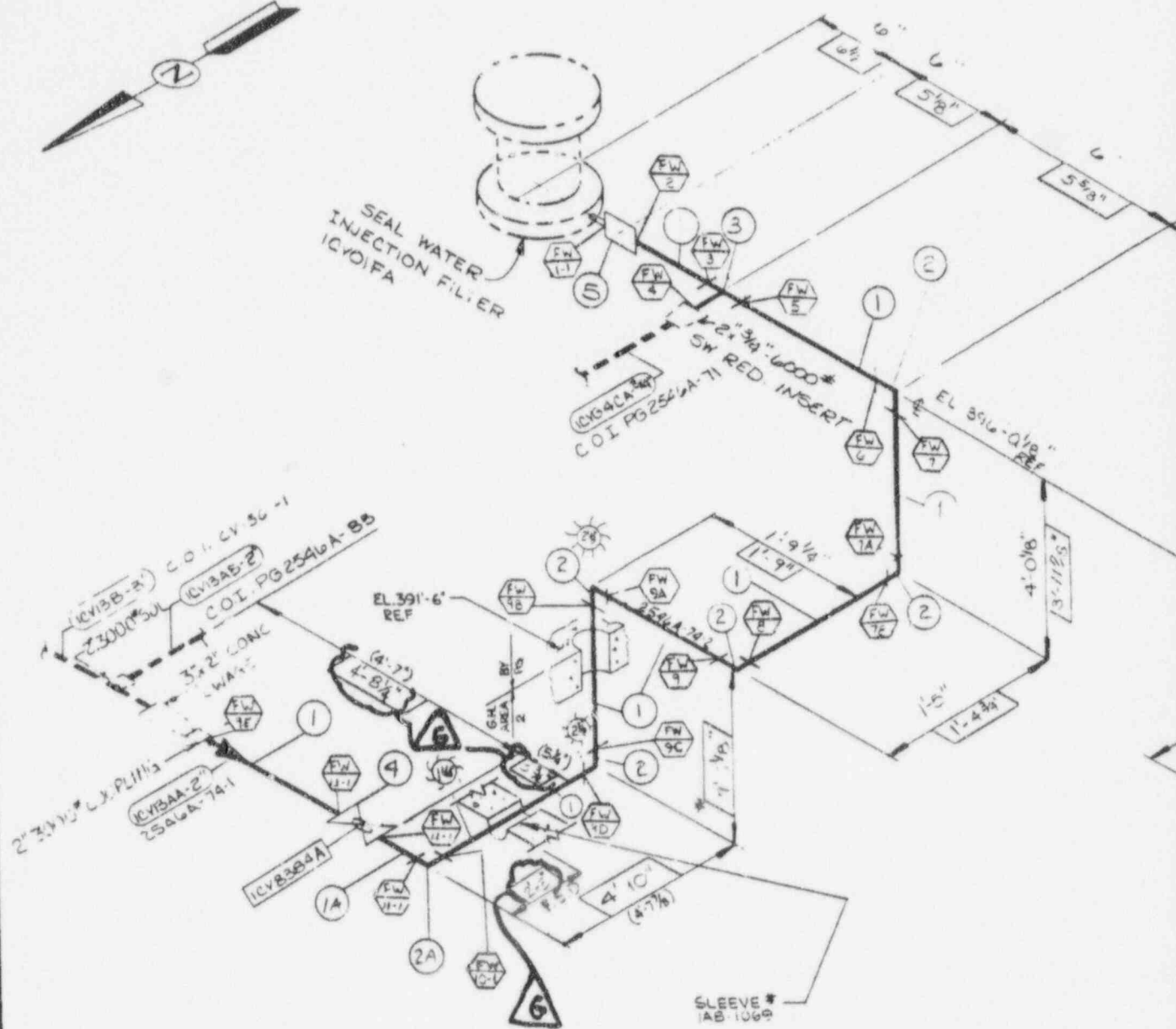
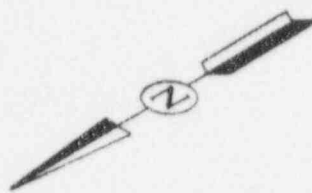


**ANSTEC
APERTURE
CARD**

Also Available on
Aperture Card

| | | | | | |
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| <p>ISI NONE</p> | | <p>SEC. NO. 2546A-71-1 2546A-71-2</p> | | <p>3 2 3/4" 6000* SA-376 Q2 TP 304 SW. RED. INSLT. (55) 11" (ELT)</p> | |
| <p>2 2 3/4" 1500* SA-376 Q2 TP 304 ICV003A SER. 23271 ICV003C SER. 23273</p> | | <p>1 6" 3/4" 5/160 SA-376 Q2 TP 304 SW. RED. INSLT. (55) HT. 46.017</p> | | <p>ITEM QTY DESCRIPTION</p> | |
| <p>DESIGNATION</p> | | <p>DESIGN</p> | | <p>QTY</p> | |
| <p>CLASS <input checked="" type="checkbox"/> NUCLEAR <input checked="" type="checkbox"/> NON NUC</p> | | <p>PNEUMATIC RADIOGRAPH MAG PART DYE PEN HYDRO HEAT TREAT</p> | | <p>PHILLIPS, GETSCHOW CO BROADWOOD STATION SPEC L-2738 UNIT 7 BLDG. Aux W O No 1000 CHEMICAL FEED & VOLUME CONTROL DWG No PG-2546A-71</p> | |
| <p>SCALE NONE</p> | | <p>A.S.M.E. SECTION XI</p> | | <p>DOC STA 4 SAMIENT & LUNDY CHICAGO</p> | |
| <p>DRAWING NO. 2546A</p> | | <p>SHEET 71 OF</p> | | <p>REV. B</p> | |

9706240075-27



| REV | DATE | DRAWN | CHECKED | OC APP | SAV APP |
|-----|---------|-------------|---------|--------|---------|
| G | 4-10-81 | H. P. REDDY | | | |
| F | 4-14-81 | | | | |
| E | 7-10-80 | A. M. S. | | | |
| D | 1-17-80 | | | | |
| C | 5-18-80 | | | | |
| B | 1-17-80 | | | | |
| A | 1-17-80 | | | | |
| O | 1-17-80 | | | | |

| DRAWING RELEASE RECORD | | | | | | PURPOSE | FILE |
|------------------------|------------|----------|----------|----------|--|---------|------|
| REV. | DATE REL'D | PREPARED | REVIEWED | APPROVED | | | |
| | | | | | | | |
| | | | | | | | |
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| | | | | | | | |

MC

NOTES:

- 1) DIMS ARE AS CONST DIMS FOR PIPING CONFIGURATION SHOWN
- 2) INSULATION: A, I, S.
- 3) * - AS CONSTRUCT DIMENSION SAME AS DESIGN DIMENSION.
- 4) DENOTES RATTLE CLEARANCE.
- 5) ECN #6991 GANG HANG AREA 2. NO REWORK REQUIRED ON REV. C. (ADDED DESIGN DIMENSIONS).
- 6) DENOTES FIELD WELDS
- 7) FAB AND INSTALL DATA AND INSTALL TOLERANCE PER PROC. QCP-B21, GENERAL NOTES PER M-235 AND M-679-1
- 8) * AS OR AS IF THIS IS NOW A GNY DRAWING

REVIEWED FOR
BRAIDWOOD
UNIT 1 & 2
COMMONWEALTH BRIDGE CO.
SARGENT & LUNDY
ENGINEERS
1. NO DECEPTION TAKEN ORIGINATOR
BY PROCEED WITH FABRICATION
IN CONSTRUCTION

ANY ACTION SHOWN ABOVE IS
SUBJECT TO THE TERMS OF THE
CONTRACT AND DOES NOT RELIEVE
CONTRACTOR FROM HIS OBLIGA-
TIONS UNDER THE CONTRACT,
INCLUDING DESIGN AND DETAILING
FOR DESIGN SYSTEM INSTALLATION
EQUIPMENT NO. _____
BY S. LUNDY DATE 12-1-82
SPEC NO. L-2733 PROJ. NO. 66-82
CHANGE AUTHORITY
AS-BUILT
DC N. 42-444

SUPERSEDES PRINT
REVIEWED 12-15-82

I.S.I.
NONE

SPOOL NO
2546A-74-1
2546B-74-2

| | | |
|----|-------|----------------------------|
| 5 | 1 | 2" 6000# SA-182 GR-F304 SW |
| | | COUPLING (SS) |
| | | HT# TL |
| 4 | 1 | 2" 1500# SA-182 F316 |
| | | SW GLOBE VALVE |
| | | KV3334A 3/4" 190534/4 |
| 3 | 1 | 2" 6000# SA-182 GR-F304 |
| | | SW TEE (SS) |
| | | HT# P57 |
| 2A | | HT# P57 |
| 2 | 6 | 2" 6000# SA-182 GR-F304 SW |
| | | 30° ELBOW (SS) |
| | | HT# UO |
| 1A | 6 | HT# (47037) |
| 1 | 2546A | 2" 6000# SA-182 GR-F304 |
| | | SMLS SS PIPE |
| | | HT# 462897 |

| | | | |
|-------------|-------------|-------------|-------------|
| DESIGNATION | DESIGN | TEMP | TEMP |
| 2546A-74-1 | 2546A-74-1 | 2546A-74-1 | 2546A-74-1 |
| 2546B-74-2 | 2546B-74-2 | 2546B-74-2 | 2546B-74-2 |
| 2546C-74-3 | 2546C-74-3 | 2546C-74-3 | 2546C-74-3 |
| 2546D-74-4 | 2546D-74-4 | 2546D-74-4 | 2546D-74-4 |
| 2546E-74-5 | 2546E-74-5 | 2546E-74-5 | 2546E-74-5 |
| 2546F-74-6 | 2546F-74-6 | 2546F-74-6 | 2546F-74-6 |
| 2546G-74-7 | 2546G-74-7 | 2546G-74-7 | 2546G-74-7 |
| 2546H-74-8 | 2546H-74-8 | 2546H-74-8 | 2546H-74-8 |
| 2546I-74-9 | 2546I-74-9 | 2546I-74-9 | 2546I-74-9 |
| 2546J-74-10 | 2546J-74-10 | 2546J-74-10 | 2546J-74-10 |
| 2546K-74-11 | 2546K-74-11 | 2546K-74-11 | 2546K-74-11 |
| 2546L-74-12 | 2546L-74-12 | 2546L-74-12 | 2546L-74-12 |
| 2546M-74-13 | 2546M-74-13 | 2546M-74-13 | 2546M-74-13 |
| 2546N-74-14 | 2546N-74-14 | 2546N-74-14 | 2546N-74-14 |
| 2546O-74-15 | 2546O-74-15 | 2546O-74-15 | 2546O-74-15 |
| 2546P-74-16 | 2546P-74-16 | 2546P-74-16 | 2546P-74-16 |
| 2546Q-74-17 | 2546Q-74-17 | 2546Q-74-17 | 2546Q-74-17 |
| 2546R-74-18 | 2546R-74-18 | 2546R-74-18 | 2546R-74-18 |
| 2546S-74-19 | 2546S-74-19 | 2546S-74-19 | 2546S-74-19 |
| 2546T-74-20 | 2546T-74-20 | 2546T-74-20 | 2546T-74-20 |
| 2546U-74-21 | 2546U-74-21 | 2546U-74-21 | 2546U-74-21 |
| 2546V-74-22 | 2546V-74-22 | 2546V-74-22 | 2546V-74-22 |
| 2546W-74-23 | 2546W-74-23 | 2546W-74-23 | 2546W-74-23 |
| 2546X-74-24 | 2546X-74-24 | 2546X-74-24 | 2546X-74-24 |
| 2546Y-74-25 | 2546Y-74-25 | 2546Y-74-25 | 2546Y-74-25 |
| 2546Z-74-26 | 2546Z-74-26 | 2546Z-74-26 | 2546Z-74-26 |

| |
|-------------------|
| AS-CONSTRUCT |
| MCR 20-1-90-11 |
| CLERICAL CHANGE |
| CLERICAL CHANGE |
| GANG HANG AREA #2 |
| AS CONSTRUCT |
| FOR FAB & INSTALL |

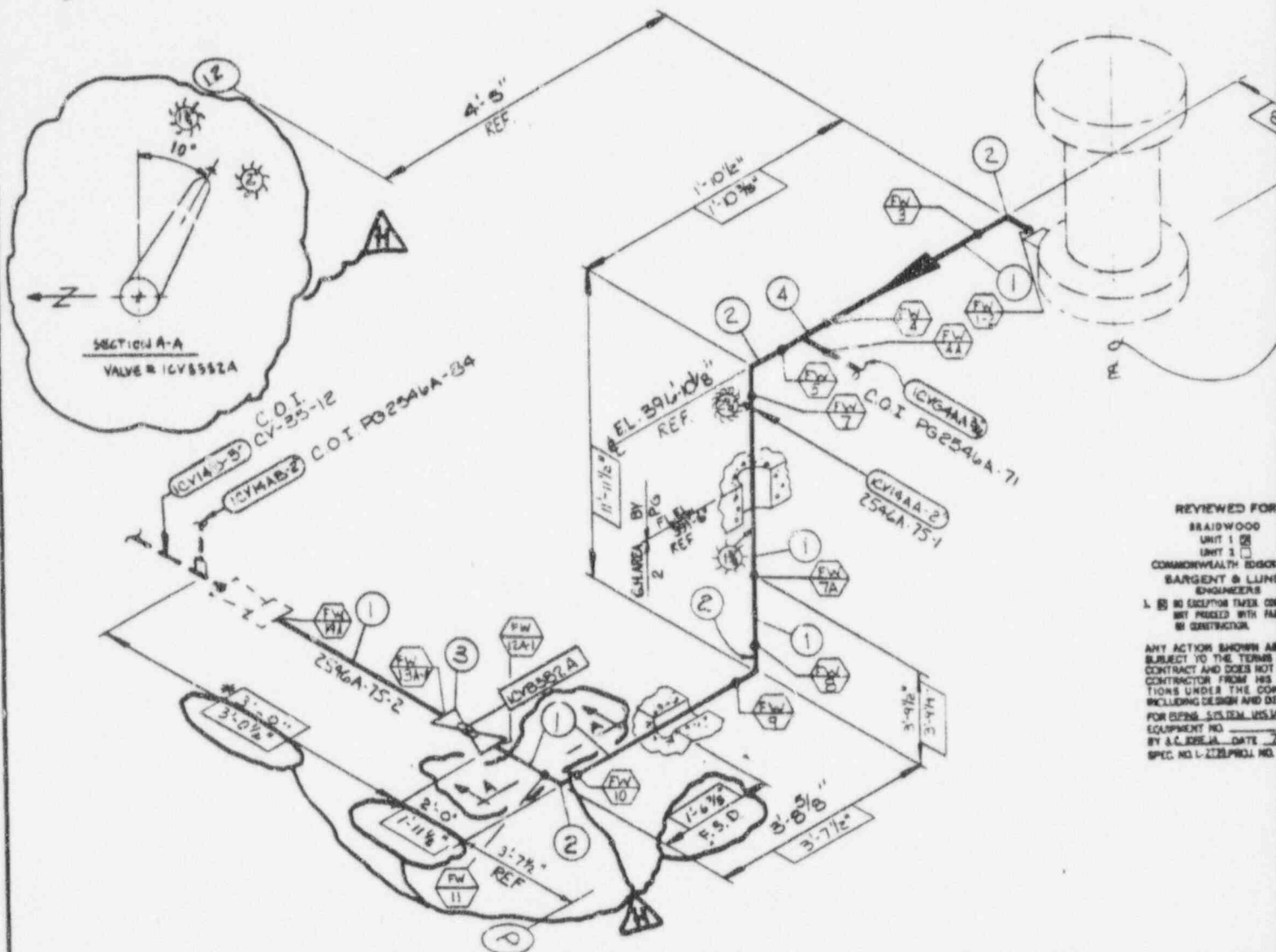
| | | |
|------|------|----------------------------|
| ITEM | QUAN | DESCRIPTION |
| 1 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 2 | 6 | 2" 6000# SA-182 GR-F304 SW |
| 3 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 4 | 1 | 2" 1500# SA-182 F316 |
| 5 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 6 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 7 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 8 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 9 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 10 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 11 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 12 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 13 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 14 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 15 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 16 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 17 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 18 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 19 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 20 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 21 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 22 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 23 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 24 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 25 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 26 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 27 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 28 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 29 | 1 | 2" 6000# SA-182 GR-F304 SW |
| 30 | 1 | 2" 6000# SA-182 GR-F304 SW |

| | | | |
|---|---------|-------|-----|
| DESCRIPTION | REF DWG | SCALE | NTS |
| MCR 20-1-90-11 | | | |
| <div style="text-align: center;"> A.S.M.E. SECTION XI </div> | | | |
| <div style="text-align: center;"> PHILLIPS, GETSCHOW CO BRAIDWOOD STATION SPEC L-2738 UNIT 1 BLDG 2 W O N 1100 CHEM FEED & VOL CONTROL DWG NO PG-2546A-74 LOC. STA. 3 SARGENT & LUNDY CHICAGO G.H. AREA 2 AL DRAWING NO M 2546A SHEET 74 OF </div> | | | |

**ANSTEC
APERTURE
CARD**

Also Available on
Aperture Card

9706240075-28





REVIEWED FOR
 BRAIDWOOD
 UNIT 1 ☒
 UNIT 2 ☐
 COMMONWEALTH EDOCK
 SARGENT & LUNDY
 ENGINEERS
 1. ☒ NO EXCEPTION THERE CO
 UNIT PROCEED WITH FA
 IN CONSTRUCTION
 ANY ACTION SHOWN AS
 SUBJECT TO THE TERMS
 CONTRACT AND DOES NOT
 CONTRACTOR FROM HIS
 TIONS UNDER THE CO
 INCLUDING DESIGN AND DE
 FOR SUPPLY, SYSTEMS AN
 EQUIPMENT NO
 BY S.C. JOSE, JR. DATE 7/2
 SPEC. NO. 1-2739 PAGE 7

| REV | DATE | DRAWN | CHECKED | NO APP | REV APP | DESCRIPTION | REV CHNG | REV DATE | DRAWN | CHECKED | NO APP | REV APP | DESCRIPTION |
|-----|----------|----------|----------|----------|----------|-------------------------|----------|----------|-------|----------|----------|----------|-------------------------|
| H | 01/19/91 | 01/19/91 | 01/19/91 | 01/19/91 | 01/19/91 | ADJ. POST, R.R. L 60031 | | | D | 01/19/91 | 01/19/91 | 01/19/91 | ADJ. POST, R.R. L 60031 |
| G | 11/11/90 | 11/11/90 | 11/11/90 | 11/11/90 | 11/11/90 | NWR 194246 | | | C | 11/11/90 | 11/11/90 | 11/11/90 | NWR 194246 |
| F | 12/12/89 | 12/12/89 | 12/12/89 | 12/12/89 | 12/12/89 | CLERICAL CHANGE | | | B | 12/12/89 | 12/12/89 | 12/12/89 | CLERICAL CHANGE |
| E | 03/04/84 | 03/04/84 | 03/04/84 | 03/04/84 | 03/04/84 | GANG WARE AREA: 2 | | | A | 03/04/84 | 03/04/84 | 03/04/84 | GANG WARE AREA: 2 |

[illegible]

MC

NOTES:

- 1) DIM'S ARE AS CONST DIM'S FOR PIPING CONFIG. SHOWN
- 2) INSULATION: A, 1.5"
- 3)  - DENOTES RATTLE CLEARANCE.
- 4) ALL BUTT WELDS RECEIVE RADIOGRAPH WELD TEST.
- 5) ECH#6991 GANG HANG AREA 2. NO REWORK REQUIRED ON REVE.
- 6) * - [AS CONSTRUCT] DIMENSION SAME AS DESIGN DIMENSION.
- 7)  DENOTE FIELD WELDS
- 8) FAB: INSTALL DATA AND INSTALL TOLERANCE PER PROC. QCP-B21. GEN. NOTES PER M-535 & M-679-1.
- * 9) AS OF REV G THIS IS NOW A GNY DRAWING.

