

15401

746

DRAWING AND SPECIFICATION TRANSMITTAL
LOCKWOOD GREENE ENGINEERS, INC.

SPARTANBURG, SOUTH CAROLINA 29304
P.O. BOX 491 (803)582-2351

TO Naval Facilities Engineering
Command
Atlantic Division
Norfolk, Va. 23511

DATE Jan. 15, 1980
JOB NO. 77239.16
JOB NAME Naval Regional Medical Center

TRANSMITTAL NO. 89
SHEET 1 OF 1
ORDER NO.

ATTN: Mr. John Grubbs Code 05

WE ARE SENDING YOU THE FOLLOWING DATA XX HEREWITH _____ UNDER SEPARATE COVER

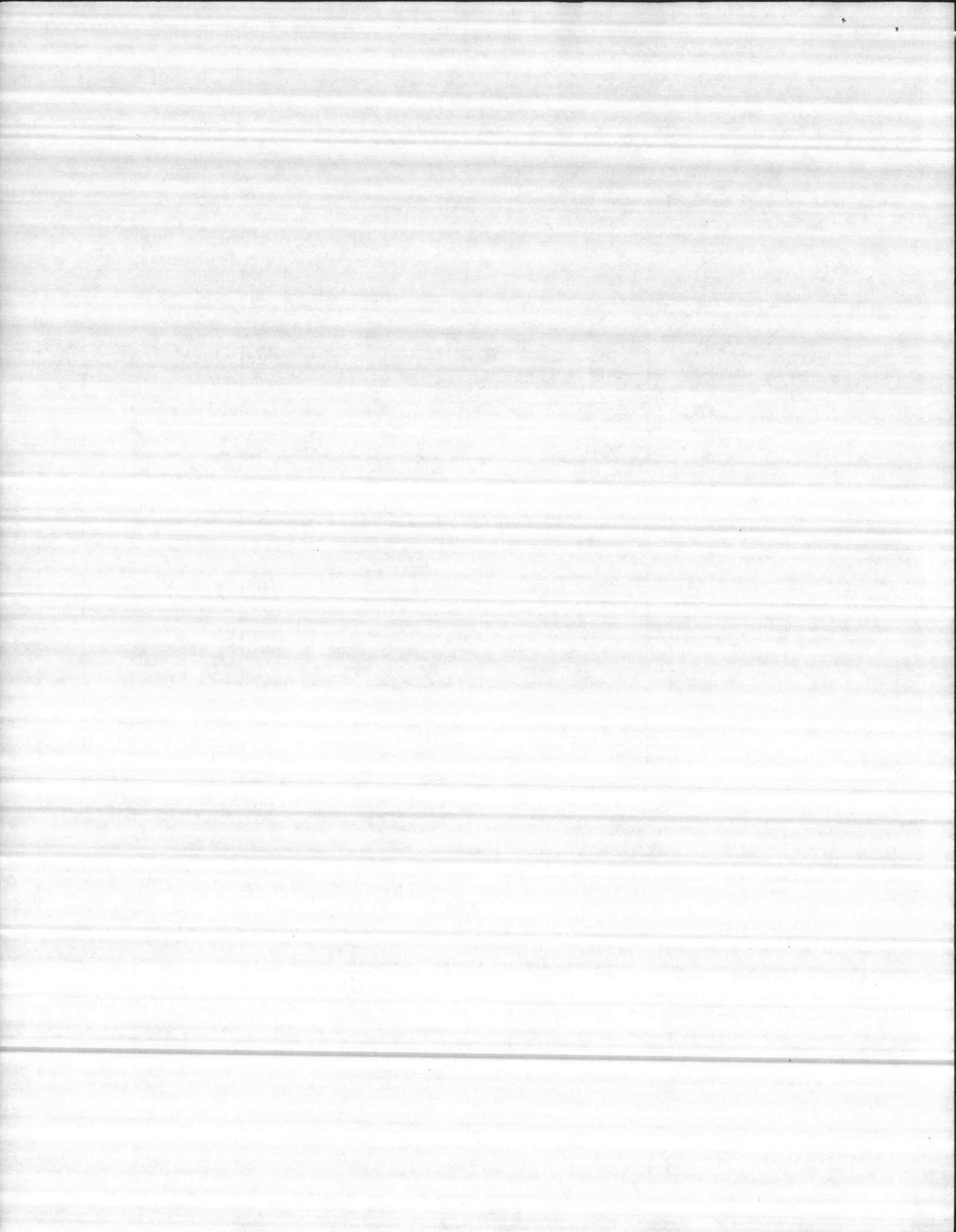
QUAN.	DOCUMENT NO.	REV. NO.	DESCRIPTION	VENDOR	CODE
1	P-110, P-111 and P-112		Pumps	Bell & Gossett	A

LOCKWOOD GREENE DOCUMENTS		VENDOR DOCUMENTS	
A - INFORMATION	E - BID	K - NO CORRECTIONS NOTED	
B - REVIEW	F - CONSTRUCTION	L - MAKE CORRECTIONS NOTED	
C - APPROVAL	G - PURCHASING	M - REVISE AND RESUBMIT	
D - REVISED DWG. (SEE REVISION)	H -	N - REJECTED (SEE REMARKS)	

COPIES TO	QUAN	TRANS ONLY	CODE	COPIES TO	QUAN	TRANS ONLY	CODE
ROICC Cardinal Contracting	2 7						

REMARKS

PLEASE ACKNOWLEDGE RECEIPT BY IMMEDIATE RETURN OF SIGNED COPY OF THIS TRANSMITTAL
RECEIVED BY _____ DATE _____ TRANSMITTED BY Richard McKnight



ROUTING SLIP
NRM, CLNC

CONTRACTOR'S SUBMITTAL TRANSMITTAL

D LANTDIV 4-4355/3 (Rev. 6/76)

SECTION 15401

FROM CONTRACTOR

CARDINAL CONTRACTING CO., INC.

LOCKWOOD-GREENE ENGRS.

CONTRACTOR USE ONLY

*List only one specification division per form.

List only one of the following categories on each transmittal and indicate which is being submitted

Contractor Approved

OICC Approval

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, brochure number)
46	12.1	Pumps P-110, P-111 & P-112

CONTRACTOR'S COMMENTS

	INT.	DATE	REMARKS
2	C		
1	ADC	1-18	
3	R	1-18	
	Y		
4	CP		
5			
6	fw	1-22-80	

SEC'Y TO FILE _____
ACTION: _____

PLEASE RETURN A MINIMUM OF 6 COPIES WITH OWNERS APPROVAL.

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

1-9-80

CONTRACTOR REPRESENTATIVE (Signature)

Wm. J. Haymaker

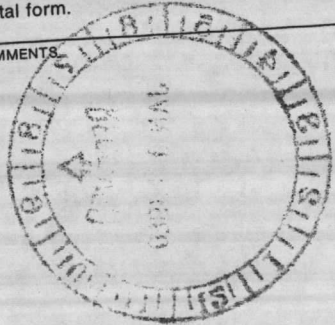
DATE RECEIVED BY REVIEWER

FROM (Reviewer)

TO

- Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.
- Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on ONE COPY of the transmittal form.

REVIEWER'S COMMENTS

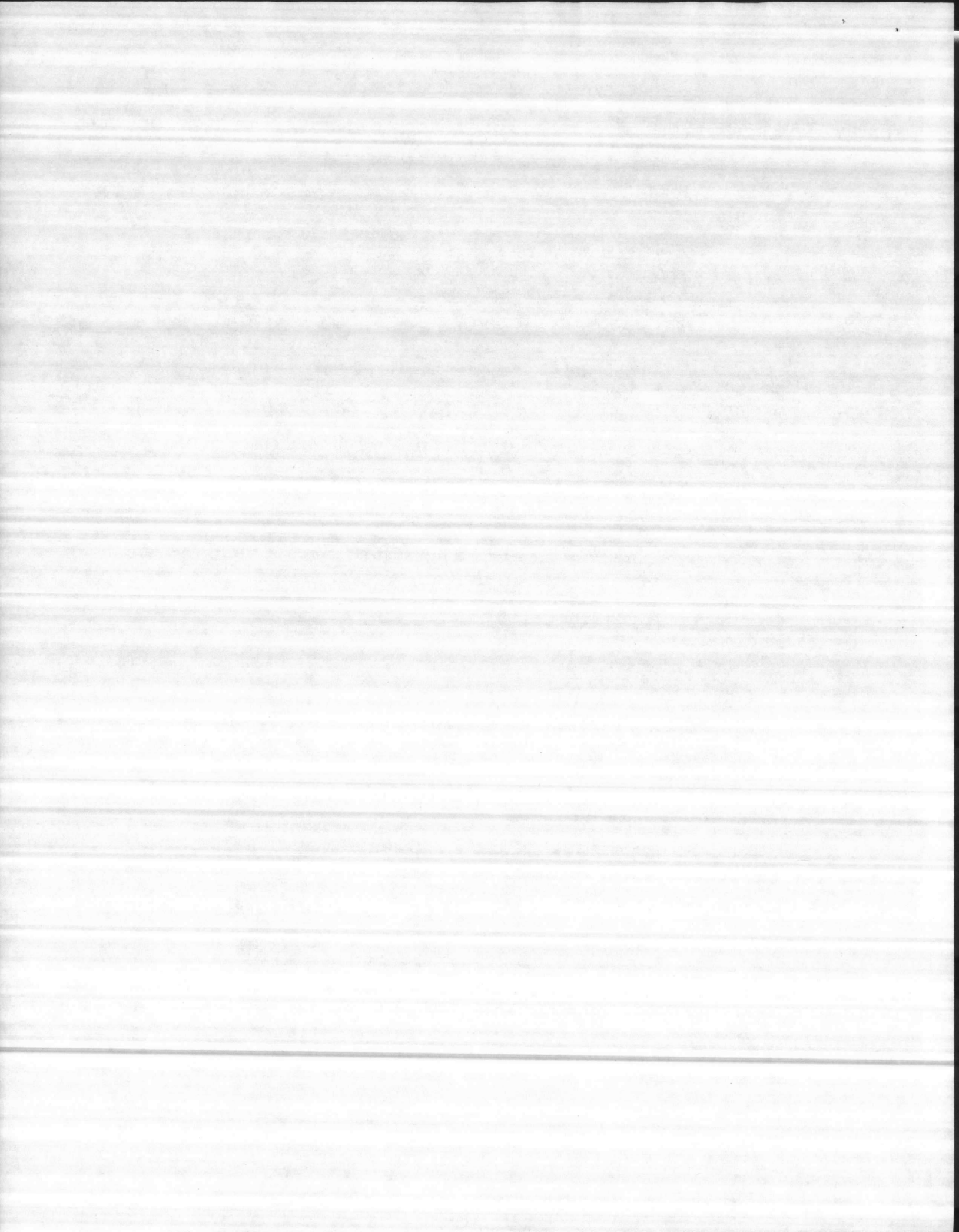


*file filed
1-22-80
fw*

COPIES TO:
ROICC (2)
LANTDIV (1)
A-E (1)

DATE

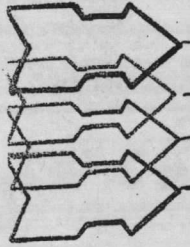
SIGNATURE




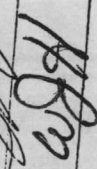
THE WALDINGER CORPORATION

CENTRIFICAL PUMPS
SPECIFICATIONS SECTION 15711

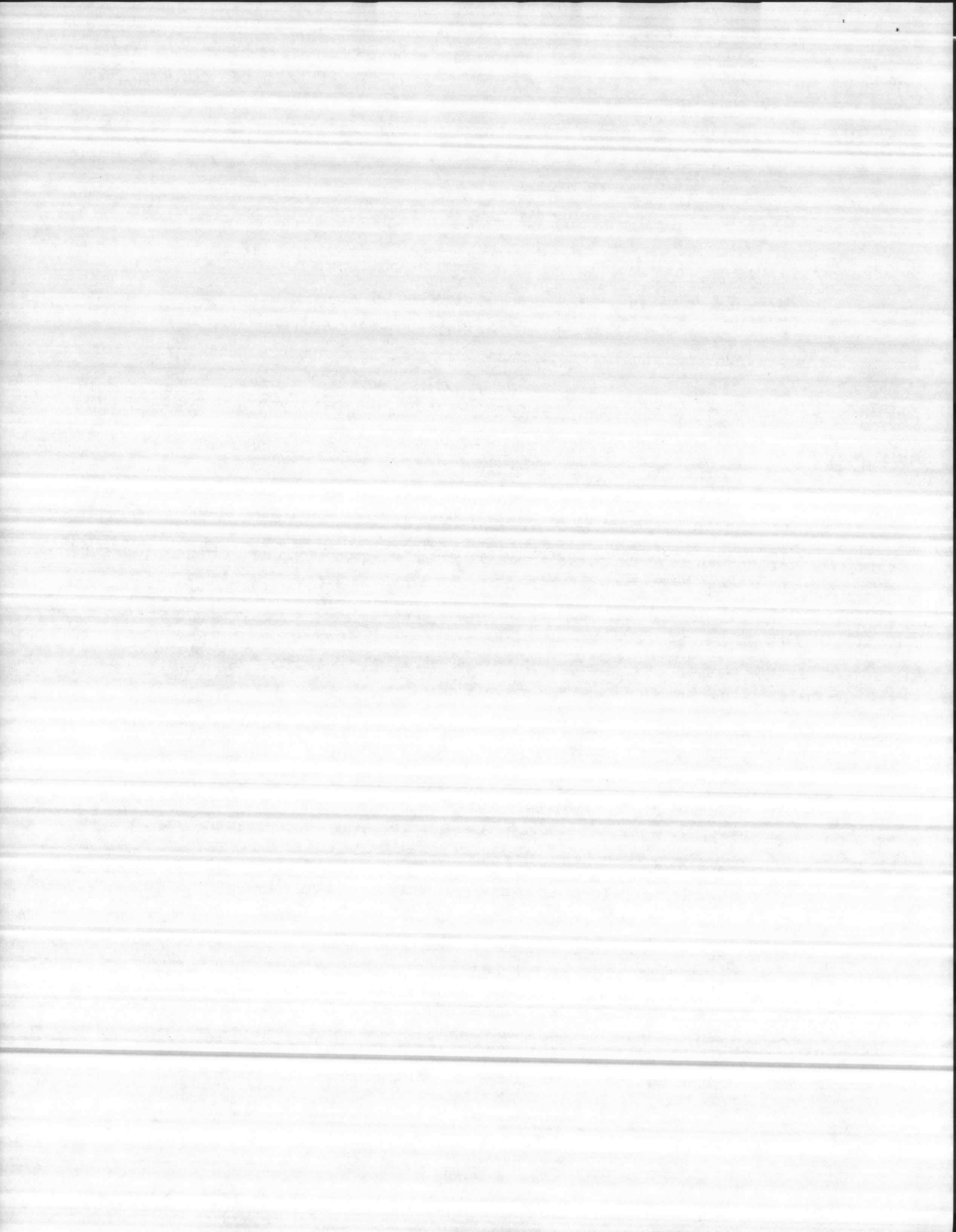
- Pg-1 Descriptive Data, James M. Pleasants Co.
- Pg-2 Descriptive Data, James M. Pleasants Co. Con't.
- Pg-3 Certificate of Compliance
- Pg-4 1 1/2 AB Series 1510 Centrifical Pumps P-110 & P-111
- Pg-5 1510 Performance Curves
- Pg-6 1 1/2 A Series "60" - Centrifical Pump - P-112
- Pg-7 Series "60" Performance Curves
- Pg-8 Series 1510 Type B Centrifical Pumps - P-114 & P-115
- Pg-9 1510 Performance Curves
- Pg-10 6 X 6 X 12 VSC Centrifical Pumps - P-116, P-117. & P-118
- Pg-11 VSC Performance Curves
- Pg-12 6 X 6 X 9 3/4 VSC Centrifical Pumps - P-119
- Pg-13 VSC Performance Curves
- Pg-14 Series "60" In-Line Mounted Centrifical Pump - P-142
- Pg-15 Series "60" Performance Curves
- Pg-16 Series "60" In-Line Mounted Centrifical Pump - P-143
- Pg-17 Series "60" Performance Curves
- Pg-18 Series "60" In-Line Mounted Centrifical Pump - P-144
- Pg-19 Series "60" Performance Curves
- Pg-20 Series "60" In-Line Mounted Centrifical Pump - P-145
- Pg-21 Series "60" Performance Curves
- Pg-22 Series "60" In-Line Mounted Centrifical Pump - P-146
- Pg-23 Series "60" Performance Curves
- Pg-24 Series "60" In-Line Mounted Centrifical Pump - P-147
- NOTE: Motor HP Deviation
- Pg-25 Series "60" Performance Curves
- Pg-26 Series "60" In-Line Mounted Centrifical Pump - P-148
- NOTE: Motor HP Deviation
- Pg-27 Series "60" Performance Curves
- Pg-28 Series "60" In-Line Mounted Centrifical Pump - P-149
- NOTE: Motor HP Deviation
- Pg-29 Series "60" Performance Curves