2'-9" REF.
SEAL WATER INJECTION
FILTER 1CVOIFA

FOR RECORD
TO CLOSE OUT

DCR 91-118

MCR 20-1-90-011

DC CY-156

FCR L-60031

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CARD

Also Available on
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| | | | |
|--------------------------------|--|----------------------|----------------------------------|
| POOL NO | | 4 | 2'-2'-94" 5/16" SA 403 GR WP 304 |
| 2546A-75-1 | | | SS. BW. R&D. TEE |
| 2546A-75-2 | | | HT. # 517M45 |
| | | 8 | 2" 1500# SA 182 F94 |
| | | | SW. GLOBE VALVE KY83872 |
| | | | SER. # 110224/11 |
| | | 2 | 4 2" 5/16" SA 403 GE WP 304 |
| | | | SS. BW. 90° ELLS |
| | | | HT. # Y42AH |
| | | 1 | 2" 2" 5/16" SA 403 GE TP 304 |
| | | | SMLS. SS. PIPE |
| | | | HT. # 462597 |
| DESIGNATION | | ITEM | QUANTITY |
| LINES | | BILL OF MATERIAL | |
| PHILLIPS, GETSCHOW CO | | | |
| BRANDWOOD STATION BPEC L-2738 | | | |
| UNIT BLD. S W O No 1000 | | | |
| CHEMICAL FEED & VOLUME CONTROL | | | |
| DWG No PG-2546A-75 | | | |
| REV H | | | |
| SCALE | | DOC. STA 3 AUX | |
| PROJECT NUMBER | | SARGENT & LUNDY | |
| | | CHICAGO | |
| | | GANG HANG AREA: 2 AE | |
| | | DRAWING NO. REV. | |
| | | M2546A | |
| | | SHEET 75 OF | |
| A.S.M.E. SECTION XI | | | |

9706240075-29

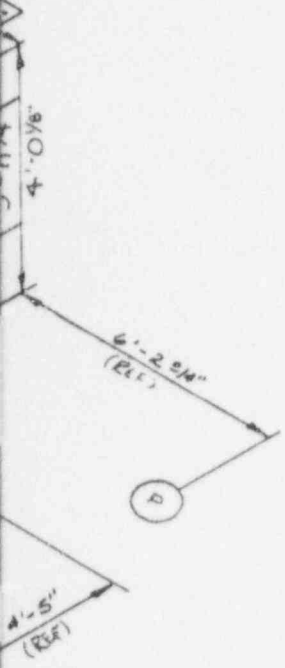
NOCLIM

NOTES

- 1) FAB. - INSTALL DATA - INSTALL THE PER PRO CLUSE NUCLEAR-ORIGIN NOTES PER M. 555 - M. 47-1
- 2) INSULATION ICV1A8-2" A 15"
- 3) AS-CONST DIM SAME AS DESIGN DIM.
- 4) DENOTES FIELD WELD
- 5) DENOTES BOWLS; TO BE MADE PER PLU. NSWP.M-03
- 6) DIMS ARE "AS-CONST" DIMS FOR PIPING CONFIGURATION - HOWN.

* 1. AS OF REV E THIS IS NOW A GIVE DRAWING

- 9) DENOTES RATTLE CLEARANCES CLEARANCE NOTIFICATION FORM NO.



SPOOL NO
2546A-83-1
2546A-83-2

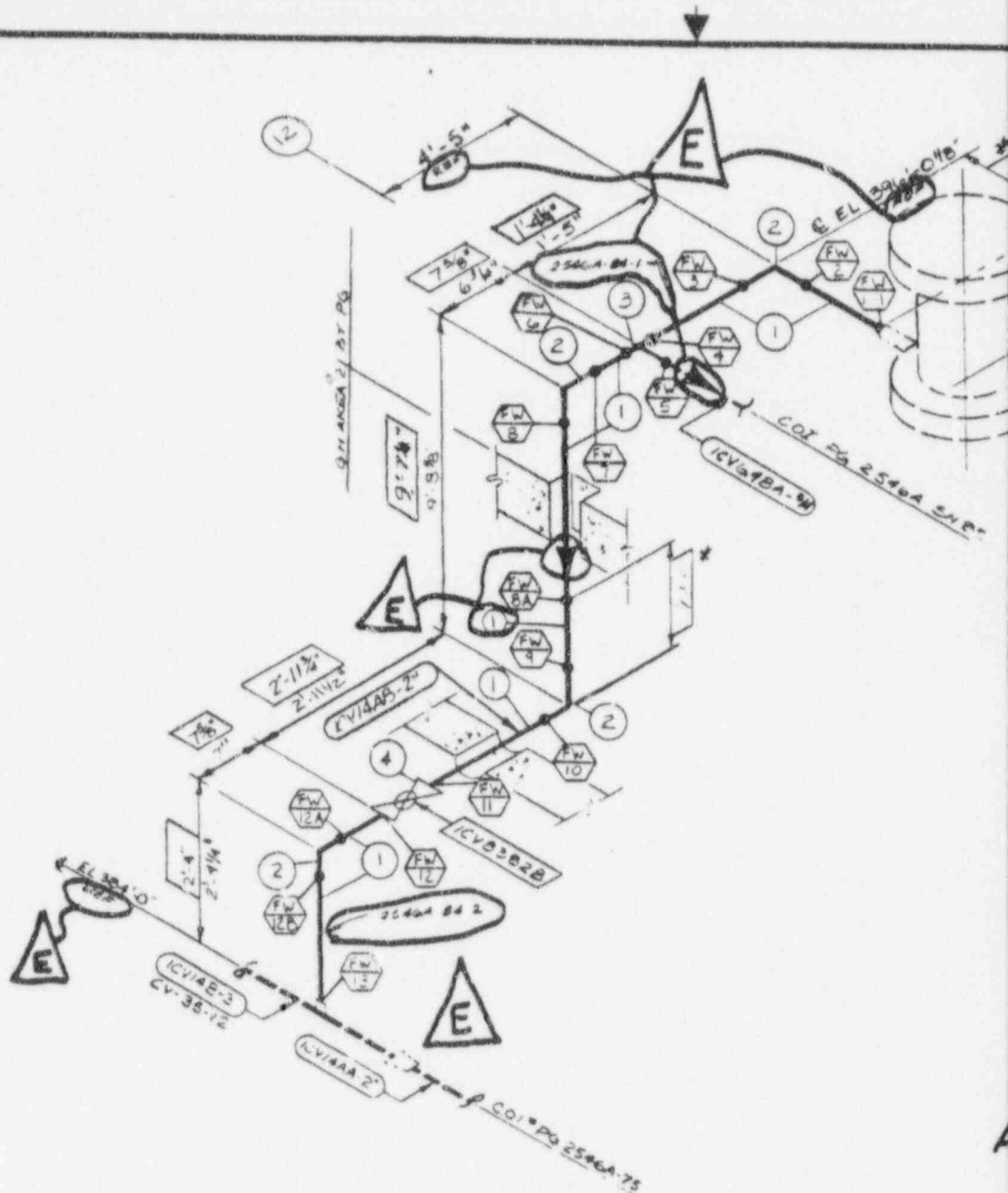
| | | |
|---|---|----------------------------|
| 6 | 1 | 2" 6000# SA-182 GR F304 |
| | | SW 70° ELL |
| | | HT# TL |
| 5 | 1 | 2" 1500# SA-182 GR F316 |
| | | SW GLOBE VALVE KCB38+8 |
| | | SER# 190841 |
| 4 | 1 | 2" 12M 600# SA-182 GR F304 |
| | | SW RED INSERT |
| | | HT# EPF |
| 3 | 1 | 2" 6000# SA-182 GR F304 |
| | | SW TEE |
| | | HT# 50 |
| 2 | 4 | 2" 6000# SA-182 GR F304 |
| | | SW 70° ELL |
| | | HT# UO |
| 1 | 2 | 2" 5160 SA-570 AL TP304 |
| | | SMLS SS PIPE |
| | | HT# 462897 |

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CARD

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|--|---|----------------------------------|------------------|---|----------------------------------|--------------|-----------------------------|--|-------------|----------|-----------------|-------|-----------|---------------|----------------------|------------|-------------|------|---------|--|-------------|--|
| WTR. | 92250 | ECN # 19084 | | | | | | | | | | | | | | | | | | | | |
| CHANGE | AREA # 2 | ECN 6991 | | | | | | | | | | | | | | | | | | | | |
| U.T./GND | 104.21(U) | | | | | | | | | | | | | | | | | | | | | |
| V-291 | 104.03(B-2) | | | | | | | | | | | | | | | | | | | | | |
| INSTALL | NUC 83 | | | | | | | | | | | | | | | | | | | | | |
| DESCRIPTION | REF DWG | SCALE NTS | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr> <td>CLASS</td><td><input checked="" type="checkbox"/> NUCLEAR</td><td><input type="checkbox"/> NON NUC</td></tr> <tr> <td>DESIGN TABLE</td><td colspan="2">1540 CC</td></tr> <tr> <td>WELD PROC</td><td colspan="2">SEL DATA</td></tr> <tr> <td>SCALE</td><td colspan="2">NTS</td></tr> <tr> <td>HEAT TREAT</td><td colspan="2"></td></tr> </table> | | | CLASS | <input checked="" type="checkbox"/> NUCLEAR | <input type="checkbox"/> NON NUC | DESIGN TABLE | 1540 CC | | WELD PROC | SEL DATA | | SCALE | NTS | | HEAT TREAT | | | | | | | |
| CLASS | <input checked="" type="checkbox"/> NUCLEAR | <input type="checkbox"/> NON NUC | | | | | | | | | | | | | | | | | | | | |
| DESIGN TABLE | 1540 CC | | | | | | | | | | | | | | | | | | | | | |
| WELD PROC | SEL DATA | | | | | | | | | | | | | | | | | | | | | |
| SCALE | NTS | | | | | | | | | | | | | | | | | | | | | |
| HEAT TREAT | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr> <td colspan="2">BILL OF MATERIAL</td></tr> <tr> <td colspan="2">* PHILLIPS, GETSCHOW CO</td></tr> <tr> <td colspan="2">BRADWOOD STATION SPEC L-728</td></tr> <tr> <td>UNIT</td><td>BLDG 401</td></tr> <tr> <td>WON</td><td>600</td></tr> <tr> <td>CHEM FEED</td><td>VOLUME J. NUC</td></tr> <tr> <td>DWG No</td><td>F 2546A-83</td></tr> <tr> <td>REV</td><td>F</td></tr> </table> | | | BILL OF MATERIAL | | * PHILLIPS, GETSCHOW CO | | BRADWOOD STATION SPEC L-728 | | UNIT | BLDG 401 | WON | 600 | CHEM FEED | VOLUME J. NUC | DWG No | F 2546A-83 | REV | F | | | | |
| BILL OF MATERIAL | | | | | | | | | | | | | | | | | | | | | | |
| * PHILLIPS, GETSCHOW CO | | | | | | | | | | | | | | | | | | | | | | |
| BRADWOOD STATION SPEC L-728 | | | | | | | | | | | | | | | | | | | | | | |
| UNIT | BLDG 401 | | | | | | | | | | | | | | | | | | | | | |
| WON | 600 | | | | | | | | | | | | | | | | | | | | | |
| CHEM FEED | VOLUME J. NUC | | | | | | | | | | | | | | | | | | | | | |
| DWG No | F 2546A-83 | | | | | | | | | | | | | | | | | | | | | |
| REV | F | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr> <td>SCALE</td><td>MCR 20-1-90-011</td></tr> <tr> <td>PROJECT NUMBER</td><td></td></tr> <tr> <td colspan="2">A.S.M.E. SECTION XI</td></tr> <tr> <td colspan="2">DOC STA # 3</td></tr> <tr> <td colspan="2">SARGENT & LUDBY</td></tr> <tr> <td colspan="2">CHICAGO</td></tr> <tr> <td colspan="2">SANG HANG AREA 2 (A)</td></tr> <tr> <td>DRAWING NO.</td><td>REV.</td></tr> <tr> <td>M 2-40A</td><td></td></tr> <tr> <td colspan="2">SHEET 83 OF</td></tr> </table> | | | SCALE | MCR 20-1-90-011 | PROJECT NUMBER | | A.S.M.E. SECTION XI | | DOC STA # 3 | | SARGENT & LUDBY | | CHICAGO | | SANG HANG AREA 2 (A) | | DRAWING NO. | REV. | M 2-40A | | SHEET 83 OF | |
| SCALE | MCR 20-1-90-011 | | | | | | | | | | | | | | | | | | | | | |
| PROJECT NUMBER | | | | | | | | | | | | | | | | | | | | | | |
| A.S.M.E. SECTION XI | | | | | | | | | | | | | | | | | | | | | | |
| DOC STA # 3 | | | | | | | | | | | | | | | | | | | | | | |
| SARGENT & LUDBY | | | | | | | | | | | | | | | | | | | | | | |
| CHICAGO | | | | | | | | | | | | | | | | | | | | | | |
| SANG HANG AREA 2 (A) | | | | | | | | | | | | | | | | | | | | | | |
| DRAWING NO. | REV. | | | | | | | | | | | | | | | | | | | | | |
| M 2-40A | | | | | | | | | | | | | | | | | | | | | | |
| SHEET 83 OF | | | | | | | | | | | | | | | | | | | | | | |

9706240075-30

[illegible][illegible]

| | | | | | | | |
|----------------|-------------|----------|------------|------------|------------|-----|--|
| E | SPOOL NO. | | 2561A-BA-1 | | 2561A-BA-2 | | |
| | DESIGNATION | | PNEUMATIC | | RADIOGRAPH | | |
| | CLASS B | | NON NUC | | MAG PART | | |
| | WELD PROC | | DA | | DYE PEN | | |
| SCALE | | N/T | | HEAT TREAT | | RTV | |
| PROJECT NUMBER | | A.S.M.E. | | SECTION XI | | F | |
| SCALE | | N/T | | HEAT TREAT | | RTV | |
| PROJECT NUMBER | | A.S.M.E. | | SECTION XI | | F | |

| | | | | | |
|---|-------|------|-------|--------|--------------|
| 1 | 2" | 150° | 3A | B | G.F.316 |
| | | | | | SW. GLOBE V1 |
| | | | | | SEE K06-15 |
| 2 | 4 | 2" | 51/2° | 3A-403 | OR A7804 |
| | | | | | SW. 32° ELL. |
| | | | | | HT 1424N |
| 1 | 18-02 | 2" | 51/2° | 3A-403 | OR A7804 |
| | | | | | SW. 32° ELL. |
| | | | | | HT 1424N |

| | | |
|----------------------------|-----------|------------------|
| ITEM | QUANTITY | DESCRIPTION |
| | | BILL OF MATERIAL |
| PHILLIPS, GETSCHOW CO | | |
| BRANDWOOD STATION | | |
| SPEC L-1750 | | |
| UNIT | BLDG | W/O NO |
| CHEM FEED & VOLUME CONTROL | | |
| DWG NO | P6254A-BA | |

| | | | |
|----------------|--|----------|--|
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

| | | | |
|----------------|--|----------|--|
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

| | | | |
|----------------|--|----------|--|
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

| | | | |
|----------------|--|----------|--|
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

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| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

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| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

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| SCALE | | N/T | |
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| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

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| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

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| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

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| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

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| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

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| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

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| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

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| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

| | | | |
|----------------|--|----------|--|
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

| | | | |
|----------------|--|----------|--|
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

| | | | |
|----------------|--|----------|--|
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

| | | | |
|----------------|--|----------|--|
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

| | | | |
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| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

| | | | |
|----------------|--|----------|--|
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

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| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

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|----------------|--|----------|--|
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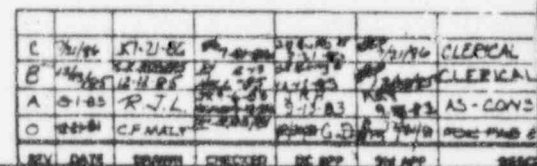
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| PROJECT NUMBER | | A.S.M.E. | |
| SCALE | | N/T | |
| PROJECT NUMBER | | A.S.M.E. | |

| | | | |
|-------|--|---|--|
| SCALE | | N | |
|-------|--|---|--|

ANSTEC APERTURE CARD

**Also Available on
Aperture Card**

9706240075-31





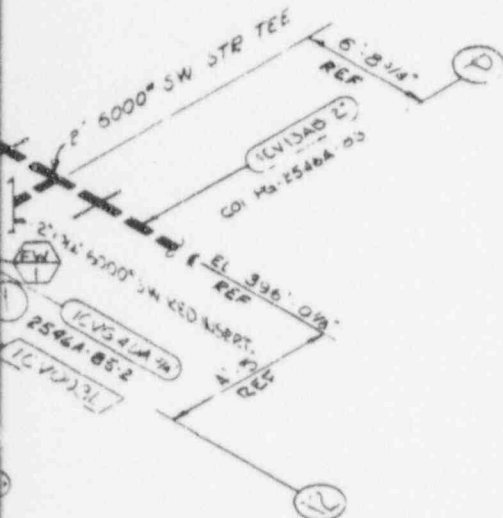
ROBERT TAGLE

11 FAB AND INSTALL DATA AND INSTALL -
TOLERANCE PER PROC QCP B21 GENERAL
NOTES PER M-535 AND M-679-1

3) INSULATION: NONE



4)  DIMS. ARE AS CONST. DIMS FOR
PIPING CONFIGURATION SHOWN
5)  : DENOTES FIELD WELDS



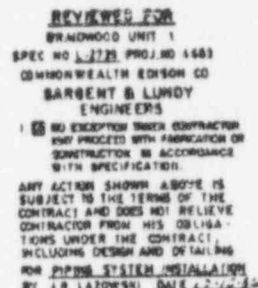
REVIEWED FOR
BRACEDWOOD UNIT 1
SPEC NO. 1-77-99 PROJ. NO. A682
CORPORATION HEALTH EDISON CO
BARBET & LUNDY
ENGINEERS
1. ☒ NO EXCEPTION WHEN CONTRACTOR
WAS PRICED WITH FABRICATION OF
CONSTRUCTION IN ACCORDANCE
WITH SPECIFICATION
ANY ACTION SHOWN ABOVE IS
SUBJECT TO THE TERMS OF THE
CONTRACT. DOES NOT RELIEVE
CONTRACTOR FROM OBLIGA-
TIONS UNDER THE CONTRACT
INCLUDING DESIGN AND DETAILS
FOR PIPELINE SYSTEM INSTALLATION
BY A. LAZARUS DATE 1-2-78