"It is hereby certified that the material/equipment shown and marked in this submittal is that proposed to be incorporated in Contract Number NC2470-77-B-7526, is in compliance with the contract drawings and specifications, and can be installed in the "coated" spaces, and is (submitted for Government approval).

THE WALDINGER CORPORATION
 Authorized Reviewer  Date 10/24/79
 Signature CCC Rep  Date 1/19/80

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Pg-3

JAMES M. PLEASANTS COMPANY, INC.

2700 MARTINSVILLE ROAD
GREENSBORO, NORTH CAROLINA 27408

28 September, 1979

Waldinger Corporation
Post Office Box 8363
Camp Lejeune, N.C. 28542

Attention: Mr. Dick Welch

Reference: 205 Bed Hospital - Camp Lejeune, N.C.

Subect: Certificate of Compliance
ITT Bell & Gossett Centrifugal Pumps
Series "60", "1510", "1531" and "VSC"

Section: 15711 - Paragraph 7.0 thru 7.3
15711 - Paragraph 7.6 thru 7.6.1

The units to be furnished for this project comply with all requirements of project specifications, MIL-P016077 and MIL-P-17552.

JAMES M. PLEASANTS COMPANY, INC.

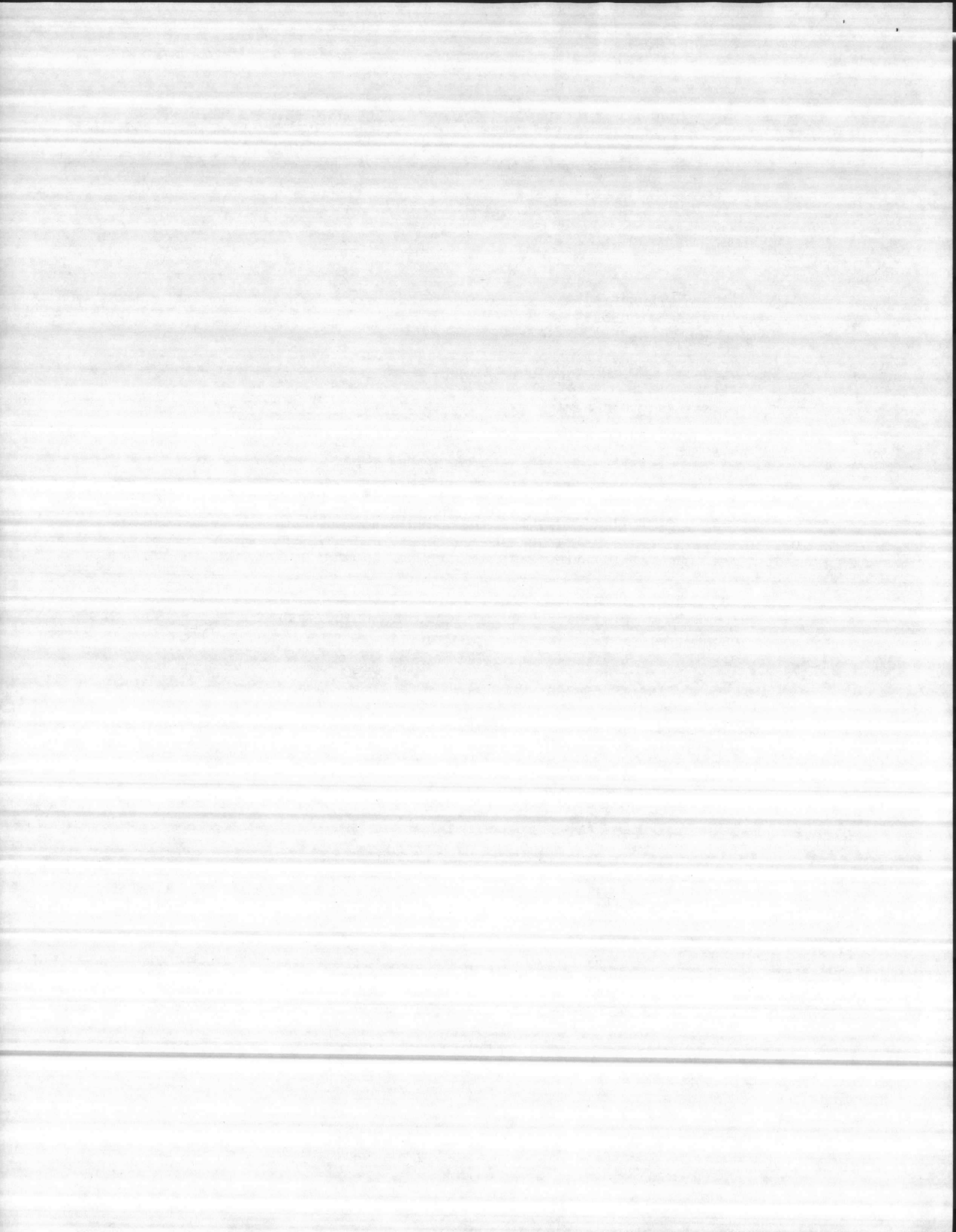
Barry Briles

Barry Briles
Sales Representative

(L.V.)

BB:lv

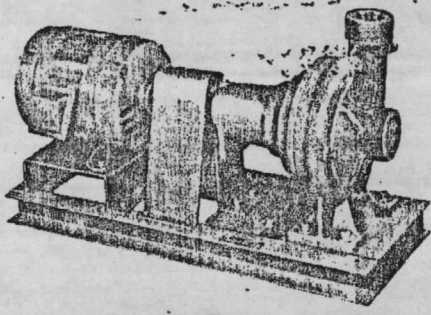
c.c. JCS-944-BB



BELL & GOSSETT

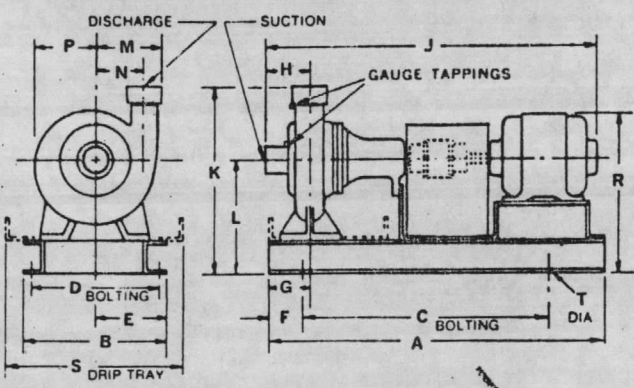
SUBMITTAL

B-224.1
REVISION 4



1 1/2 AB SERIES 1510 Centrifugal Pumps — Base Mounted

JOB <u>205 Bed Hospital Camp Lejeune, N. C.</u>	B & G REPRESENTATIVE <u>J. M. Pleasants Co.</u>
UNIT TAG NO. <u>P-110 & P-111</u>	ORDER NO. <u>IM-2145-019</u>
ENGINEER _____	SUBMITTED BY _____
CONTRACTOR _____	APPROVED BY _____



SPECIFICATIONS

55 ✓ GPM 50 ✓ FT.

MATERIALS OF CONSTRUCTION:
 BRONZE FITTED ALL IRON ALL BRONZE 1510 (Standard Seal)
 1510-PF (Packing—Flushed)
 1510-S (Single Seal)
 1510-D (Double Seal)

ELECTRICAL DATA:
 460 VOLTS 3 HP 60 CY. 3 PH.
 MOTOR ENCL. O.D.P.
1750 RPM

SPEC. CONSTR. _____

APPROXIMATE WEIGHT _____ LBS.

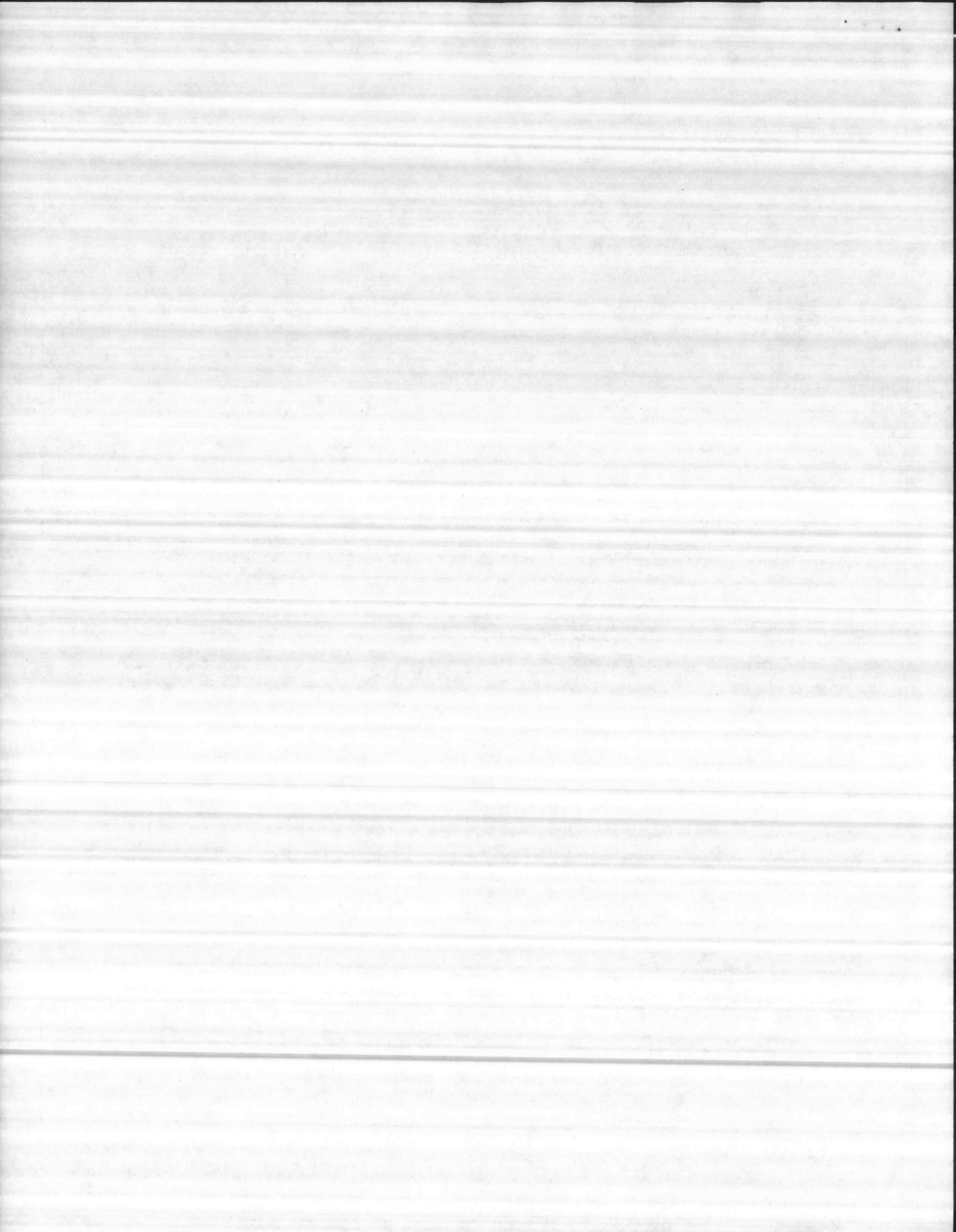
DIMENSIONS MAXIMUM WORKING PRESSURE 175 PSI
STANDARD SEAL 1510

PUMP SIZE & DISCHARGE	SUCTION SIZE	MOTOR FRAME	PUMP DIMENSIONS (INCHES)																	
			A	B	C	D	E	F	G	H	J (MAX.)	K	L	M	N	P	R (MAX.)	S	T	
1 1/2 AB N.P.T.	2" N.P.T.	56																		
		143T	28 3/8	12	22 1/2	10 1/4	6	3	3 1/8	3 1/8	28 3/8								13 3/8	
		145T										29 3/8								13 1/2
		182T	31	14 3/8	25	12 7/8	7 1/4	3	4 7/8	3 3/8	32 1/8	15 3/4	9 3/4	5 1/4	4 3/8	4 1/4	15	11 1/8	3/4	
		184T										32 7/8								
		213T	34 3/8	14 3/8	28 3/8	12 3/8	7 1/4	3	4 7/8	3 3/8	35 3/8									15 5/8
		215T										36 7/8								