**ANSTEC
APERTURE
CARD**

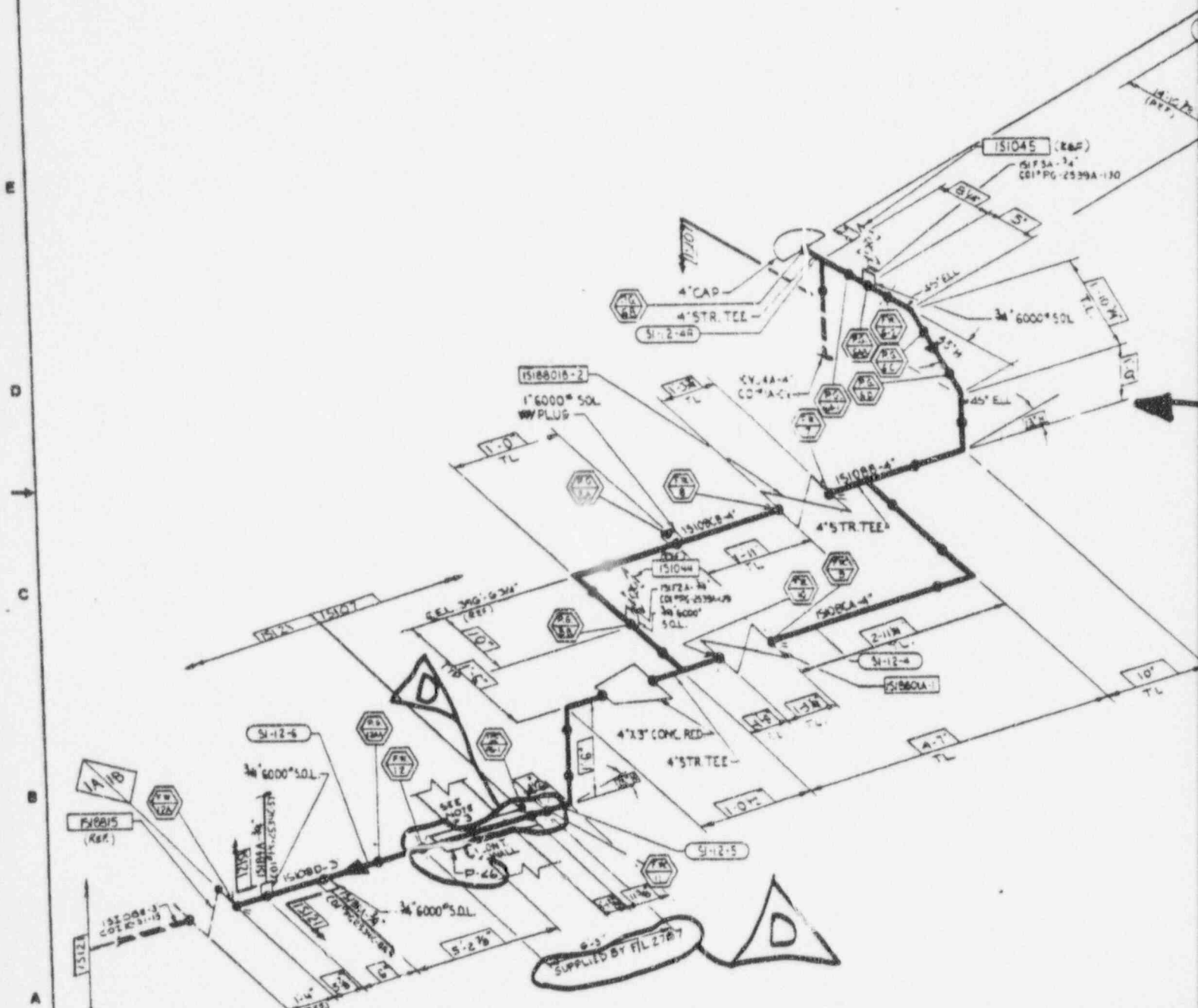
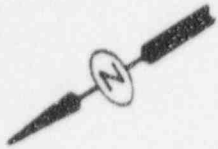
**Also Available on
Aperture Card**

[illegible]

9706240075-32

[illegible]

ROBERT TAGLIE



| ITEM | QTY | DESCRIPTION | UNIT | REMARKS |
|------|-----|-------------|------|---------|
| 1 | 1 | 4\"/> | | |

F

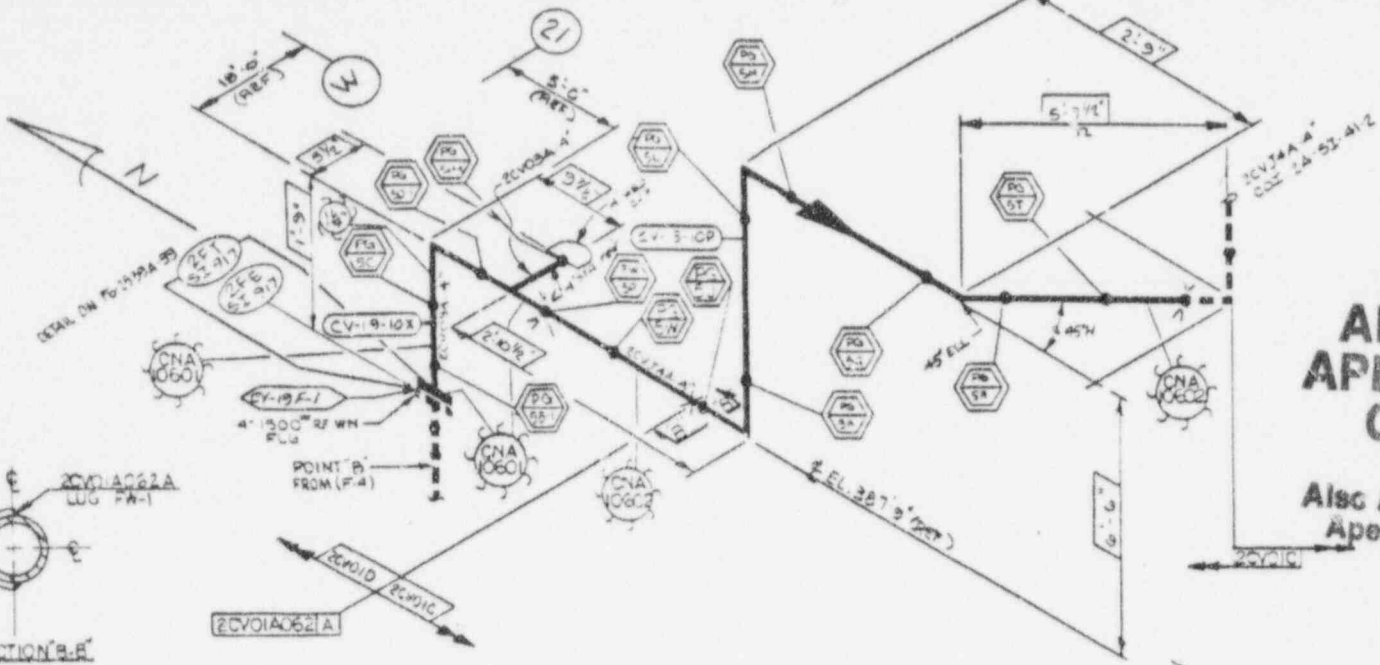
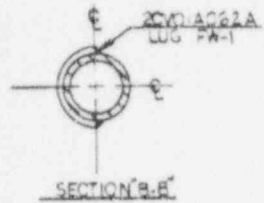
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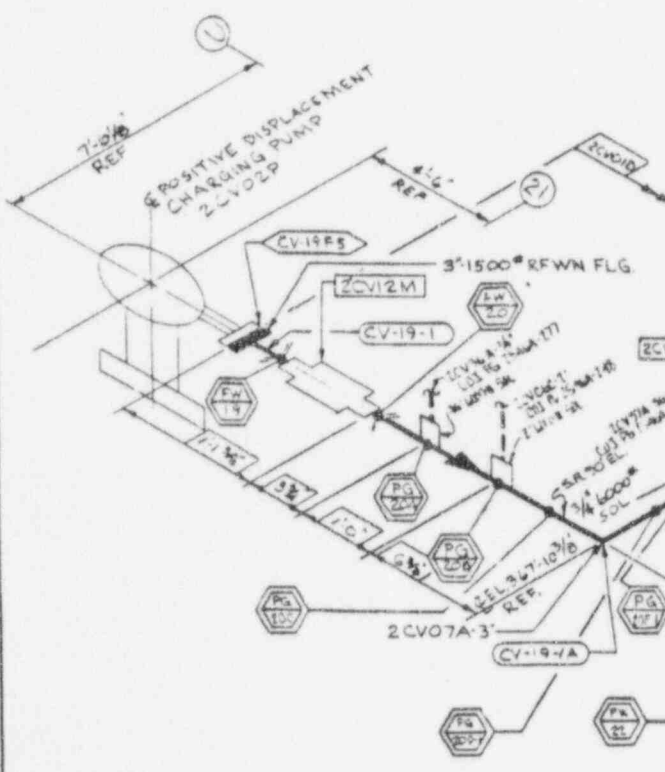
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A



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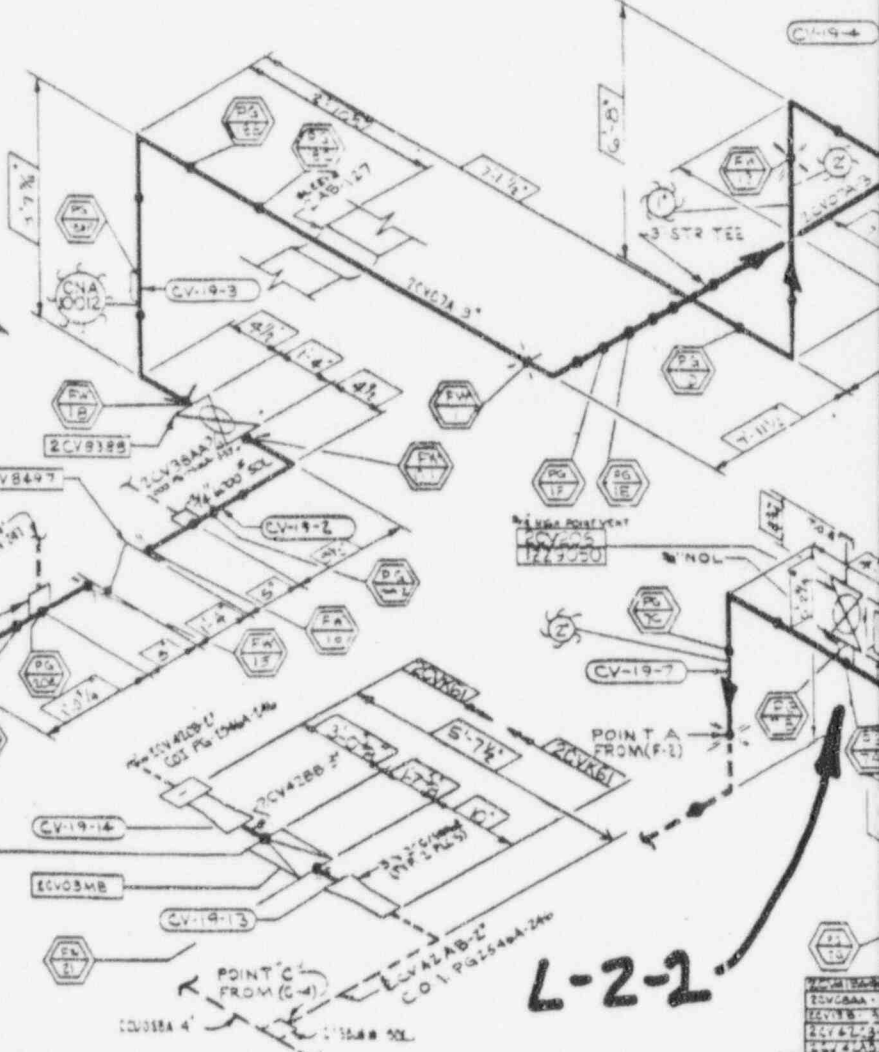
Also Avail
Aperture



| REV | DATE | DRAWN | CHECKED | QC APP | SA APP | DESCRIPTION | REF DWG |
|-----|----------|-------|---------|--------|--------|-------------|---------|
| 1 | 11-15-00 | SA | SA | SA | SA | SA | SA |
| 2 | 11-15-00 | SA | SA | SA | SA | SA | SA |
| 3 | 11-15-00 | SA | SA | SA | SA | SA | SA |
| 4 | 11-15-00 | SA | SA | SA | SA | SA | SA |
| 5 | 11-15-00 | SA | SA | SA | SA | SA | SA |
| 6 | 11-15-00 | SA | SA | SA | SA | SA | SA |
| 7 | 11-15-00 | SA | SA | SA | SA | SA | SA |
| 8 | 11-15-00 | SA | SA | SA | SA | SA | SA |
| 9 | 11-15-00 | SA | SA | SA | SA | SA | SA |
| 10 | 11-15-00 | SA | SA | SA | SA | SA | SA |

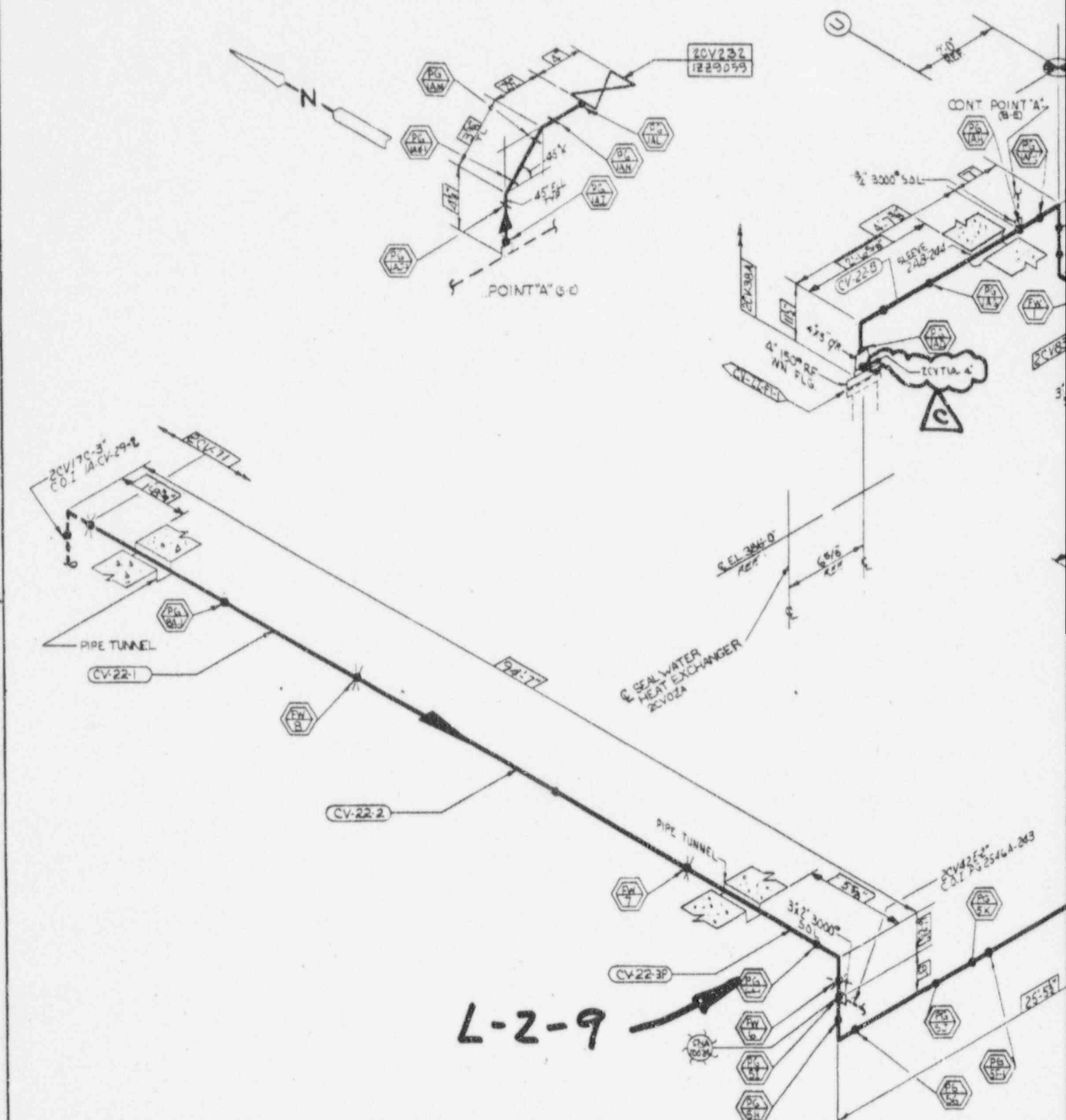
| ITEM | QTY | UNIT | DESCRIPTION | REF DWG |
|------|-----|------|-------------|---------|
| 1 | 1 | EA | SA | SA |
| 2 | 1 | EA | SA | SA |
| 3 | 1 | EA | SA | SA |
| 4 | 1 | EA | SA | SA |
| 5 | 1 | EA | SA | SA |
| 6 | 1 | EA | SA | SA |
| 7 | 1 | EA | SA | SA |
| 8 | 1 | EA | SA | SA |
| 9 | 1 | EA | SA | SA |
| 10 | 1 | EA | SA | SA |

| SPEC | SIZE | QTY | UNIT | DESCRIPTION | REF DWG |
|------|------|-----|------|-------------|---------|
| 1 | 1/2" | 1 | EA | SA | SA |
| 2 | 1/2" | 1 | EA | SA | SA |
| 3 | 1/2" | 1 | EA | SA | SA |
| 4 | 1/2" | 1 | EA | SA | SA |
| 5 | 1/2" | 1 | EA | SA | SA |
| 6 | 1/2" | 1 | EA | SA | SA |
| 7 | 1/2" | 1 | EA | SA | SA |
| 8 | 1/2" | 1 | EA | SA | SA |
| 9 | 1/2" | 1 | EA | SA | SA |
| 10 | 1/2" | 1 | EA | SA | SA |



L-2-2


F
E
D
C
B
A



| SPEC | | SIZE | WGT | ASTM SPECIFICATIONS | MANUFACTURER'S SPECIFICATIONS | DATE | BY | CHKD | APP'D | REVISION | DESCRIPTION | DESIGNATION |
|--------------|--|------|-----|---------------------|-------------------------------|------|----|------|-------|----------|-------------|-------------|
| PIPE | | | | | | | | | | | | |
| FITTINGS | | | | | | | | | | | | |
| FLANGES | | | | | | | | | | | | |
| BOLTS & NUTS | | | | | | | | | | | | |
| GASKETS | | | | | | | | | | | | |

9706240075-37

NOTES

- 1) THIS DWG IS TO SERVE AS AN AS-CONST. PIPING DWG TO REPLACE ORIGINAL SW ISO CV-28.
- 2) DIMS. ARE AS-CONST. FOR PIPING CONFIGURATION SHOWN. ALL OTHER DIMS. ARE FOR REF. ONLY.
- 3) SWO NO. 9005.
- 4) AS-CONST. S.S. 2CV39, 2CV44, 2CV73.
- 5)  DEVIATED GASKET POINT AND CLEARANCE NOTIFICATION FORM NO.
- 6) FABRICATION & INSTALLATION DATA AND INSTALLATION TOLERANCE PER PROCEDURE JMW-P-10-037 GENERAL NOTES PER M535 AND M679-1
- 7) AN OF DEN. C THIS IS NOT A SW DWG.