STUFFING BOX 1510-PF, 1510-S, 1510-D

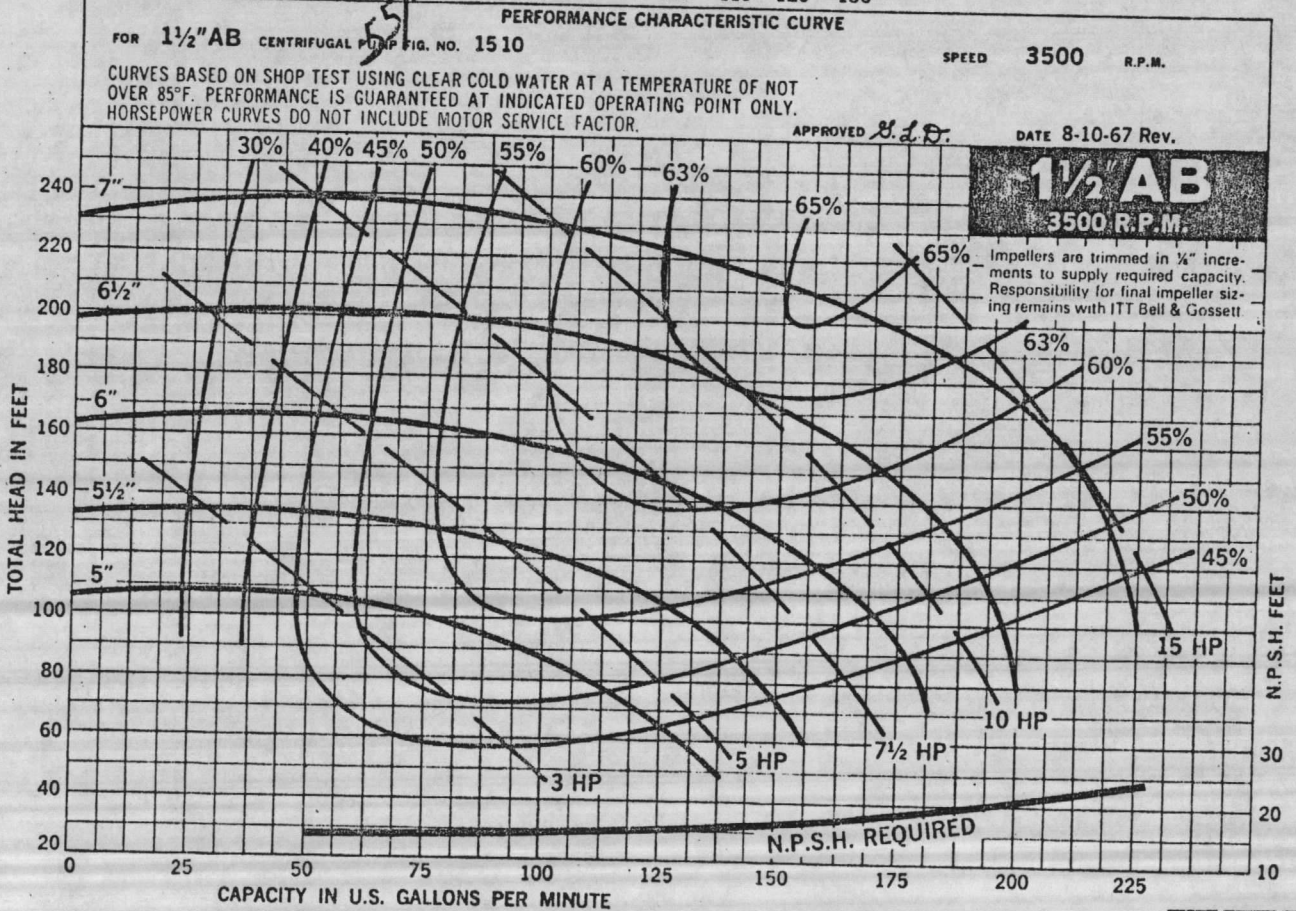
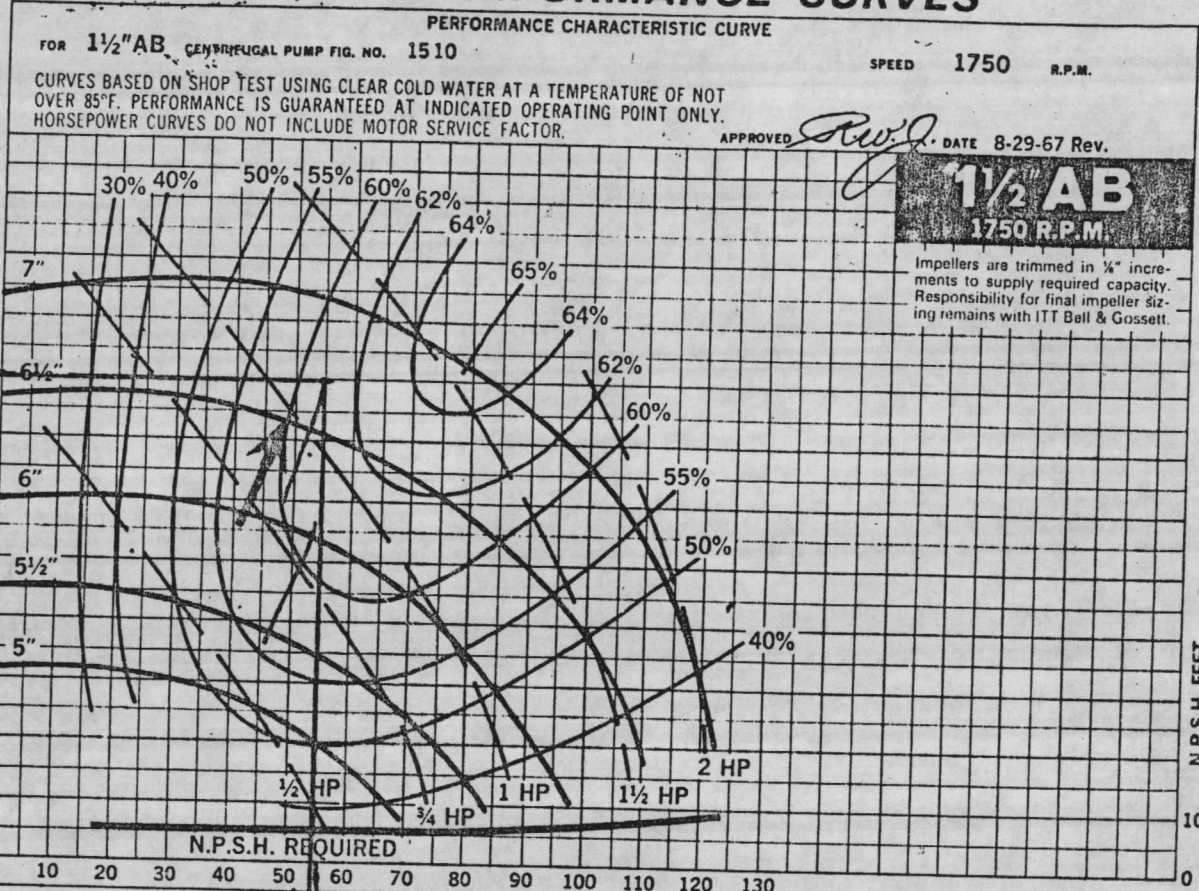
PUMP SIZE & DISCHARGE	SUCTION SIZE	MOTOR FRAME	PUMP DIMENSIONS (INCHES)																	
			A	B	C	D	E	F	G	H	J (MAX.)	K	L	M	N	P	R (MAX.)	S	T	
1 1/2 AB N.P.T.	2" N.P.T.	56																		
		143T																		
		145T										31 7/8								13 3/8
		182T	34 3/8	14 3/8	28 3/8	12 7/8	7 1/4	3	4 7/8	3 3/8	35 3/4	15 3/4	9 3/4	5 1/4	4 3/8	4 1/4	15	11 1/8	3/4	
		184T									36 1/2									
		213T	39 3/8		33 3/8						39									15 5/8
		215T									40 1/2									

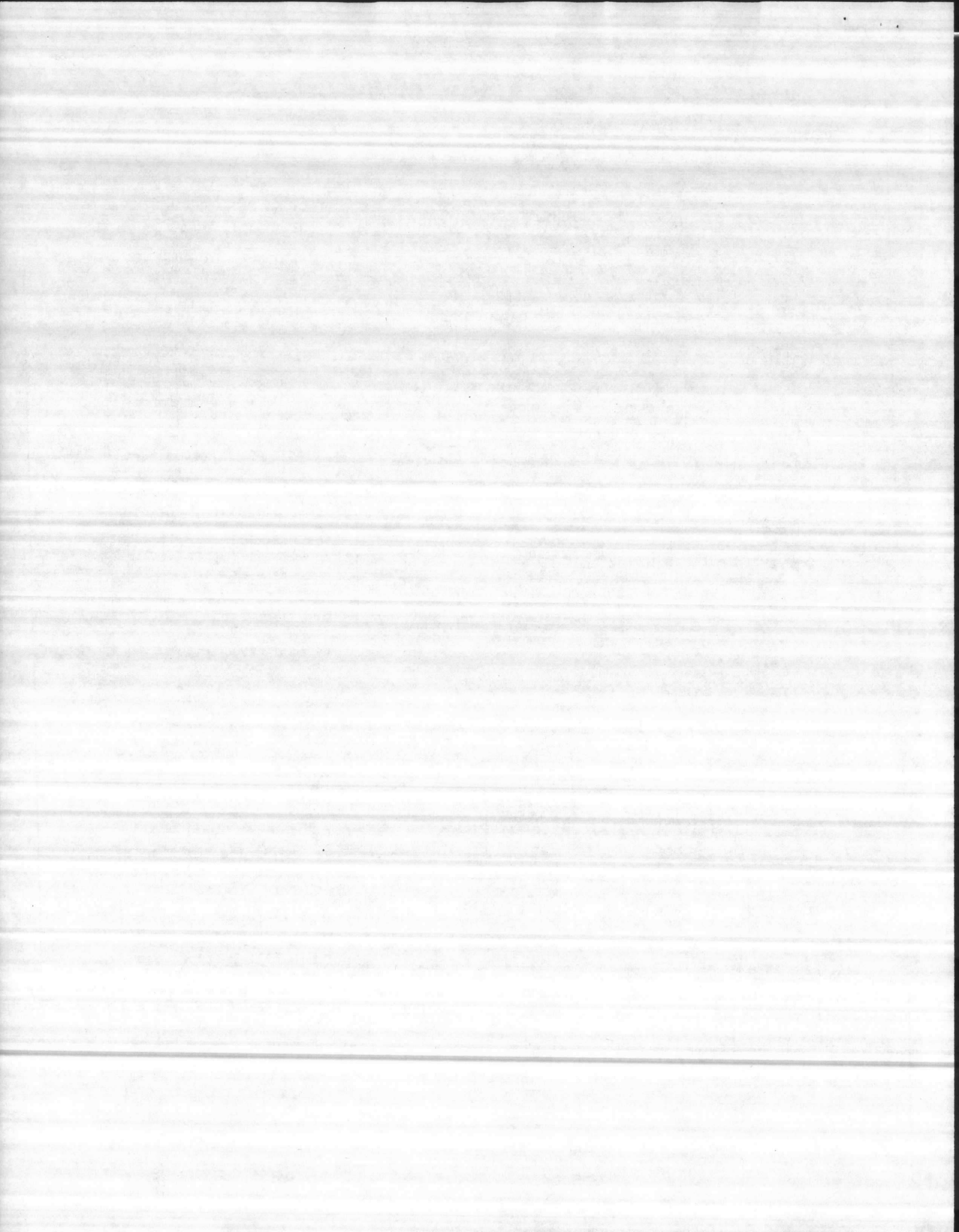
BELL & GOSSETT **ITT**
FLUID HANDLING DIVISION