DETAIL E
VERT. VALVE

DETAIL F
HORIZ. VALVE

VALVE ORIENTATION

| VALVE NUMBER | DETAIL | VIEWED LOOKING | ANGLE ° |
|--------------|--------|----------------|---------|
| 2CV012 | F | EAST | 90° |
| 2CV201 | B | DOWN | 0° |
| 2CV205 | E | DOWN | 0° |
| 2CV204 | E | DOWN | 0° |

| QUAN. | SPOOL NO. | EW SHT. NO. | POD NO. |
|-------|-----------|-------------|------------|
| 1 | CV-28-1 | 185 | 1259 |
| 2 | | 190 | 6302 |
| 3 | | 191 | |
| 4 | | 192 | |
| 5 | | 193 | |
| 6 | | 194 | 516-28/A |
| 7 | | 195 | 2CV-223 |
| 8 | | 196 | 2CV-112-87 |
| 9 | | 197 | 2CV-204 |
| 10 | | 198 | 6714 |
| 11 | | 199 | |
| 12 | | 200 | 2CV-204 |
| 13 | | 201 | 6115 |
| 14 | | 202 | 5427 |
| 15 | | 203 | |

| ITEM | QUAN. | DESCRIPTION |
|-----------|-------|-------------|
| 2CV012 | 1 | 67673 |
| 2CV201 | 1 | 67674 |
| 2CV205 | 1 | 67675 |
| 2CV204 | 1 | 78593 |
| VALVE NO. | | SERIAL NO. |

| ITEM | QUAN. | DESCRIPTION |
|---------------------------|-------|-------------------------|
| PHILLIPS, GETSCHOW CO | | |
| BRANDWOOD STATION | | SPEC L-2738 |
| UNIT | | BLOG. AUX. W.O. NO. N/A |
| CHEM. FEED & VOL. CONTROL | | |
| DWG NO. | | 2A-CV-28 |

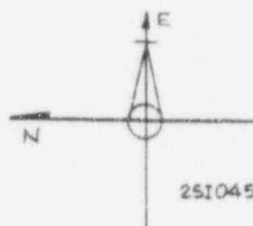
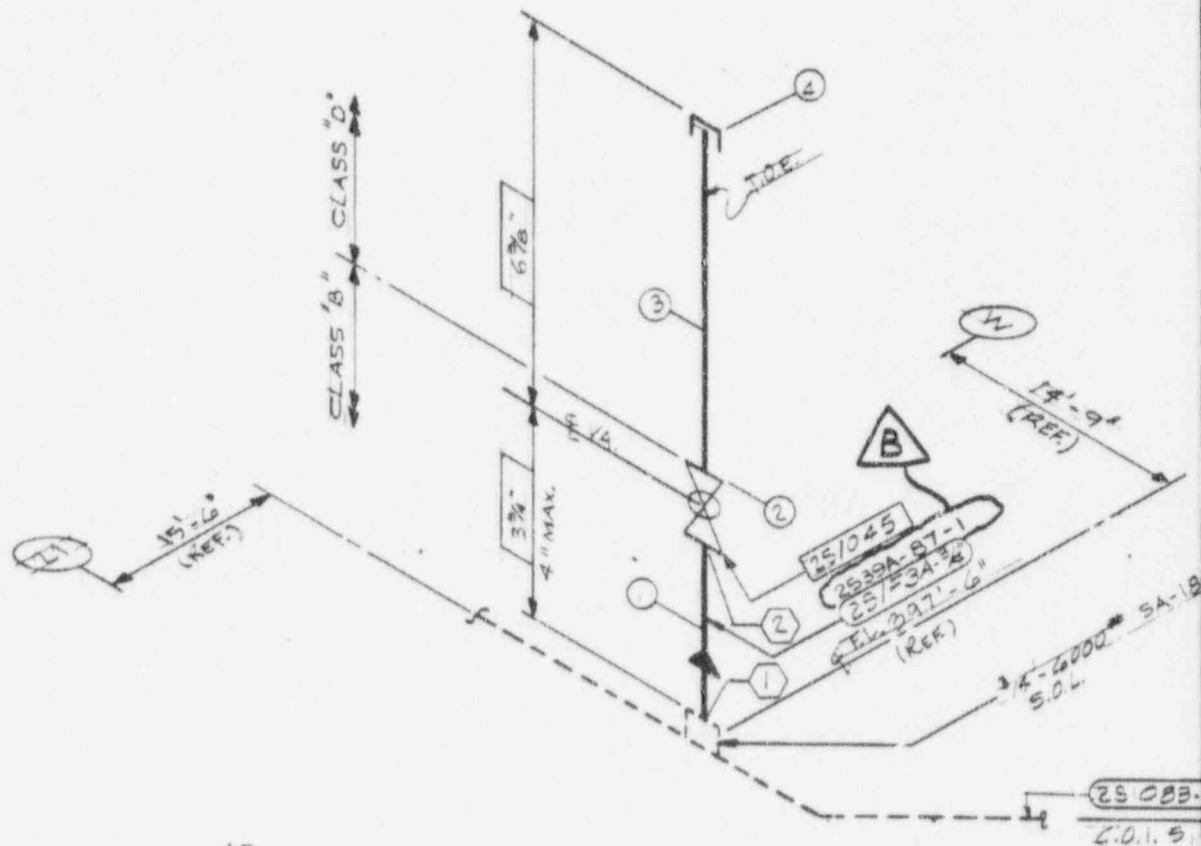
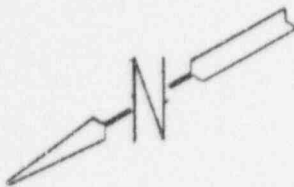
A.S.M.E. SECTION XI

| SUBSYSTEMS | 2CV39, 2CV44, 2CV73 |
|--|---------------------|
| ASME SECT. III 1974 WITH ADD. THRU SUMMER 1975 | |
| CL. 2 STAINLESS STEEL | |
| CLASS | NUCLEAR |
| DESIGN TABLE | 1540BB |
| WELD PROC. | |
| HEAT TREAT | |
| SCALE | NONE |

| REV | DATE | BY | CHKD | APP | DESCRIPTION |
|-----|----------|------|------|-----|--------------------------|
| 1 | 10-10-77 | W.B. | | | ISSUED FOR CONSTRUCTION |
| 2 | 11-10-77 | W.B. | | | REVISED FOR CONSTRUCTION |
| 3 | 12-10-77 | W.B. | | | REVISED FOR CONSTRUCTION |
| 4 | 1-11-78 | W.B. | | | REVISED FOR CONSTRUCTION |
| 5 | 2-11-78 | W.B. | | | REVISED FOR CONSTRUCTION |

| REV | DATE | BY | CHKD | APP | DESCRIPTION |
|-----|----------|------|------|-----|--------------------------|
| 1 | 10-10-77 | W.B. | | | ISSUED FOR CONSTRUCTION |
| 2 | 11-10-77 | W.B. | | | REVISED FOR CONSTRUCTION |
| 3 | 12-10-77 | W.B. | | | REVISED FOR CONSTRUCTION |
| 4 | 1-11-78 | W.B. | | | REVISED FOR CONSTRUCTION |
| 5 | 2-11-78 | W.B. | | | REVISED FOR CONSTRUCTION |

9706240075-39



| | | | | | | |
|---|---------|---------|---------|---------|---------|--------|
| B | 5/22/86 | 5-21-86 | 6-11-86 | 5-21-86 | 5-21-86 | CLERK |
| A | 7/17/85 | 7-17-85 | 7-17-85 | 7-17-85 | 7-17-85 | AS-UN |
| C | 1-8-85 | 1-8-85 | 1-8-85 | 1-8-85 | 1-8-85 | FAB. A |

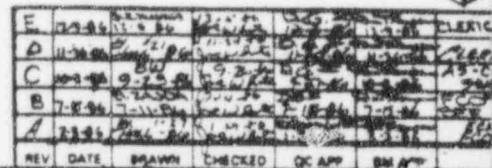
DRAWING RELEASE RECORD

| REV. | DATE REL'D | PREPARED | REVIEWED | APPROVED | PURPOSE | FILM |
|------|------------|----------|----------|----------|---------|------|
| | | | | | | |
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| | | | | | | |

4) ☐ DIMS. ARE AS CONSTRUCT
- DIMS. FOR PIPING CONFIGU-
- RATION SHOWN.

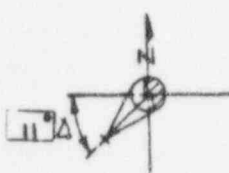
**Also Available on
Aperture Card**

9706240075-40

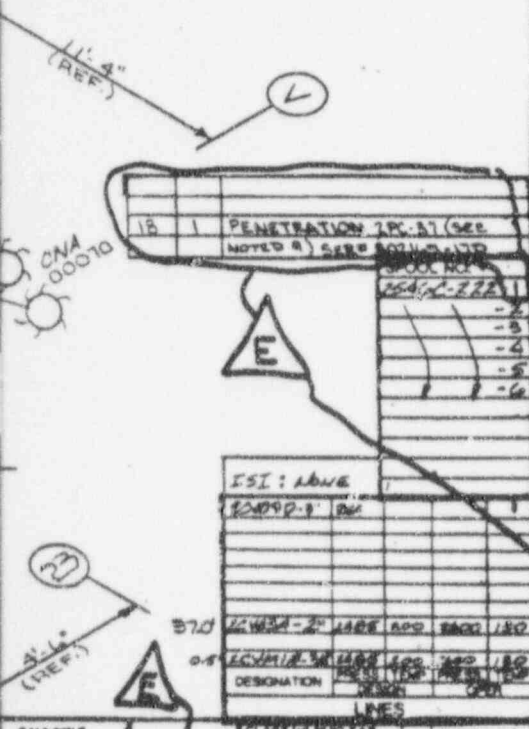
[illegible]

40-252
 5000 PACE #1
 NOTE - 9
 30 312
 GR TP304
 CONT. BLDG.

REVIEWED FOR
 BRADWOOD UNIT 2
 NO. 1.2122 PROJ. NO. 1584
 NEWWEALTH EDISON CO
 SARGENT & LUNDY
 ENGINEERS
 NO EXCEPTION WHEN CONTRACTOR
 MAY PROCEED WITH FABRICATION OR
 CONSTRUCTION IN ACCORDANCE
 WITH SPECIFICATIONS.
 ACTION SHOWN ABOVE IS
 SUBJECT TO THE TERMS OF THE
 CONTRACT AND DOES NOT RELIEVE
 CONTRACTOR FROM HIS OBLIGATION
 UNDER THE CONTRACT.
 WORKING DESIGN AND DETAILING
 PIPING SYSTEM INSTALLATION
 J. LAZOWSKI DATE 6-9-87



VALVE # 2CV070
 (LOOKING DOWN)



| | | | |
|----|-----|----------------------------|--|
| 17 | 1 | 3/4" 1500# 3A-102 GR. F316 | THRO. S.S. CAP |
| 16 | 0 | 0.8" 3/4" 316 GR. TP304 | SMLS. S.S. PIPE (TOP) |
| 15 | 1 | 2" 1500# 3A-102 GR. F316 | S.W. S.S. GLOBE VALVE HT# 462843/11 HT# 462897 |
| 14 | 2 | 2" 1500# 3A-102 GR. F316 | S.W. S.S. GLOBE VALVE HT# 462843/11 HT# 462897 |
| 13 | 1 | 3/4" 1500# 3A-102 GR. F316 | S.W. S.S. GLOBE VALVE HT# 462843/11 HT# 462897 |
| 12 | 1 | 2" 1500# | CRUISE PLATE HT# 462843/11 HT# 462897 |
| 11 | 2 | 2" 1500# FL. TALLS | GASKET |
| 10 | 10 | 7/8" 20.194 GR. 6 | HEAVY HEX NUT HT# 462843/11 HT# 462897 |
| 9 | 2 | 7/8" 6.76" 3A-193 GR. B70 | STUD BOLT HT# 462843/11 HT# 462897 |
| 8 | 2 | 2" 1500# 3A-102 GR. F316 | S.W. S.S. CRUISE PLATE HT# 462843/11 HT# 462897 |
| 7 | 1 | 2" 1500# 3A-102 GR. F316 | S.W. S.S. CRUISE PLATE HT# 462843/11 HT# 462897 |
| 6 | 1 | 2" 6000# 3A-102 GR. F316 | S.W. S.S. CRUISE PLATE HT# 462843/11 HT# 462897 |
| 5 | 1 | 2" 6000# 3A-102 GR. F316 | S.W. S.S. CRUISE PLATE HT# 462843/11 HT# 462897 |
| 4 | 2 | 2" 6000# 3A-102 GR. F316 | S.W. S.S. 45° ELBOW HT# 462843/11 HT# 462897 |
| 3 | 5 | 2" 6000# 3A-102 GR. F316 | S.W. S.S. 90° ELBOW HT# 462843/11 HT# 462897 |
| 2 | 0-0 | 3/4" 316 GR. TP304 | SMLS. S.S. PIPE HT# 462843/11 HT# 462897 |
| 1 | 0-0 | 2" 316 GR. TP304 | SMLS. S.S. PIPE HT# 462843/11 HT# 462897 |

ANSTEC
 APERTURE
 CARD
 Also Available on
 Aperture Card

| | | | | | | | |
|------------------------|--|----------------|--|-----------------|--|--|--|
| CHARGE | | CLASSIFICATION | | PNEUMATIC | | PHILLIPS, GETSCHOW CO | |
| BY: [Signature] | | NON NUC | | RADIOGRAPH | | BRADWOOD STATION SPEC L-2730 | |
| DESIGN TABLE | | WELD PROC | | DYE PEN | | UNIT: [Blank] BLDG. [Blank] WORK: 1000 | |
| 154058 | | SEE WELD | | HYDRO | | CHARGE FEED & VOLUME CONTROL | |
| DATA SHEETS | | SCALE: NTS | | HEAT TREAT | | DWG NO: PG 2546A-222 | |
| SCALE: SUB-SYS: 2CV01A | | PROJECT NUMBER | | DOCS: STA. 7 | | REV. E | |
| | | | | SARGENT & LUNDY | | | |
| | | | | DRAWING NO. | | REV. | |
| | | | | M-2546A | | E | |
| | | | | SHEET 222 OF | | | |




9706240075-41

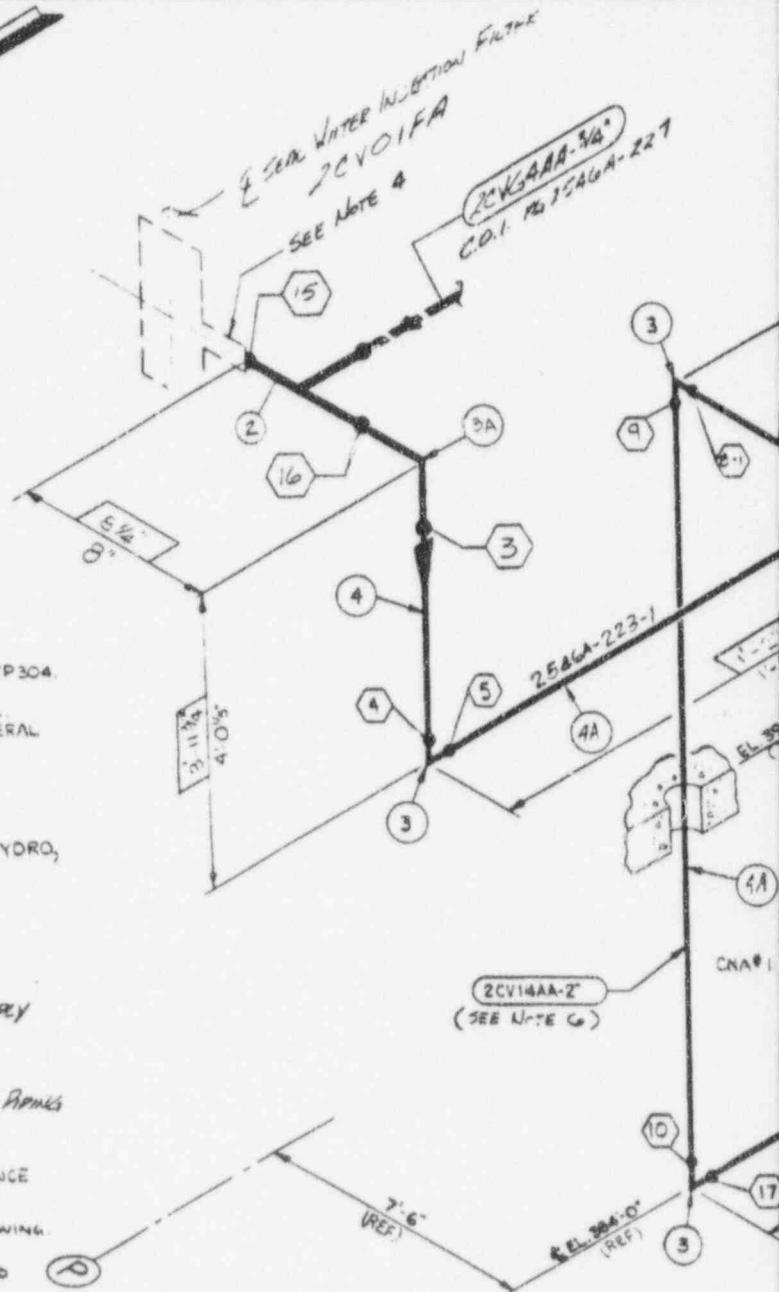
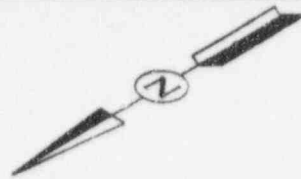
REVIEWED FOR
BRIGWOOD
UNIT 1
UNIT 3
COMMONWEALTH BRIDGE CO.
BARGENT & LUNDY
ENGINEERS
NO DESIGNER TAKES RESPONSIBILITY FOR THE
CONSTRUCTION OF THE STRUCTURE