P7-65

1510 PERFORMANCE CURVES

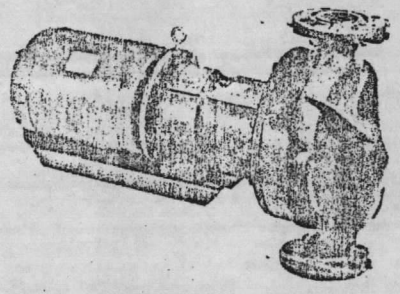




BELL & GOSSETT

SUBMITTA

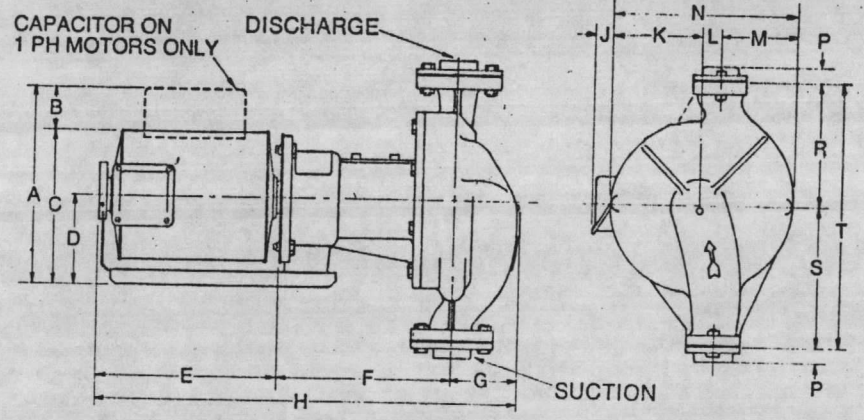
B-131.2
REVISION 6



1 1/2 A Series "60" Centrifugal Pumps In-Line Mounted

JOB	205 Bed Hosp. Camp Lejeune, N. C.	B & G REPRESENTATIVE	J. M. Pleasants Co.	
UNIT TAG NO.	P-112	ORDER NO.	IM-2145-019	
ENGINEER		SUBMITTED BY		DATE
CONTRACTOR		APPROVED BY		DATE

DIMENSIONS



PUMP SIZE	SUCTION AND DISCHARGE SIZE—INCHES NPT	PUMP DIMENSIONS—INCHES									
		F	G	K	L	M	N	P	R	S	T
1 1/2 A	1 1/2	9 3/4	3 1/4	4 3/4	1	3 3/4	9 1/2	3/4	6 1/2	7	13 1/2

Companion Flanges furnished for Suction and Discharge

ALL MOTORS 1750 RPM

MOTOR SIZE		MOTOR DIMENSIONS—INCHES						
H.P.	PHASE	A	B	C	D	E	H	J
1/2	1	9 1/2	2 1/8	7 3/8	4 3/8	11 1/2	24 1/2	—
1/2	3	7 3/8	—	7 3/8	4 3/8	11	24	—
3/4	1	9 1/2	2 1/8	7 3/8	4 3/8	12	25	—
3/4	3	7 3/8	—	7 3/8	4 3/8	11 1/2	24 1/2	—
1	1	10 3/16	2 1/8	8 3/16	4 3/8	9 3/4	22 3/4	7/8
1	3	8 3/16	—	8 3/16	4 3/8	10	23	7/8
1 1/2	1	10 3/16	2 1/8	8 3/16	4 3/8	10 3/4	23 3/4	7/8
1 1/2	3	8 3/16	—	8 3/16	4 3/8	10 3/4	23 3/4	7/8

SPECIFICATIONS

20^l GPM 35 FT.

MATERIALS OF CONSTRUCTION:
 BRONZE FITTED ALL IRON ALL BRONZE

ELECTRICAL DATA: 1 HP
 460 VOLTS 60 CY 3 PH

MOTOR ENCL. O.D.P.
 1750 RPM

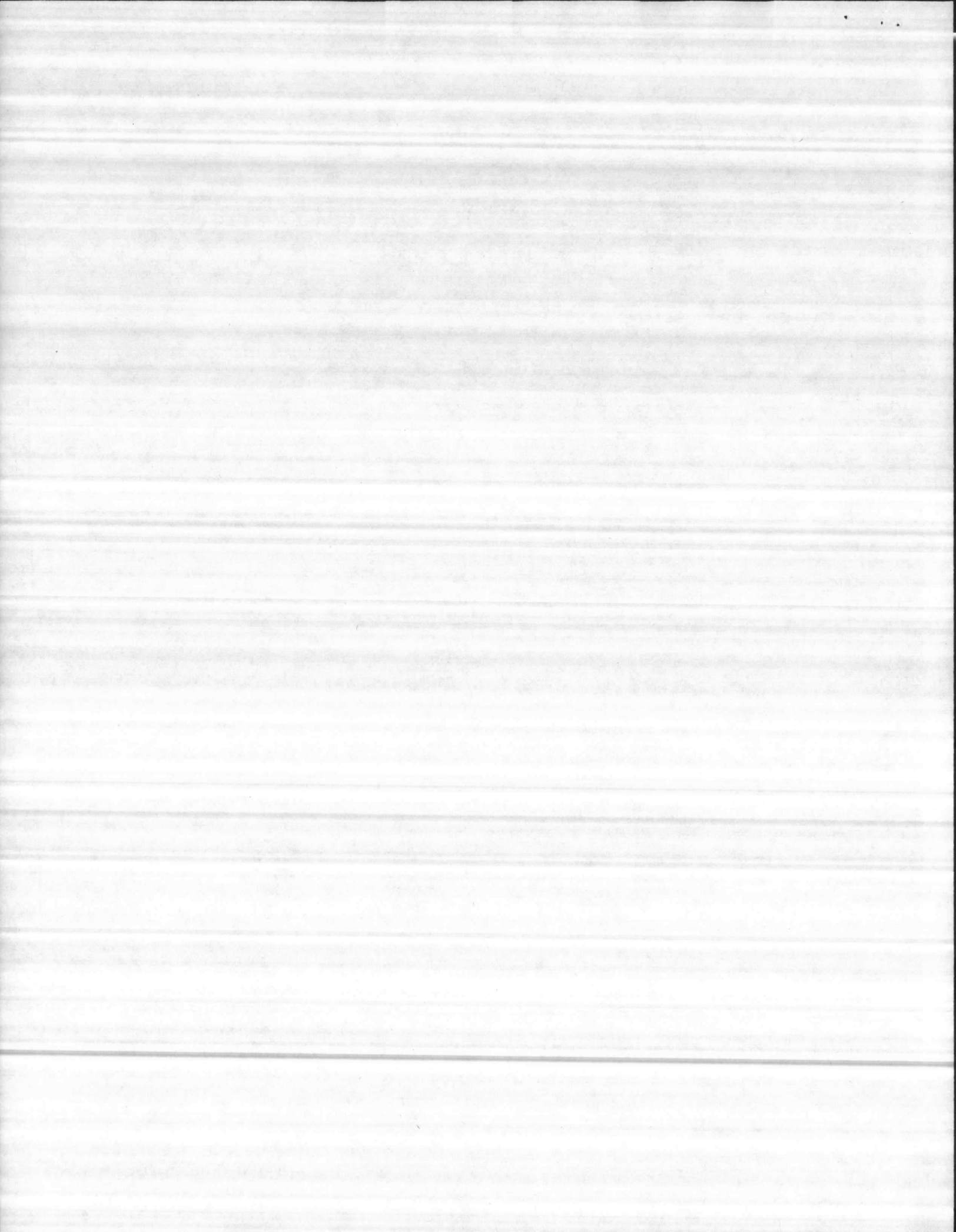
SPEC. CONSTR. _____

APPROXIMATE WEIGHT _____ LBS.