ANY ACTION SHOWN ABOVE IS
SUBJECT TO THE TERMS OF THE
CONTRACT AND DOES NOT RELIEVE
CONTRACTOR FROM HIS OBLIGA-
TIONS UNDER THE CONTRACT.
FOLLOWING DESIGN AND DETAILING
FOR DESIGN, DESIGN INSPECTION
EQUIPMENT NO. 1
BY A.C. 308124 DATE 12-15-84
SPEC. NO. 1-223/PROJ. NO. 8064
CHANGE AUTHORITY
A.S. BUILT
OCR 92-444

SUPERSEDES PRINT
REVIEWED 11-30-87

NOTES:

- 1) EICN#6991 GANG HANG AREA#2
- 2) INSULATION: A-1 1/2"
- 3)  DENOTES FIELD WELD
- 4) CONN. 2" PIPE NOZZLE S312 GRTP304
- 5) FAB. AND INSTALL. DATA AND INSTALL. TOLERANCE PER PROC. NSWP-M-01 GENERAL NOTES PER M-535 AND M-679-1.
- 6) 2CV14AA 2' IS BUTT-WELDED PER S&L LINE LIST.
- 7) TESTING: BUTT-WELDS REQUIRE HYDRO, RADIOGRAPH. SOCKET WELDS REQUIRE HYDRO, DYE PEN
- 8) SOL. MATL- SA-182 GR. F304
- 9) FIELD WELD 14 TO BE SOCKET WELDED PER ECU 22229
- 10) FCO# 207100G AND 124-5041 APPLY TO THIS REVISION.
- 11)  DENOTES BUTT WELD
- 12) BOXED DIMS ARE AS-CONST DIMS FOR PIPING CONFIGURATION SHOWN.
- 13)  DENOTES RATTLE PTS. & CLEARANCE NOTIFICATION FORM NO. 1
- 14) AS OF REV. E THIS IS NOW A GNV DRAWING.
- 14) FIELD TO SHORTEN PIPE AS REQUIRED TO MEET A.E. DESIGN DIMENSIONS.
- 15) DIMENSION (3'-4 1/2") BASED ON ORIGINAL AS-CONSTRUCTED DIMENSIONS



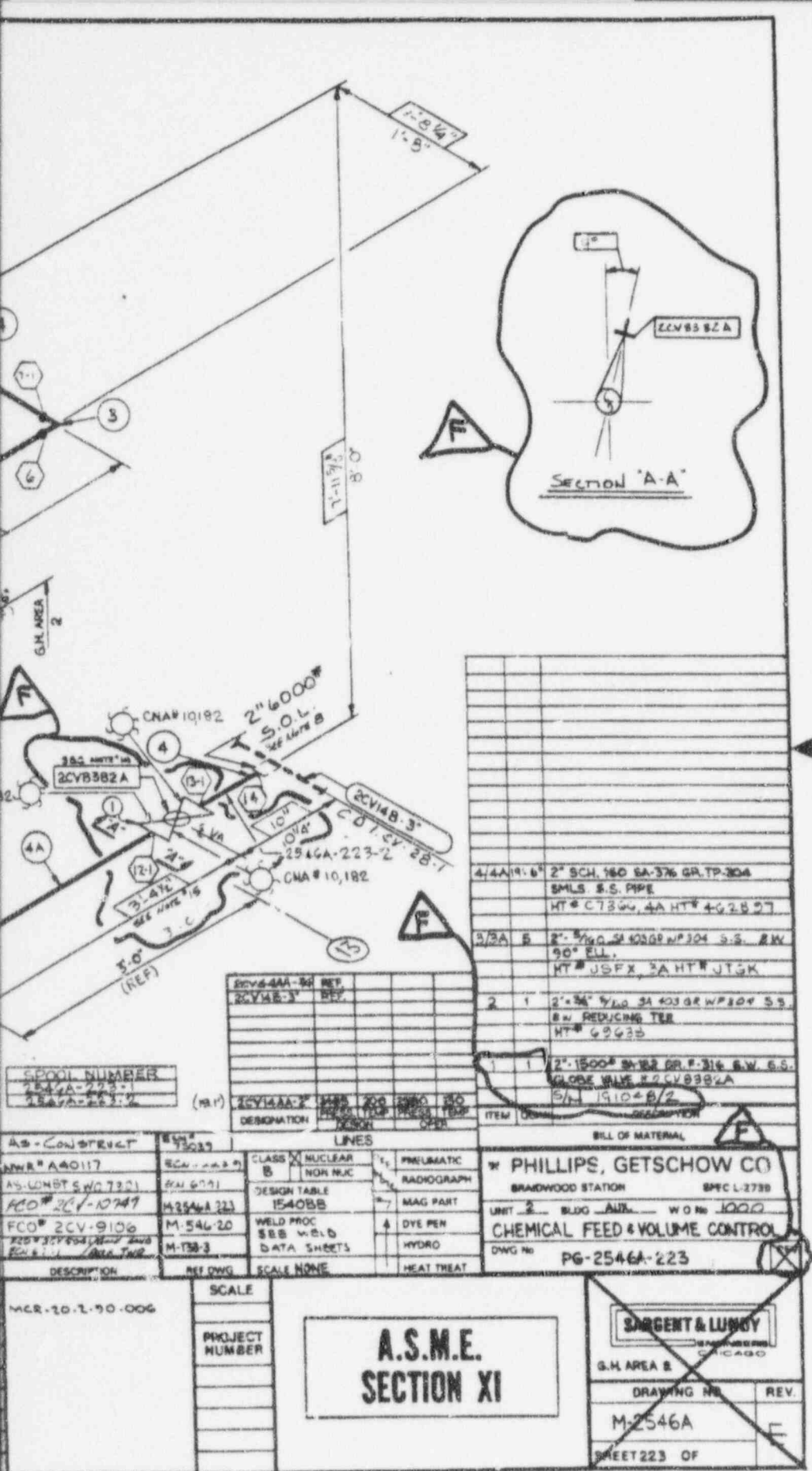
| REV. | DATE | DRAWN | CHECKED | QC APP | SM APP |
|------|----------|-------|---------|--------|--------|
| F | 5-1-90 | | | | |
| E | 1-1-89 | | | | |
| D | 10-20-87 | | | | |
| C | 12-4-84 | | | | |
| B | 10-13-84 | | | | |
| A | 7-1-84 | | | | |

| DRAWING RELEASE RECORD | | | | | | PURPOSE | FILE |
|------------------------|------------|----------|----------|----------|--|---------|------|
| REV. | DATE REL'D | PREPARED | REVIEWED | APPROVED | | | |
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FORM 6032-B 314-78

R.C.L.-83

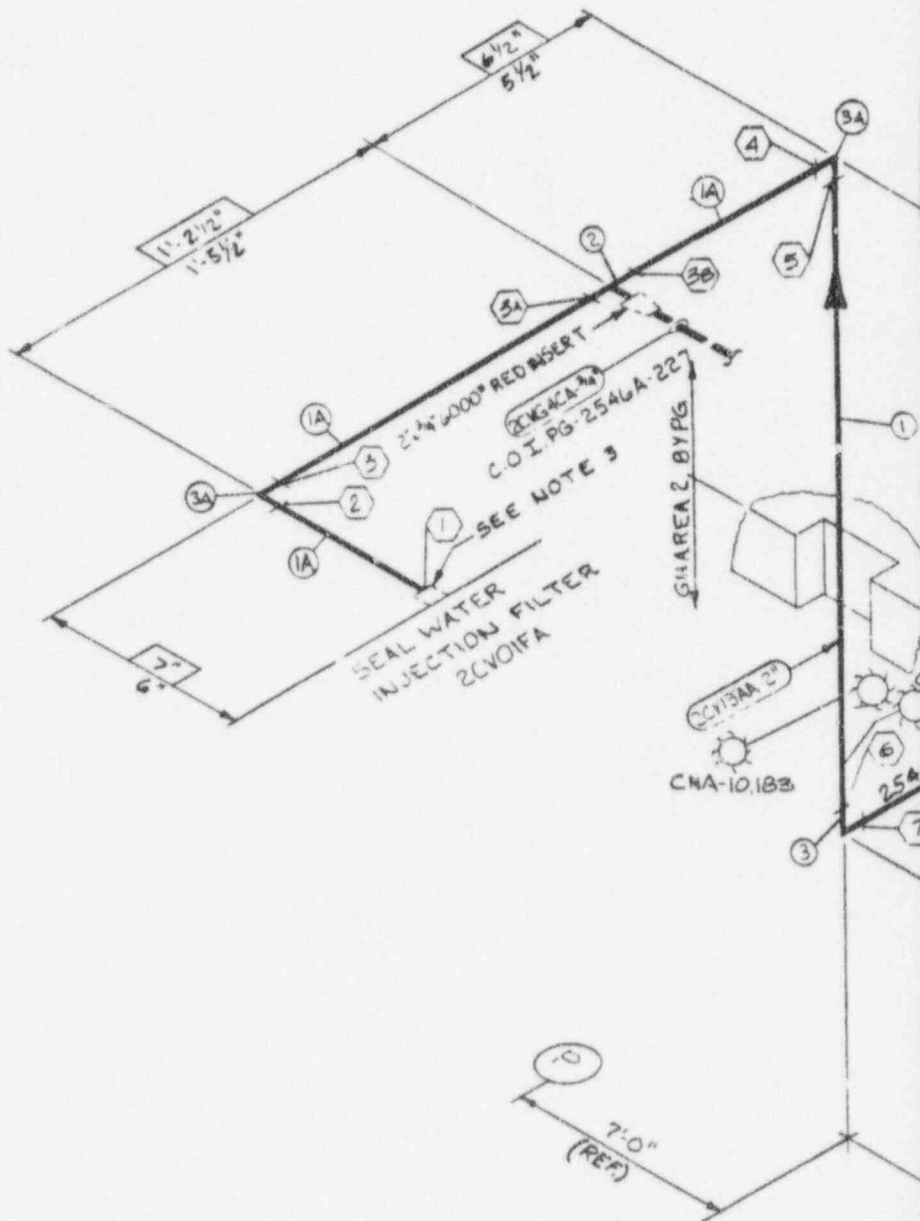
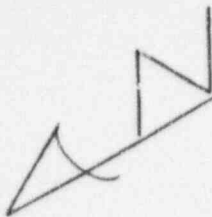
MC



ANSTEC APERTURE CARD

Also Available on
Aperture Card

9706240075-42

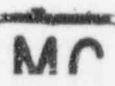


| REV | DATE | DRAWN | CHECKED | QC APP | SV APP |
|-----|---------|---------|---------|---------|---------|
| D | 4-29-90 | 4-29-90 | 4-29-90 | 4-29-90 | 4-29-90 |
| C | 3-29-90 | 3-29-90 | 3-29-90 | 3-29-90 | 3-29-90 |
| B | 9-12-89 | 9-12-89 | 9-12-89 | 9-12-89 | 9-12-89 |
| A | 4-24-89 | 4-24-89 | 4-24-89 | 4-24-89 | 4-24-89 |




DRAWING RELEASE RECORD

| REV | DATE REL'D | PREPARED | REVIEWED | APPROVED | PURPOSE |
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FORM GDS2 & 314 (75)



NOTES

- 1) ECN #6991, GANG AREA # 2.
- 2) INSULATION; A-1.5"
- 3) 2" B.W. CONN. 5/80 SA-312, GR TP304.
- 4)  DENOTES WELDS.
- 5) NO REWORK REQUIRED
- 6)  DIMS. ARE "AS-CONST." DIMS FOR PIPING CONFIG. SHOWN.
- 7) FAB & INSTALL DATA & INSTALL TOLERANCE PER PROCEDURE NSWP-M-02. GEN. NOTES PER M-535 & M-679-1.
- 8)  DENOTES RATTLE POINT AND CLEARANCE NOTIFICATION FORM NO. AS OF REV. C THIS IS NOW A GNV DRAWING.
- 9) FIELD TO SHORTEN PIPE AS REQUIRED TO MEET AE DESIGN DIMENSIONS

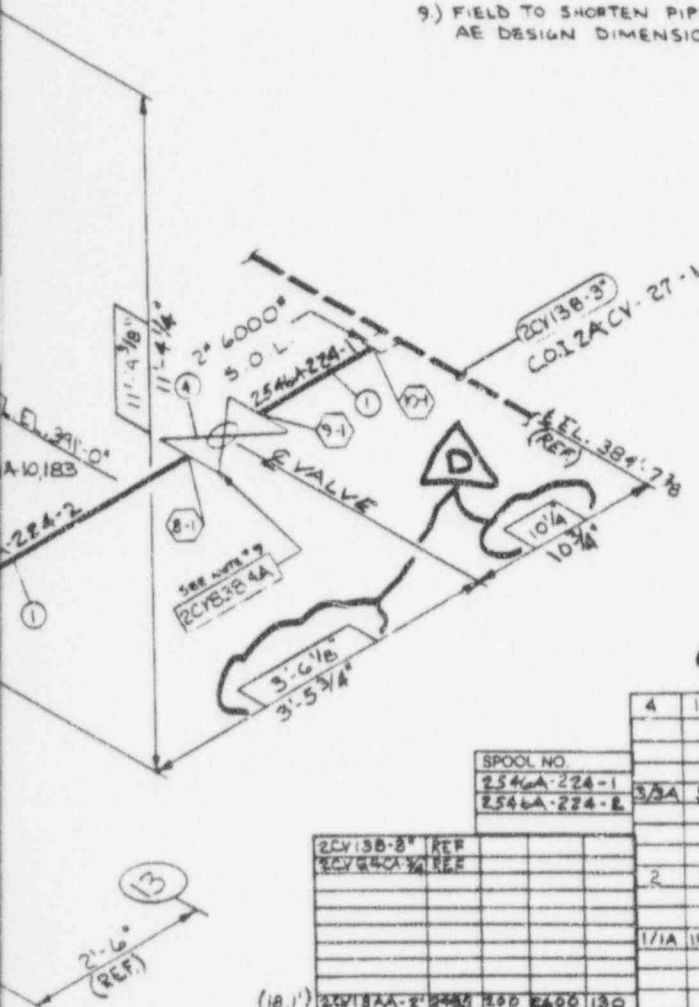
REVIEWED FOR
BRADWOOD
UNIT 1 ☐
UNIT 3 ☐
COMMONWEALTH EDISON CO.
SARGENT & LUNDY
ENGINEERS
L ☐ NO DESIGN TOLERANCE
MAY PROCEED WITH FABRICATION
OR CONSTRUCTION.

ANY ACTION SHOWN ABOVE IS
SUBJECT TO THE TERMS OF THE
CONTRACT AND DOES NOT RELIEVE
CONTRACTOR FROM HIS OBLIGA-
TIONS UNDER THE CONTRACT,
INCLUDING DESIGN AND DETAILING
FOR OTHER SYSTEM INSTALLATIONS
EQUIPMENT NO. _____
BY A. C. BROWN, DATE 11-18-62
SPEC NO. L-273902 NO. 464
CHANGE AUTHORITY
AS-DRG-T
DCR 42-144

SUPERSEDES PRINT
REVIEWED 06-00-67

**ANSTEC
APERTURE
CARD**

Also Available on
Aperture Card



| SPPOOL NO. | 2546A-224-1 | 2546A-224-2 |
|---------------|--------------|--------------|
| 2546A-224-1 | 2546A-224-2 | 2546A-224-3 |
| 2546A-224-4 | 2546A-224-5 | 2546A-224-6 |
| 2546A-224-7 | 2546A-224-8 | 2546A-224-9 |
| 2546A-224-10 | 2546A-224-11 | 2546A-224-12 |
| 2546A-224-13 | 2546A-224-14 | 2546A-224-15 |
| 2546A-224-16 | 2546A-224-17 | 2546A-224-18 |
| 2546A-224-19 | 2546A-224-20 | 2546A-224-21 |
| 2546A-224-22 | 2546A-224-23 | 2546A-224-24 |
| 2546A-224-25 | 2546A-224-26 | 2546A-224-27 |
| 2546A-224-28 | 2546A-224-29 | 2546A-224-30 |
| 2546A-224-31 | 2546A-224-32 | 2546A-224-33 |
| 2546A-224-34 | 2546A-224-35 | 2546A-224-36 |
| 2546A-224-37 | 2546A-224-38 | 2546A-224-39 |
| 2546A-224-40 | 2546A-224-41 | 2546A-224-42 |
| 2546A-224-43 | 2546A-224-44 | 2546A-224-45 |
| 2546A-224-46 | 2546A-224-47 | 2546A-224-48 |
| 2546A-224-49 | 2546A-224-50 | 2546A-224-51 |
| 2546A-224-52 | 2546A-224-53 | 2546A-224-54 |
| 2546A-224-55 | 2546A-224-56 | 2546A-224-57 |
| 2546A-224-58 | 2546A-224-59 | 2546A-224-60 |
| 2546A-224-61 | 2546A-224-62 | 2546A-224-63 |
| 2546A-224-64 | 2546A-224-65 | 2546A-224-66 |
| 2546A-224-67 | 2546A-224-68 | 2546A-224-69 |
| 2546A-224-70 | 2546A-224-71 | 2546A-224-72 |
| 2546A-224-73 | 2546A-224-74 | 2546A-224-75 |
| 2546A-224-76 | 2546A-224-77 | 2546A-224-78 |
| 2546A-224-79 | 2546A-224-80 | 2546A-224-81 |
| 2546A-224-82 | 2546A-224-83 | 2546A-224-84 |
| 2546A-224-85 | 2546A-224-86 | 2546A-224-87 |
| 2546A-224-88 | 2546A-224-89 | 2546A-224-90 |
| 2546A-224-91 | 2546A-224-92 | 2546A-224-93 |
| 2546A-224-94 | 2546A-224-95 | 2546A-224-96 |
| 2546A-224-97 | 2546A-224-98 | 2546A-224-99 |
| 2546A-224-100 | | |

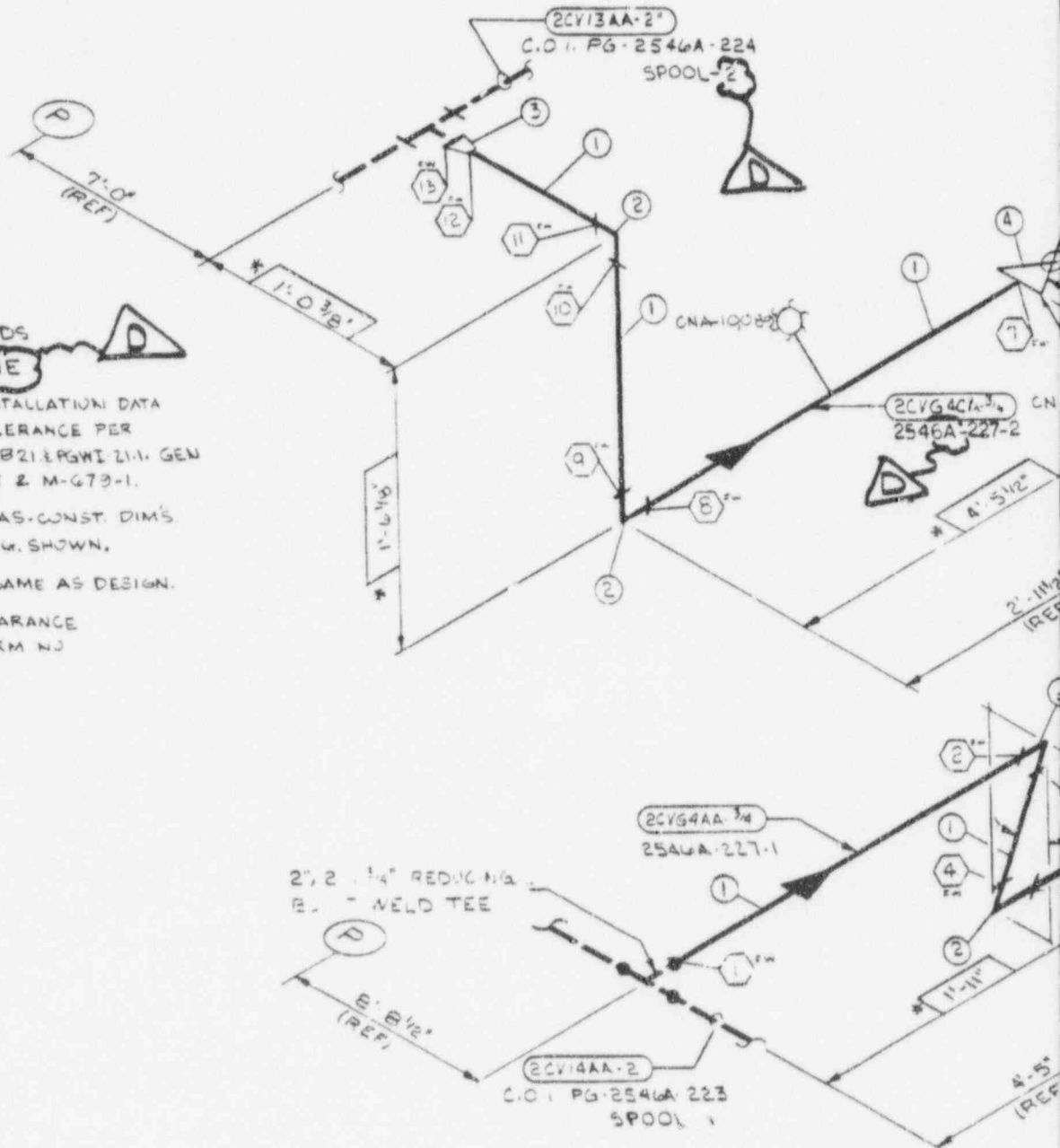
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| DESIGN TABLE 15A088 | | WELD PROC SEE WELD DATA RECORD | |
| SCALE 1/4" = 1'-0" | | HEAT TREAT | |
| DESCRIPTION | | REF DWG | |
| MCR-20-2-90-006 | | SCALE | |
| PROJECT NUMBER | | A.S.M.E. SECTION XI | |
| SARGENT & LUNDY | | GANG HANG AREA 2 | |
| DRAWING NO | | REV | |
| M-2546A | | C | |
| SHEET 224 OF | | | |

9706240075-43



NOTES

- 1) ○ DENOTES WELDS
- 2) INSULATION: **NONE**
- 3) FABRICATION & INSTALLATION DATA & INSTALLATION TOLERANCE PER PROCEDURE: QCP-B21 & PGWI-211. GEN NOTES. PER M-535 & M-679-1.
- 4) □ DIM'S. ARE AS-CONST. DIM'S. FOR PIPING CONFIG. SHOWN.
- 5) * □ AS-CONST. SAME AS DESIGN.
- 6) ○ DENOTES CLEARANCE NOTIFICATION FORM NO.



| REV | DATE | DRAWN | CHECKED | QC APP | SM APP | DE |
|-----|---------|----------|----------|----------|----------|--------|
| D | 5-8-87 | KW43087 | S. J. S. | S. J. S. | S. J. S. | JERICA |
| C | 12-9-86 | S. J. S. | S. J. S. | S. J. S. | S. J. S. | JERICA |
| F | 1-11-86 | H. M. M. | H. M. M. | H. M. M. | H. M. M. | JERICA |
| A | 4-23-85 | S. J. S. | S. J. S. | S. J. S. | S. J. S. | JERICA |

DRAWING RELEASE RECORD

| REV. | DATE REL'D | PREPARED | REVIEWED | APPROVED | PURPOSE | FILM | SUB |
|------|------------|----------|----------|----------|---------|------|-----|
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MC

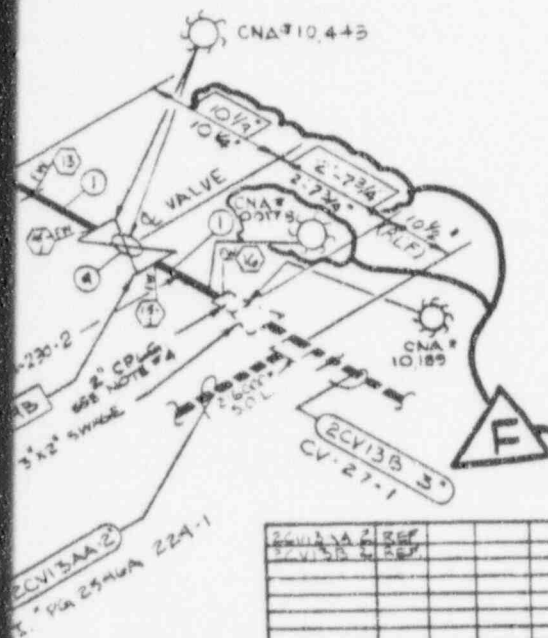
ANSTEC APERTURE CARD


9706240075-45

ANY ACTION SHOWN ABOVE IS
SUBJECT TO THE TERMS OF THE
CONTRACT AND DOES NOT RELEASE
CONTRACTOR FROM HIS OBLIGA-
TION UNDER THE CONTRACT,
INCLUDING DESIGN AND DETAILS,
FOR PIPING, SYSTEMS INSTALLATION
EQUIPMENT NO. _____
BY G. KORNBLAU DATE 12-10-92
SPEC. NO. 1-213-PM-101 REC 6/1/94
CHANGE AUTHORITY
A.S. BILLET
DCA 92-999

NOTES

- 1) INSULATION : NONE
2) ELN # 0991, GANG WANG AREA # 2, NO REWORK REQUIRED
3) 2" PIPE NOZZLE - MATL. SA 312 GR TP 304
4) COUPLING MATL. - SA 312 GR F304
5)  DENOTE WELDS
6)  DIMS. ARE AS CONST. DIMS. FOR PIPING CONFIG. SHOWN
7) FAB. & INSTALL DATA & INSTALL. TOLERANCE PER PROC. QCP-B21. GEN. NOTES PER M-535 & M-679-1
8)  DENOTES RATTLE PTS. & CLEARANCE NOTIFICATION FORM NO
9) FCO # 2CV-44167 RESOLVES NCR # 7153 AND 40105 SWO # 7300.



| | | |
|--|--------------|---|
| 4 | 1 | 2" 1500# SA 182 GR F316 SS SW VALVE 2CVB3B4B 5/A 72280 |
| 5 | 1 | 2" 2" 2" 6000# SA 182 GR F3043SS SW TEE HT# MM |
| 2/A | 5 | 2" 6000# SA 182 GR F304 SW SS 90° ELB HT# PJ, 2A HT# HJ |
| 1/A | 250' | 2" 5/16" SA 182 GR TP316 EMLS SS PIPE HT# 46287, 1A HT# C7366 |
| ITEM | QUANTITY | DESCRIPTION |
| BILL OF MATERIAL | | |
| <div style="text-align: center;">  </div> | | |
| <h2 style="text-align: center;">PHILLIPS, GETSCHOW CO</h2> | | |
| BRAIDWOOD STATION | | SPEC L-2738 |
| UNIT | BLDG | W/O NO |
| 2 | ALX | 1200 |
| CHEMICAL FEED # VOL. CONTROL | | |
| DWG NO | PG-2546A 230 | |

**Also Available on
Aperture Card**

| | |
|---|-------------|
| 1-255870JCY 1-7300A 1-3-78 DATE #4 REV- 4/1/82 ICAI CHANGE ICAI CHANGE 1-7300 1-7300 1-7300 | 1-138-20A/2 |
| DESCRIPTION | REF DWG |

B-SYSTEM 2CV75

SCALE

PROJECT NUMBER

A.S.M.E.
SECTION XI

DOC STA. 7

SARGENT & LUNDY

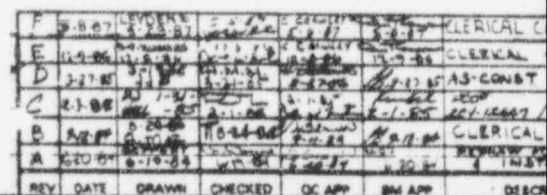
GANG HAN AREA 2

DRAFTING NO.






M-2596A

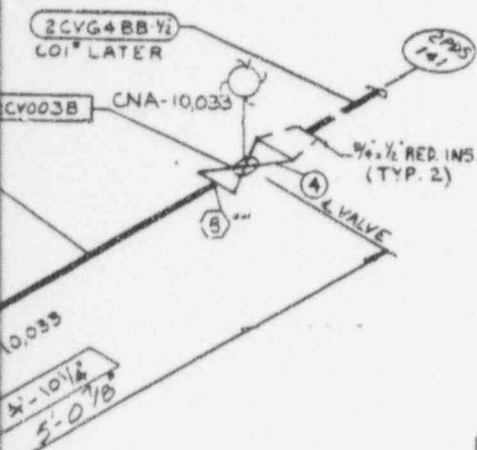
PAGE 230 OF

9706240075 - 46

[illegible]

NOTES:

- 1) FABRICATION AND INSTALLATION DATA AND INSTALLATION TOLERANCE PER PROCEDURE QCP-221 (PGW 311) GEN. NOTES PER M. 555 + M. 579.1
- 2)  DENOTES WELDS
- 3) INSULATION:  NONE 
- 4)  DIMENSIONS ARE AS-COAST DIMENSIONS FOR PIPING CONFIGURATION SHOWN.
- 5) FCO# 2CV-12447 INCORPORATES ECL# 24275 ON REV. C OF THIS DWG.
- 6) FIELD WELD 16.13 IS BUTT WELD AND REQUIRES RADIOGRAPH TESTING.
- 7)  DENOTES CLEARANCE NOTIFICATION FORM NO.



REVIEWED FOR
BRAIDWOOD UNIT 2
SPEC. NO. 1-273, PROJ. NO. 1484
COMMONWEALTH EDISON CO.
SARGENT & LUNDY
ENGINEERS
1. NO DESCRIPTION WHEN CONTRACTOR
HAS PROCEED WITH FABRICATION OR
CONSTRUCTION IN ACCORDANCE
WITH SPECIFICATION
ANY ACTION SHOWN ABOVE IS
SUBJECT TO THE TERMS OF THE
CONTRACT AND DOES NOT RELIEVE
CONTRACTOR FROM HIS OBLIGA-
TIONS UNDER THE CONTRACT,
INCLUDING DESIGN AND DETAILING
FOR PIPING SYSTEM INSTALLATION
BY J.E. LAZARSKI DATE 11-22-87

**ANSTEC
APERTURE
CARD**

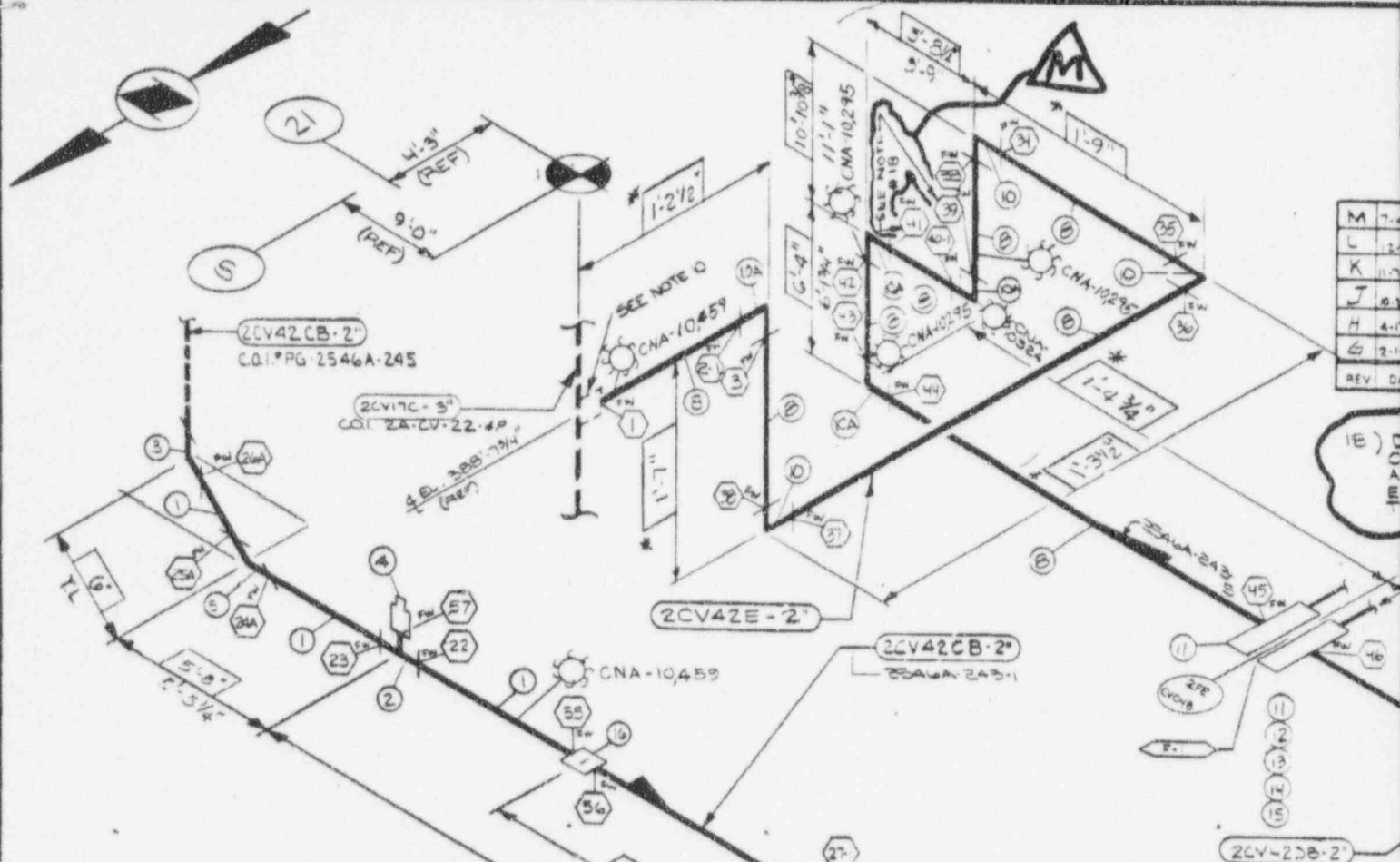
Also Available on
Aperture Card

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|----------------|--|---------------------------|--|-------------------------------------|--|
| SPOOL NO. | | IST | | 4 2 3/4 1500" SA-182 GR. F. 316 | |
| 2546A-233-1 | | NONE | | S.W. GLOBE VALVES | |
| 2546A-135-1 | | | | 2CV003D SER# 28851 | |
| | | | | 2CV003D SER# 29975 | |
| REF | | | | 3 1 2" 3/4" 6000" SA-182 GR. F. 304 | |
| 2CV1445-1 | | | | S.W. RED. INSERT 85 | |
| 2CV1445-2 | | | | HT# EXO | |
| 2CV1445-3 | | | | 2 4 3/4 6000" SA-182 GR. F. 304 | |
| 2CV1445-4 | | | | S.W. 90° ELL. 55 | |
| 2CV1445-5 | | | | HT# TJ | |
| (7.6) | | | | 1 1/4 5/160 SA-312 GR. F. 304 | |
| (7.9) | | | | 3M.L.S. S.S. PIPE | |
| DESIGNATION | | ITEM QUANTITY | | DESCRIPTION | |
| LINES | | ITEM QUANTITY | | DESCRIPTION | |
| CLASSIFICATION | | CLASS OF MATERIAL | | | |
| B NON NUC | | PHILLIPS, GETSCHOW CO | | | |
| DESIGN TABLE | | BRAIDWOOD STATION | | SPEC. L-273B | |
| 154088 | | UNIT 2 BLDG. AUX | | WORK NO. 1000 | |
| WELD PROC. | | CHEM. FEED & VOL. CONTROL | | | |
| SEE WELD | | DWG. NO. PG-2546A-233 | | REV. F | |
| DATA SHTS. | | | | | |
| SCALE N.T.S. | | | | | |
| HEAT TREAT | | | | | |
| SCALE | | DOC. STAT 7 | | | |
| PROJECT NUMBER | | SARGENT & LUNDY | | | |
| | | CHICAGO | | | |
| | | DRAWING NO. | | REV. | |
| | | M2546A | | C | |
| | | SHEET 233 OF | | | |

PG-2546A-233 REV. F

CV.17

9706240075-47



NOTES:

1) DIMS. ARE "AS-CONST." FOR PIPING CONFIGURATION SHOWN.