MAXIMUM WORKING PRESSURE 175 PSI

SEE PERFORMANCE CURVE ON REVERSE SIDE

BELL & GOSSETT ITT
FLUID HANDLING DIVISION



B-7

SERIES "60" PERFORMANCE CURVES

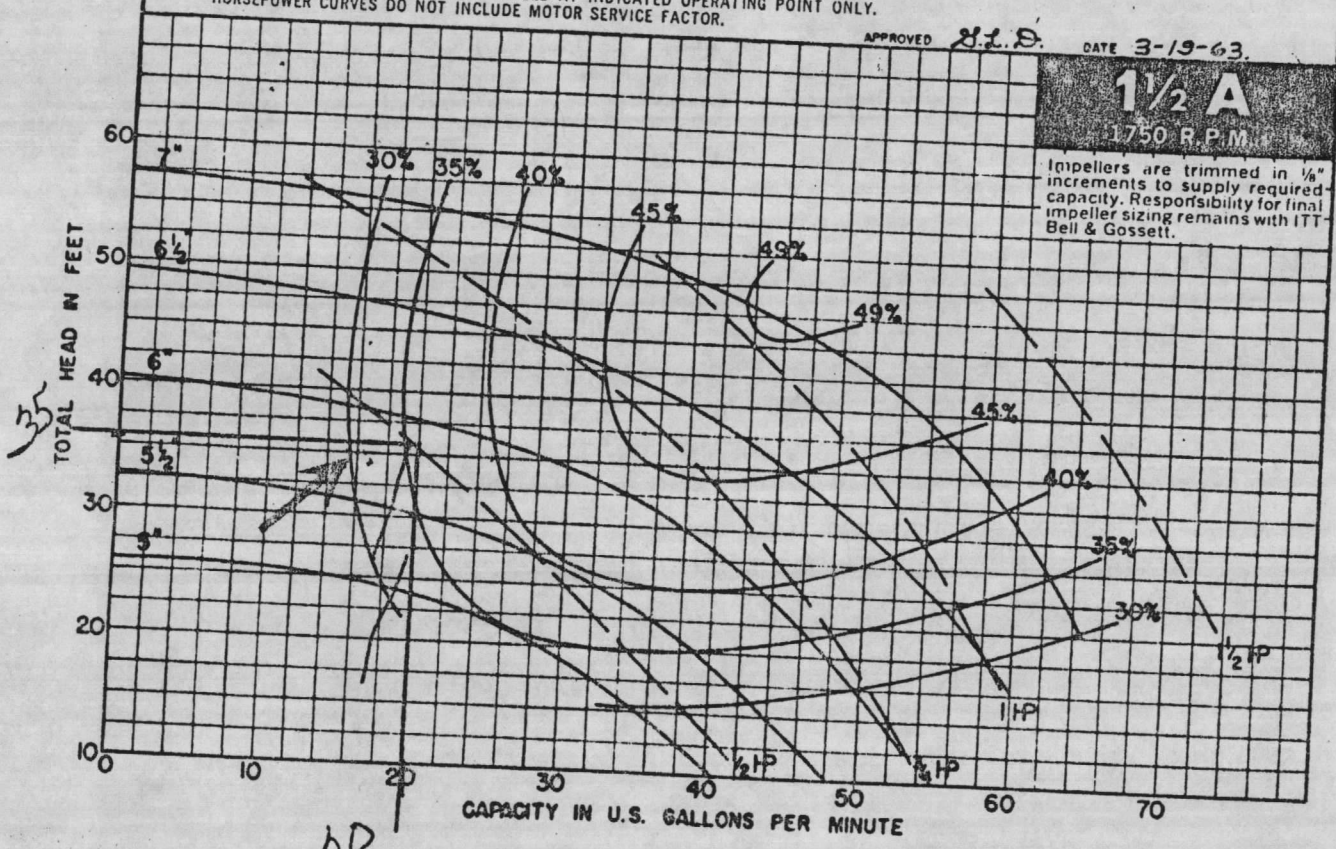
FOR 1 1/2" A CENTRIFUGAL PUMP FIG NO SERIES 60 PERFORMANCE CHARACTERISTIC CURVE

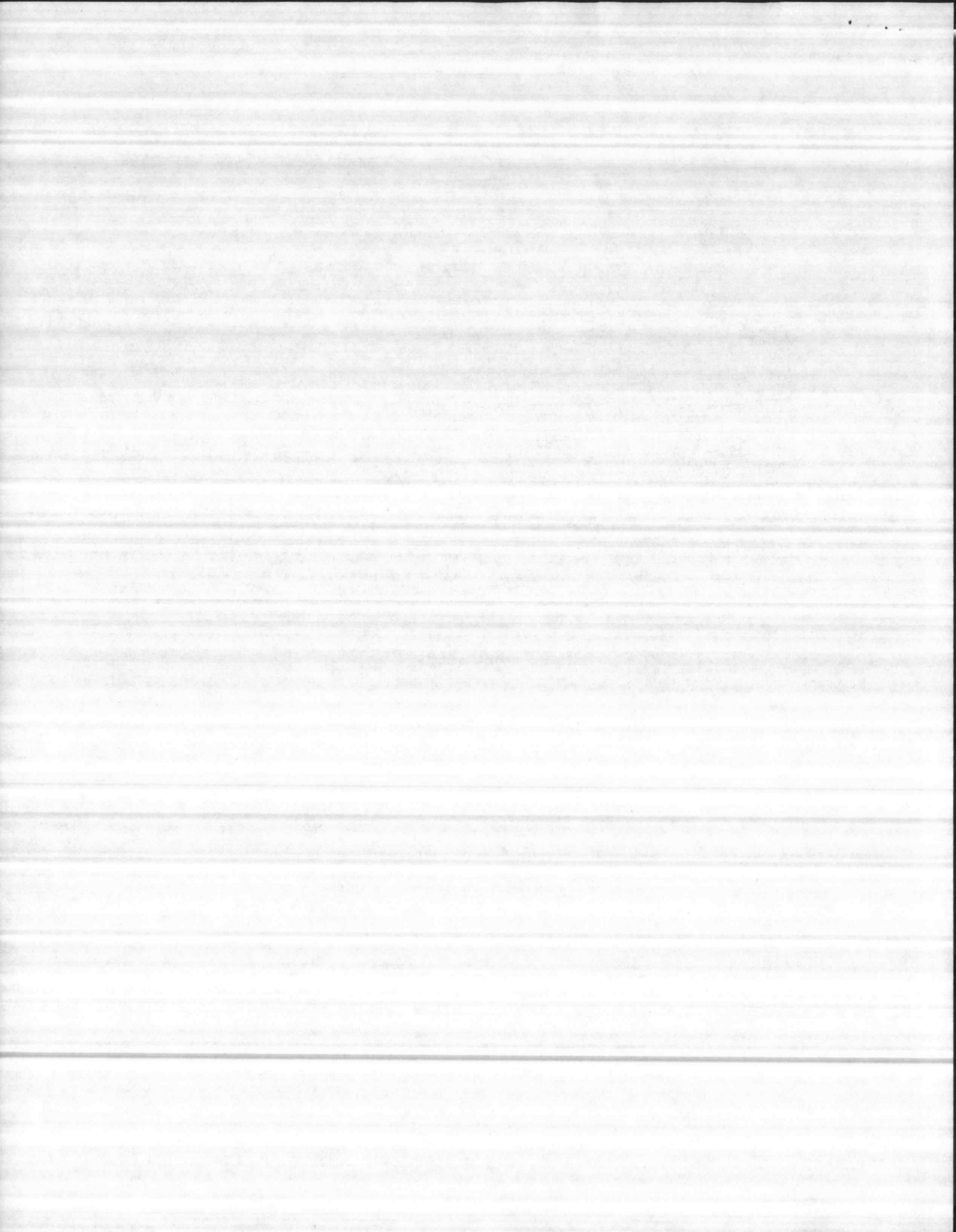
SPEED 1750 R.P.M.