2) INSULATION - A-1 1/2"

3) * AS-CONST. DIM. SAME AS DESIGN.

4) FAB AND INSTALL. DATA AND INSTALL. TOLERANCE PER PROC. QCP 821 AND PGW I 211. GEN. NOTES REVM 533 AND M-679-1.

5) BOLT-UP CONNS. TO BE MADE PER PKUL PGCP-15.

6) ○ - DENOTES WELDS

7) △ - DENOTES BEND

8) □ - DENOTES BOLT-UP CONN.

9) FCO# 2CV-8880 WHICH RESOLVES RAN-82391 & 23494 VOID S.W.O.# 1777

10) S.O.L. MAT'L - 3" x 2" 3000# SA-192 GR. F-304.

11) FCO# 2CV-8880 & FCO# 2CV-15528 APPLY REVISION "D" ALSO.

12) ○ DENOTES RATTLE PTS. & CLEARANCE NOTIFICATION FORM NUMBER.

NOTES CONTINUED:

13) FCO# 2CV-25582 DOES NOT VOID S.W.O.# 1777A.

14) FCO# 2CV-1204 10125 S.W.O.# 1777A.

15) BOLT UP F-1 COMPLETED PER FCO# 2CV-29070.

16) FCO# 2CV-29070 DOES NOT VOID S.W.O.# 1777B C.O.I. 2544A-244 S.W.O.# 1777B

17) FCO 2CV-37527 INITIATED V.T.N.S. FORM 1026 AND 1027 PER ECN: 38599. THIS FCO DOES NOT VOID S.W.O.# 1777B

CONTINUED ABOVE

| REV | DATE | DRAWN | CHECKED | QC APP | SM APP |
|-----|----------|----------|----------|----------|----------|
| E | 12-27-85 | 12-27-85 | 12-27-85 | 12-27-85 | 12-27-85 |
| D | 6-27-85 | 6-27-85 | 6-27-85 | 6-27-85 | 6-27-85 |
| C | 4-25-85 | 4-25-85 | 4-25-85 | 4-25-85 | 4-25-85 |
| B | 3-21-85 | 3-21-85 | 3-21-85 | 3-21-85 | 3-21-85 |
| A | | | | | |

DRAWING RELEASE RECORD

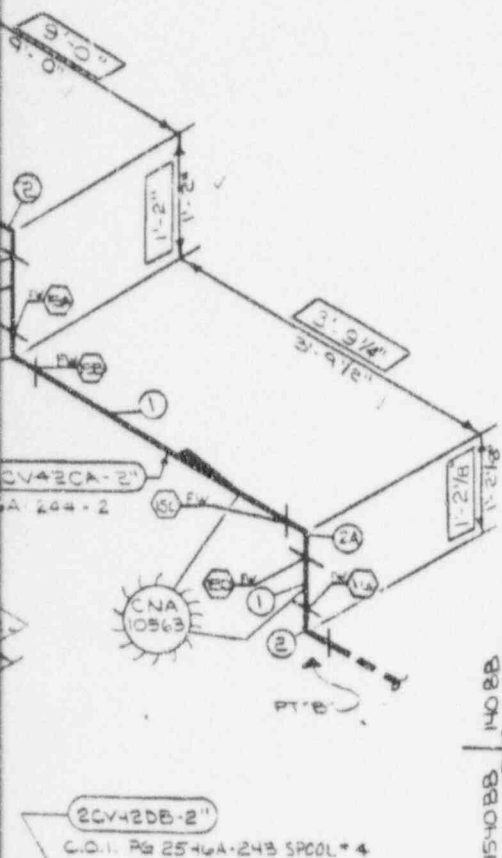
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[illegible]

CLOSURE PLATE DELETED FROM
SLEEVE * 248-186 PER ECN'S
36711 AND 36712

NOTES:

- 1) FAB + INSTAL DATA AND INSTAL TOLERANCE PER PROCEDURE QCP-B218 PGW12.1. GENERAL NOTES PER M-535 AND M-679-1.
- 2) DENOTES WELDS
- 3) INSUL: 2CV42AA-2" NONE
2CV42CA-2" A-1.5
2CV42EA-2" A-1.5
- 4) S.O.L. MAT'L: 6000 SA-182 GR F304
- 5) 3" x 2" SWAGE RED SA-103 GR WP-304 S.W.
- 6) DIM'S ARE "AS-CONST." DIM'S FOR PIPING CONFIG. SHOWN.
- 7) DENOTES SLEEVE
- 8) FCO# 2CV-9842 IS VOID - NEVER ISSUED.
- 9) FCO# 2CV-26704 INCORPORATES NCR# 6234 AND DOES NOT VOID S.W.O. #7543.
- 10) 2CV03MA TO BE INSTALLED PER FCO# 2CV-23027.
- 11) DENOTES RATTLE CLEARANCE & CLEARANCE NOTIFICATION FORM NR.



NOTES CONT'D BOTTOM

| | | |
|----|------|---|
| 6 | 4 | 2" 6000 SA-182 GR F304 SW S.S. 90° EL HT # P424 |
| 7 | 3-2 | 2" 5405 SA-312 GR TP304 SMLS S.S. PIPE HT # 101222 |
| 5 | 1 | 2" 1500 SA-182 GR F316 SW CHECK VALVE 2CV6480A 11 XL5-1 |
| 4 | 2 | 2" 1500 SA-182 GR F316 SW GLOBE VALVE 2CV8111 SER # 608 2CV8479A SER # KP513 |
| 3 | 1 | 2" 1500 SA-182 GR F316 SW GLOBE VALVE 2CV8114 SER NO. 6 |
| 2 | 5 | 2" 6000 SA-182 GR F304 SW S.S. 90° EL HT # SW |
| 2A | 4 | HT # PH |
| 1A | 14-6 | 2" SCH 160 SA-312 GR TP304 SMLS S.S. PIPE HT # 101222 |
| 1B | 26-0 | HT # 101222 |

**ANSTEC
APERTURE
CARD**

Also Available on
Aperture Card

| SPOOL NO. |
|-------------|
| 2546A-244-1 |
| 2546A-244-2 |
| 2546A-244-3 |
| 2546A-244-4 |
| 2546A-244-5 |

ISI:
NONE

| | |
|-----------|-----|
| 2CV42DB-2 | REF |
| 2CV42AA-2 | |
| 2CV42BA-2 | |

| | |
|-----------|------------------------|
| 2CV42CA-2 | 2" 6000 SA-182 GR F304 |
| 2CV42EA-2 | 2" 6000 SA-182 GR F304 |
| 2CV42AA-2 | 2" 6000 SA-182 GR F304 |

| DESIGNATION | DESIGN | TYPE | QTY |
|-------------|--------|------|-----|
| | | | |

LINES

| | | |
|-------|---------|------------|
| CLASS | NUCLEAR | PNEUMATIC |
| B | NON NUC | RADIOGRAPH |

| | |
|--------------|----------|
| DESIGN TABLE | MAG PART |
| 1540BB/140BB | DYE PEN |

| | |
|-----------|------------|
| WELD PROC | HYDRO |
| N/A | HEAT TREAT |

| | |
|-------|------|
| SCALE | NONE |
|-------|------|

| |
|----------------|
| PROJECT NUMBER |
| |

A.S.M.E.
SECTION XI

PHILLIPS, GETSCHOW CO

BRAIDWOOD STATION SPEC L-2739

UNIT 2 BLDG AWA W.D. No. 1000

CHEMICAL FEED AND VOL CONTROL

DWG No. PG 2546A-244

REF R

DOC STA 7

SARGENT & LUNDY

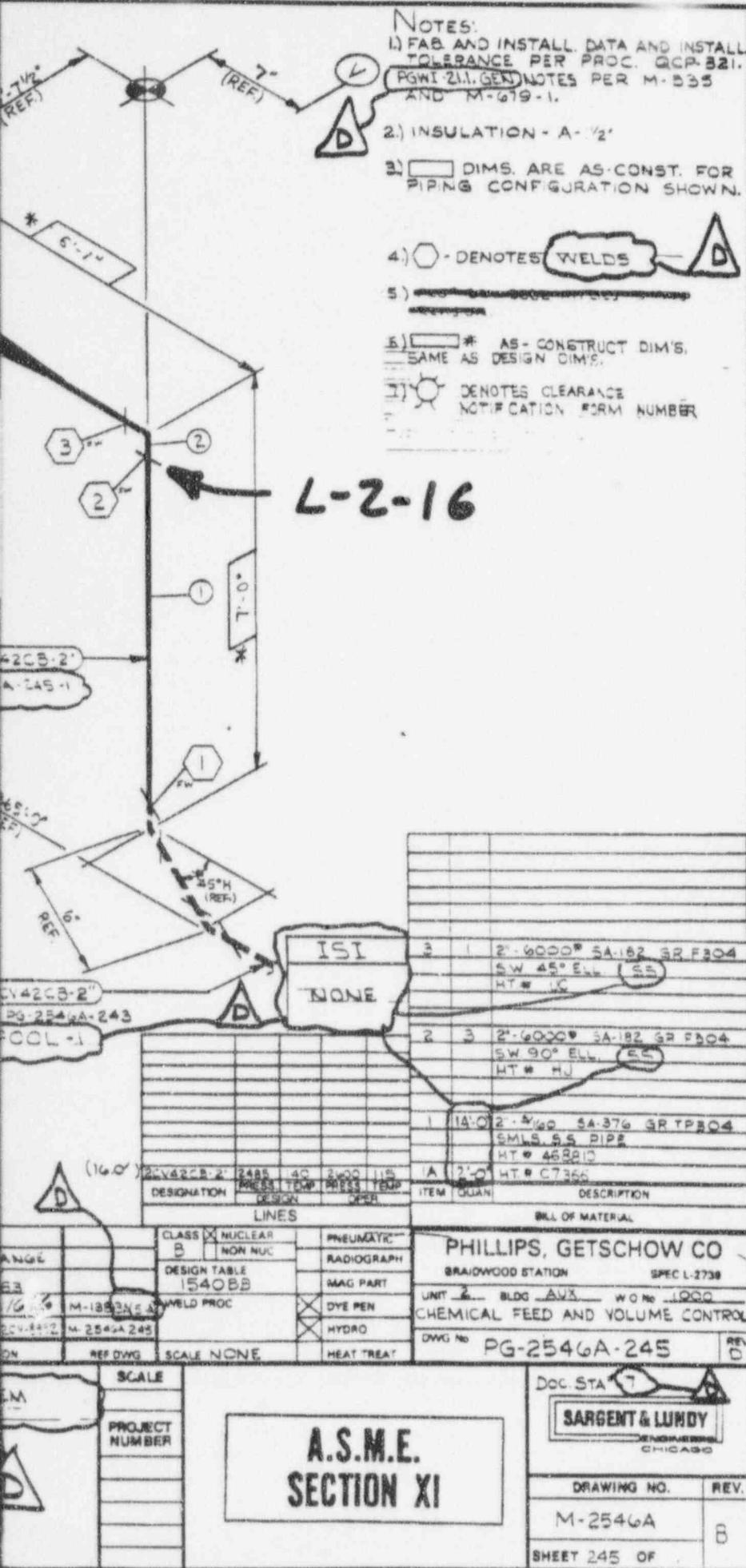
CHICAGO

DRAWING NO. M2546A

REV. G

SHEET 244 OF

9706240075-49

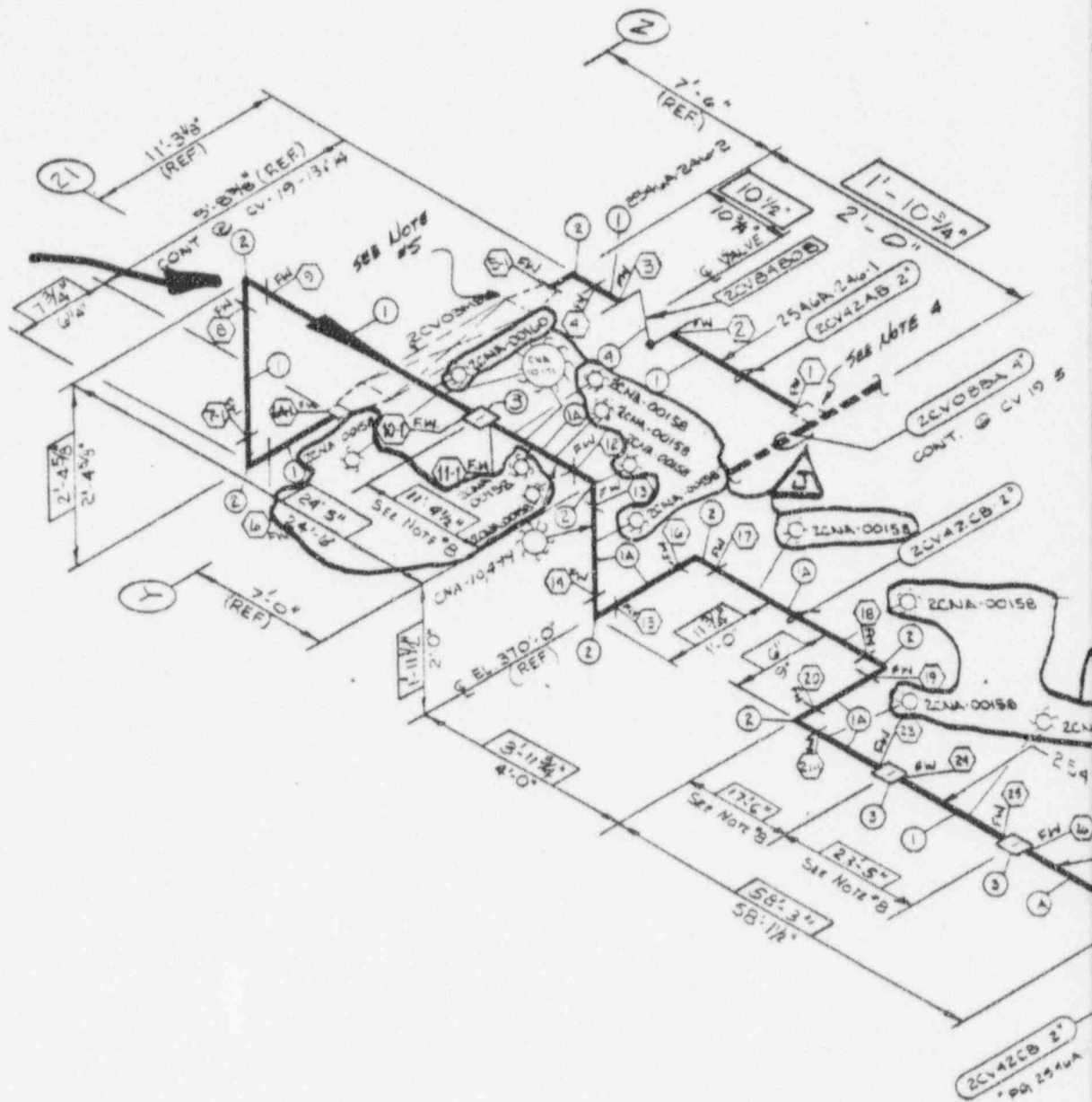


**ANSTEC
APERTURE
CARD**

Also Available on
Aperture Card

9706240075-50

L-2-17




| REV | DATE | DRAWN | CHECKED | QC APP | SM APP | DE |
|-----|--------|----------|----------|----------|----------|----------|
| J | 7-8-87 | J. J. J. | J. J. J. | J. J. J. | J. J. J. | J. J. J. |
| H | 7-8-87 | J. J. J. | J. J. J. | J. J. J. | J. J. J. | J. J. J. |
| G | 7-8-87 | J. J. J. | J. J. J. | J. J. J. | J. J. J. | J. J. J. |
| F | 7-8-87 | J. J. J. | J. J. J. | J. J. J. | J. J. J. | J. J. J. |
| E | 7-8-87 | J. J. J. | J. J. J. | J. J. J. | J. J. J. | J. J. J. |
| D | 7-8-87 | J. J. J. | J. J. J. | J. J. J. | J. J. J. | J. J. J. |
| C | 7-8-87 | J. J. J. | J. J. J. | J. J. J. | J. J. J. | J. J. J. |
| B | 7-8-87 | J. J. J. | J. J. J. | J. J. J. | J. J. J. | J. J. J. |
| A | 7-8-87 | J. J. J. | J. J. J. | J. J. J. | J. J. J. | J. J. J. |


DRAWING RELEASE RECORD

| REV. | DATE REL'D | PREPARED | REVIEWED | APPROVED | PURPOSE | FILM |
|------|------------|----------|----------|----------|---------|------|
| | | | | | | |
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| | | | | | | |
| | | | | | | |
| | | | | | | |

1) FAB AND INSTALL. DATA AND INSTALL.
TOLERANCE PER PROC. 62P-821 & 624G-2.1.1.
GENERAL NOTES PER M-535 AND
M-679-1.


3.)  - DENOTES WELDS

5) SWAGE MATL - SA-403 OR. WP 403

6)  BOXED DIMS ARE 'AS-CONST.' DIMS FOR PIPING CONFIG. SHOWN.

7) FCO'S: 2CV-6079, 2CV-9658 AND
2CV-11486 APPLY TO REV. D
OF THIS DRAWING.

8) FIELD CUT TO SUIT.

4)  DENOTES RATTLE PTS & CLEARANCE NOTIFICATION FORM NO.

0) FIELD WELDS 3-6A AND SPOOLS
CV-19-13 & CV-19-14 TO BE
INSTALLED PER FCC# 2CV-2302B.

11) FCD#2CV-3742A DOES NOT
VOID B.W.O.#7463.

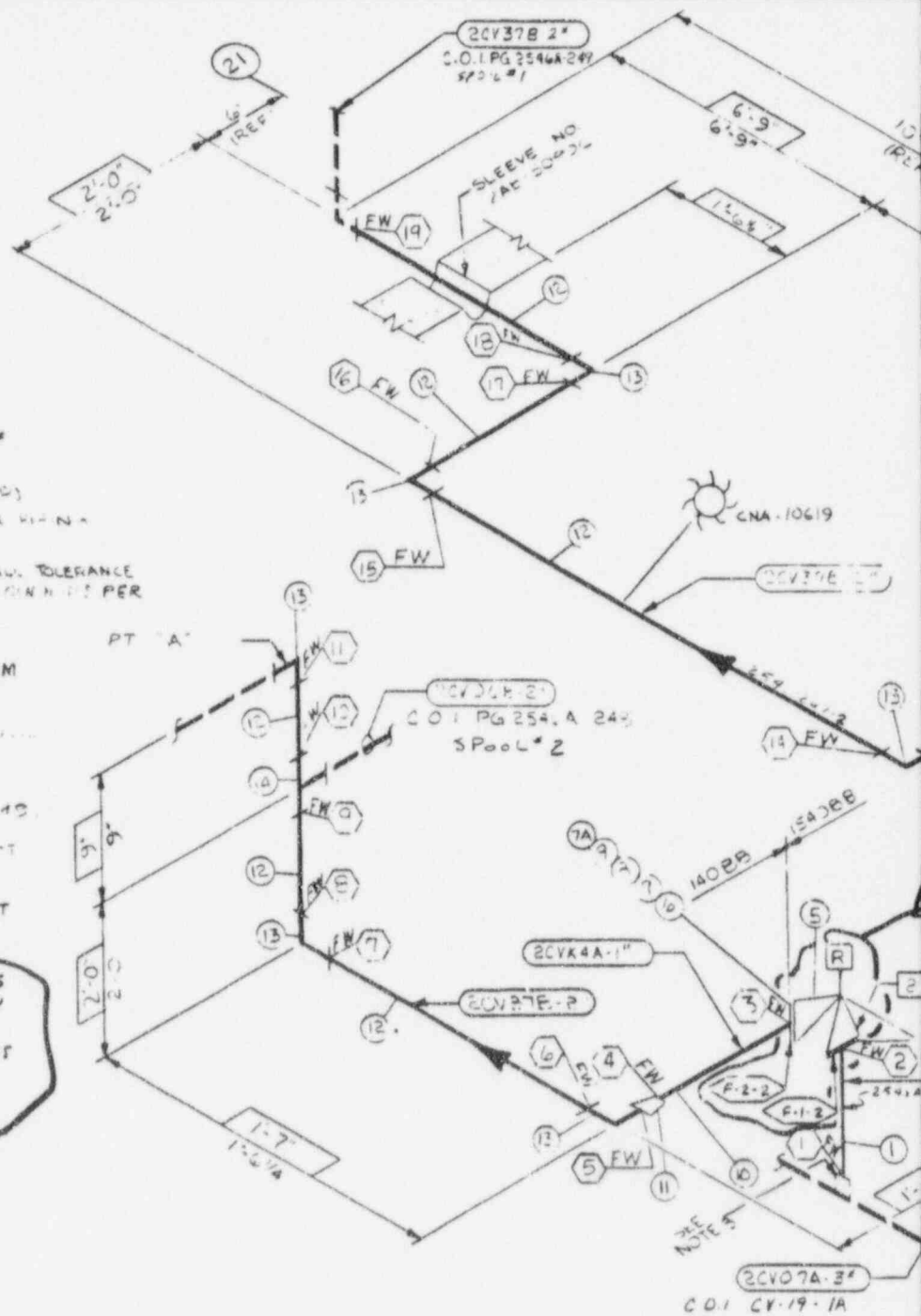
② FCO: 2CV-39487 VOIDS 6.W.O:
7463

[illegible]


**ANSTEC
APERTURE
CARD**

Also Available on
Aperture Card

9706240075-51



NOTES

- 1) ○ DENOTES WELDS.
2) INSULATION : A I F
3) MATL FOR SOL. 3/4" 6000#
SA-18: GRF 324
4) ○ DENOTES FLG'S (BOLT+LO)
5) □ DIMS ARE "ALL IN" NOT DIMS FOR FITTING
CONFIGURATION SHOWN
6) FAB AND INSTAL DATA AND INSTAL TOLERANCE
PER FED. SPEC. E.F. & EQUIV. CONN. PER
M-955 AND M-670-1
7) ⚡ -DENOTES RATTLE POINT
TOLERANCE NOTIFICATION FORM
NUMBER
- 9) 20V 2C 4338 DOES NOT
SWO 8677
- 9.1 IS F-2 TO BE PERMANENTLY
FIXED TO THE F-2 20V 2C 4338.
- 10) FCO 20V 40533 DOES NOT
SWO 8677
- 11) FCO 20V 44338 DOES NOT
YIELD SWO 8677.
- 

(2) FCO-26V-45170 REPLACES
VALVE 26V 8118 WITH NEW
VALVE FROM MARBLE HILL
(MRR# 23395). THIS DOES
NOT VOID SMO# 8877.

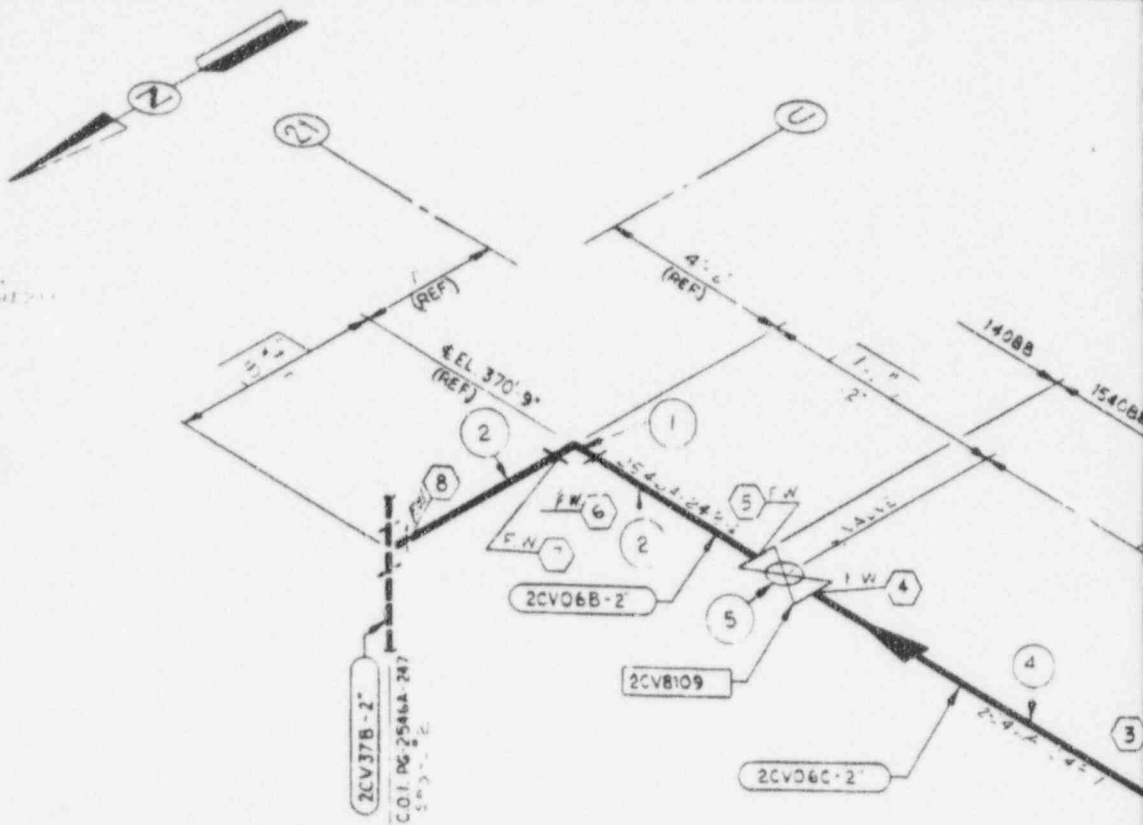
| | | | | | | | | | | | | | | | |
|-----|---------|---------|---------|---------|---------|-----------------------------|---------|---------|---------|---------|---------|---------|---------|-------------|---------|
| J | 10-1-87 | 3/20/87 | 9/30/87 | 10/1/87 | 10/1/87 | 128 NOB 16 F00 201-42170 | E | 1-9-87 | 1-9-87 | 1-9-87 | 1-9-87 | 1-9-87 | 1-9-87 | 1-9-87 | 1-9-87 |
| H | 10-3-87 | 10/3/87 | 10/3/87 | 10/3/87 | 10/3/87 | 128 NOB 16 F00 201-42170 | D | 1-13-87 | 1-13-87 | 1-13-87 | 1-13-87 | 1-13-87 | 1-13-87 | 1-13-87 | 1-13-87 |
| G | 10-3-87 | 10/3/87 | 10/3/87 | 10/3/87 | 10/3/87 | 128 NOB 16 F00 201-42170 | C | 1-13-87 | 1-13-87 | 1-13-87 | 1-13-87 | 1-13-87 | 1-13-87 | 1-13-87 | 1-13-87 |
| F | 10-3-87 | 10/3/87 | 10/3/87 | 10/3/87 | 10/3/87 | 128 NOB 16 F00 201-42170 | B | 1-13-87 | 1-13-87 | 1-13-87 | 1-13-87 | 1-13-87 | 1-13-87 | 1-13-87 | 1-13-87 |
| E | 10-3-87 | 10/3/87 | 10/3/87 | 10/3/87 | 10/3/87 | 128 NOB 16 F00 201-42170 | A | 1-13-87 | 1-13-87 | 1-13-87 | 1-13-87 | 1-13-87 | 1-13-87 | 1-13-87 | 1-13-87 |
| REV | DATE | DRAWN | CHECKED | OC APP | SM APP | DESCRIPTION | REF DWG | REV | DATE | DRAWN | CHECKED | OC APP | SM APP | DESCRIPTION | REF DWG |

[illegible]

MC

9706240075-52

ONE AND A HALF INCHES

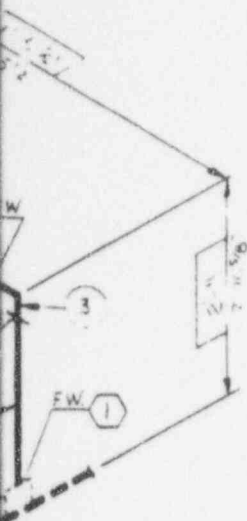


SEE NOTE 2.

REVIEWED FOR
BR A14WOOD UNIT 1
SPEC. NO. A1422 PROJ. NO. 1484
COMMERCIAL TRUST EDITION CO
SARGENT & LUNDY
ENGINEERS
1. ☒ NO EXCEPTION SHOWN CONTRACTOR
NOW PROCEED WITH PROGRESS OR
CONSTRUCTION IN ACCORDANCE
WITH SPECIFICATION.
ANY ACTION SHOWN ABOVE IS
SUBJECT TO THE TERMS OF THE
CONTRACT AND DOES NOT RELIEVE
CONTRACTOR OF HIS OBLIGA-
TIONS UNDER THE CONTRACT
INCLUDING DESIGN AND DETAILS.
FOR ARCHITECT SYSTEM INSTALLATION
BY J.R. LAZARUS DATE 12/1/72

| | | | | | | |
|-----|---------|----------|---------|--------|---------|---------------|
| D | 30-87 | RW430-87 | | | | CLERICAL CHAN |
| C | 9-19-86 | 01B-86 | | | | AC 1055 |
| B | 3-15-85 | | | | | 5-20-85 |
| A | 0-21-84 | 06-20-84 | | | | FOR 1055 |
| REV | DATE | DRAWN | CHECKED | QC APP | SAN APP | DESCRIPTION |

[illegible]



151 BE
147 BE

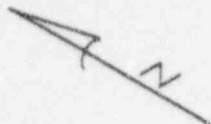
ANSTEC APERTURE CARD

Also Available on
Aperture Card

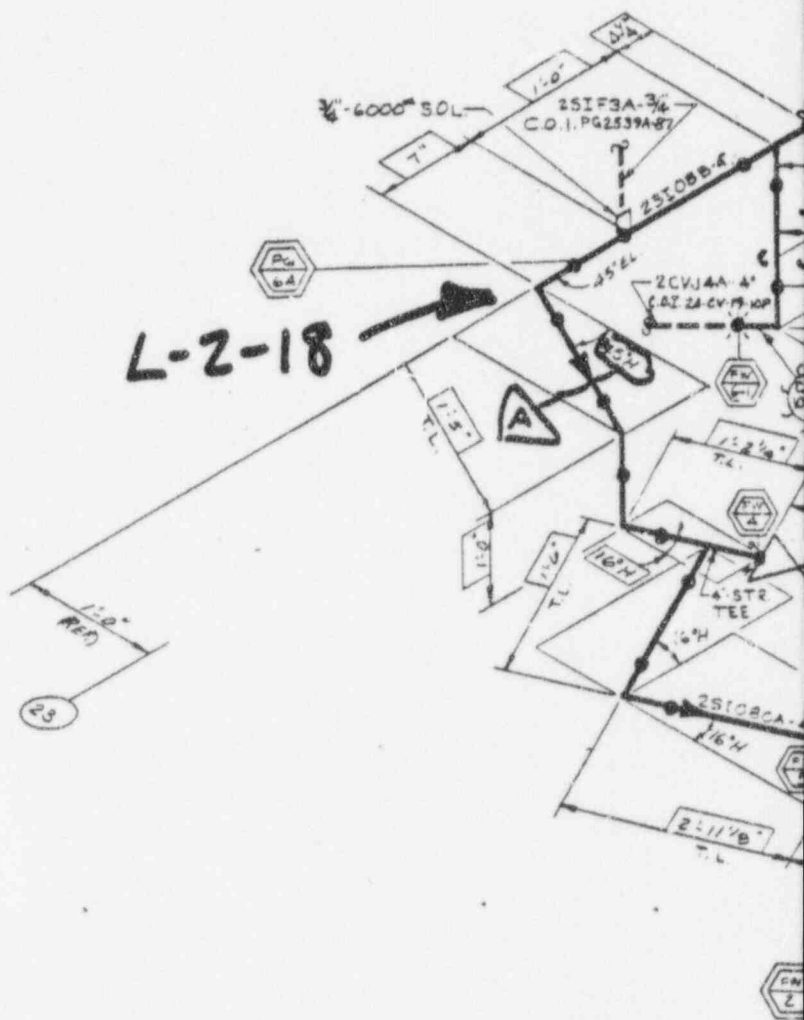
| | | | |
|--|--------|---------------------|------|
| SPOOL NO | | T - T | |
| 2546A-248-1 | | 2" 1" 1" 1" | |
| 2546A-248-2 | | 1" 1" 1" 1" | |
| | | N - 1" 1" | |
| 2CV37B-2" | REF | | |
| 2CV37A-3" | REF | | |
| | | | |
| | | | |
| 2CV37B-2" | 78 | 200 | 78 |
| 2CV37C-2" | 2485 | 200 | 115 |
| DESIGNATION | DESIGN | TEST | OPER |
| LINES | | | |
| CLASS <input checked="" type="checkbox"/> NUCLEAR <input type="checkbox"/> NON NUC | | | |
| PNEUMATIC | | | |
| RADIOGRAPH | | | |
| NAG PART | | | |
| DYE PEN | | | |
| HYDRO | | | |
| HEAT TREAT | | | |
| PHILLIPS, GETSCHOW CO | | | |
| BRAIDWOOD STATION SPEC L 2728 | | | |
| UNIT 2 BLDG AGR W O NO | | | |
| CHEMICAL FEED & VOLUME CONTROL | | | |
| DWG NO PG-2546A-248 | | | |
| DOW STA 7 | | | |
| SARGENT & LUNDY | | | |
| CHICAGO | | | |
| SCALE 5=0 5=5 2CV01 | | DRAWING NO. M-2546A | |
| PROJECT NUMBER | | REV. C | |
| A.S.M.E. SECTION XI | | SHEET 248 OF | |

PG-2546A-248 R/D

9706240075-53



L-2-18

[illegible]


NOTES:

- 1) THIS DRAWING IS TO SERVE AS AN AS-CONST PIPING DRAWING TO REPLACE ORIGINAL SW ISO SI-41.
- 2) DIM'S ARE AS-CONST FOR PIPING CONFIGURATION SHOWN.

3) REFER TO SWO² 7841.

4) FOR PENETRATION DETAILS REFER TO P.C. DRAWING 2PC-26A.

5) WELD MADE BY GULF / WESTERN. REFER TO SPEC P/L 2787.

6)  DENOTES RATTLE POINT CLEARANCE NOTIFICATION FORM NUMBER

7) FABRICATION & INSTALLATION DATA AND INSTALLATION TOLERANCE PER PROCEDURE QCP-02B. GENERAL NOTES PER M-535 AND M-79-1.

ANSTEC APERTURE CARD

Also Available on Aperturo Card

DETAIL "A"

| VALVE ORIENTATION | | | |
|-------------------|--------|----------------|---------|
| VALVE NUMBER | DETAIL | VIEWED LOOKING | ANGLE ° |
| 251800A | "A" | NW | 90° |
| 251800B | "A" | NW | 90° |

| SPOOL LIST | | | |
|------------|-----------|-------------|---------|
| QUAN. | SPOOL NO. | SW SHIT NO. | POD NO. |
| | SI-41-1 | 209 | |
| | SI-41-2 | 210 | 251-625 |

| PENETRATION NO. | SERIAL NO. |
|-----------------|------------|
| 251800A | 0043 |
| 251800B | 0043 |

| ITEM | QUAN. | DESCRIPTION |
|---------|-------|-------------|
| 251800A | 0043 | VALVE NO. |
| 251800B | 0043 | SERIAL NO. |

| BILL OF MATERIAL | |
|-----------------------|------------|
| PHILLIPS, GETSCHOW CO | SPC L-2738 |

| | | | | | |
|------|---|------|-----|----------|----|
| UNIT | 2 | BLDG | AUX | W.C. No. | NA |
|------|---|------|-----|----------|----|

| | |
|------------------|--|
| SAFETY INJECTION | |
|------------------|--|

| | |
|---------|----------|
| DWG No. | 2A-SI-41 |
|---------|----------|

A.S.M.E. SECTION XI

SUB SYSTEMS
ASME SECT III, 1974
W/ADDENDA THRU
SUMMER 1975 CL 2
STAIN STL

| | | |
|--------------|---|-------------------------------------|
| CLASS | <input checked="" type="checkbox"/> NUCLEAR | <input type="checkbox"/> PNEUMATIC |
| B | <input checked="" type="checkbox"/> NON NUC | <input type="checkbox"/> RADIOGRAPH |
| DESIGN TABLE | 1540 BB | MAG PART |
| WELD PROC | NA | DYE PEN |
| | | HYDRO |
| | | HEAT TREAT |

9706240075-54