CURVES BASED ON SHOP TEST USING CLEAR COLD WATER AT A TEMPERATURE OF NOT OVER 85°F. PERFORMANCE IS GUARANTEED AT INDICATED OPERATING POINT ONLY. HORSEPOWER CURVES DO NOT INCLUDE MOTOR SERVICE FACTOR.

APPROVED *R.L.D.* DATE 3-19-63.

1 1/2" A
1750 R.P.M.
Impellers are trimmed in 1/8" increments to supply required capacity. Responsibility for final impeller sizing remains with ITT-Bell & Gossett.





CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDI. 4355/3 (Rev. 6/76)

File 225

CONTRACT NO. N62470-77-C-7526	TRANSMITTAL NO. 749	DATE 2/1/80
PROJECT TITLE AND LOCATION Naval Regional Medical Center Camp LeJeune, North Carolina 28542		

*BIC
RAC*

SECTION 15401

FROM CONTRACTOR
CARDINAL CONTRACTING CO., INC.

TO
WOOD-GREEN ENGRS

CONTRACTOR USE ONLY

*List only one specification division per form.

List only one of the following categories on each transmittal form, and indicate which is being submitted

Contractor Approved

OICC Approval

Deviation/Substitution For OICC Approval

342

REVIEWER USE ONLY

**ACTION CODES

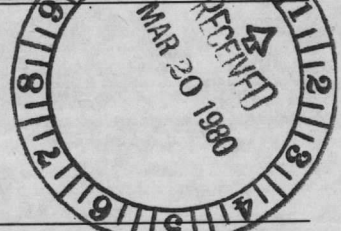
A-Approved
D-Disapproved
AN-Approved as noted
RA-Receipt acknowledged.
C-Comments
R-Resubmit

[Handwritten initials]

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
749		Deionizer	11	R	JM 13 MAR 80

CONTRACTOR'S COMMENTS

PLEASE RETURN A MINIMUM OF 6 COPIES WITH OWNERS APPROVAL



COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC: **2-5-80**

CONTRACTOR REPRESENTATIVE (Signature): *[Signature]*

DATE RECEIVED BY REVIEWER: **10 MARCH 1980**

FROM (Reviewer): **LANTDIU**

TO: **CARDINAL CONT. Co. INC.**

Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.

Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on **ONE COPY** of the transmittal form.

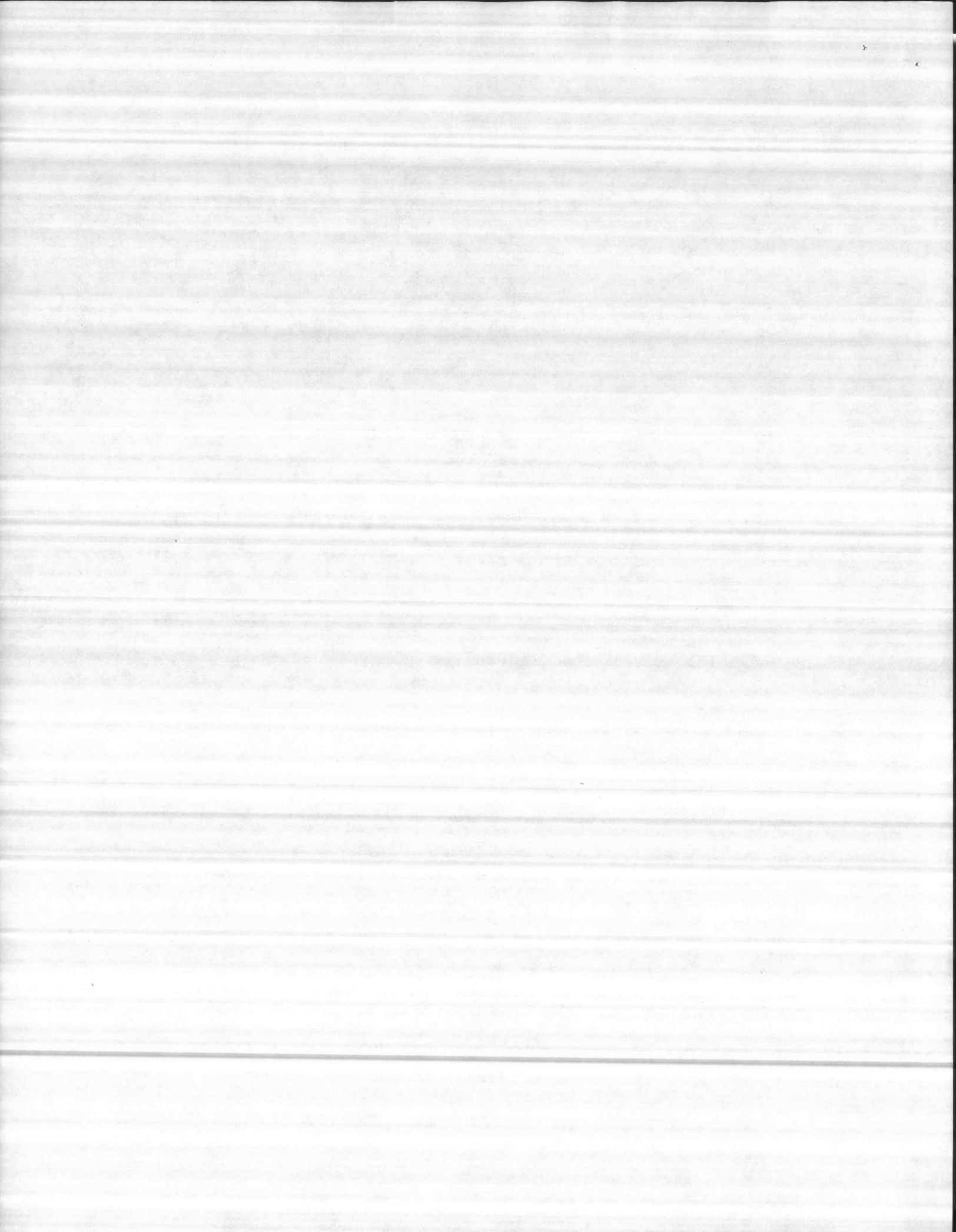
REVIEWER'S COMMENTS

Resubmit - 1) Deionizers specified to operate at 100 psig. If reducing valves as indicated are required (45 psig), valves should be provided with equipment at no cost. 2) Verify float level control valve will prevent inlet flow from exceeding 5 GPM specified to storage tank. 3) Pump capacity should be 40 gpm at 50 psig discharge pressure and motor should be 460/3/60.

COPIES TO: ROICC (2), LANTDIV (1), A-E (1)

DATE: **13 March 80**

SIGNATURE: *[Signature]*



CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDIV 4-4355/3 (Rev. 6/76)

SECTION 15401		CONTRACT NO. N62470-77-C-7526	TRANSMITTAL NO. 749	DATE 2/1/80
FROM CONTRACTOR	PROJECT TITLE AND LOCATION			
CARDINAL CONTRACTING CO., INC.	Naval Regional Medical Center			
TO	Camp LeJeune , North Carolina 28542			
LOCKWOOD-GREEN ENGRS				

<p>CONTRACTOR USE ONLY</p> <p><i>*List only one specification division per form.</i></p> <p><i>List only one of the following categories on each transmittal form, and indicate which is being submitted</i></p> <p> <input type="checkbox"/> Contractor Approved <input type="checkbox"/> OICC Approval <input checked="" type="checkbox"/> Deviation/Substitution For OICC Approval </p>	<p>REVIEWER USE ONLY</p> <p>**ACTION CODES</p> <p>A-Approved D-Disapproved AN-Approved as noted RA-Receipt acknowledged. C-Comments R-Resubmit</p>
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ITEM NO.	PROJ. SPEC. SECT: & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
749		Deionizer	11		

CONTRACTOR'S COMMENTS

PLEASE RETURN A MINIMUM OF 6 COPIES WITH OWNERS APPROVAL

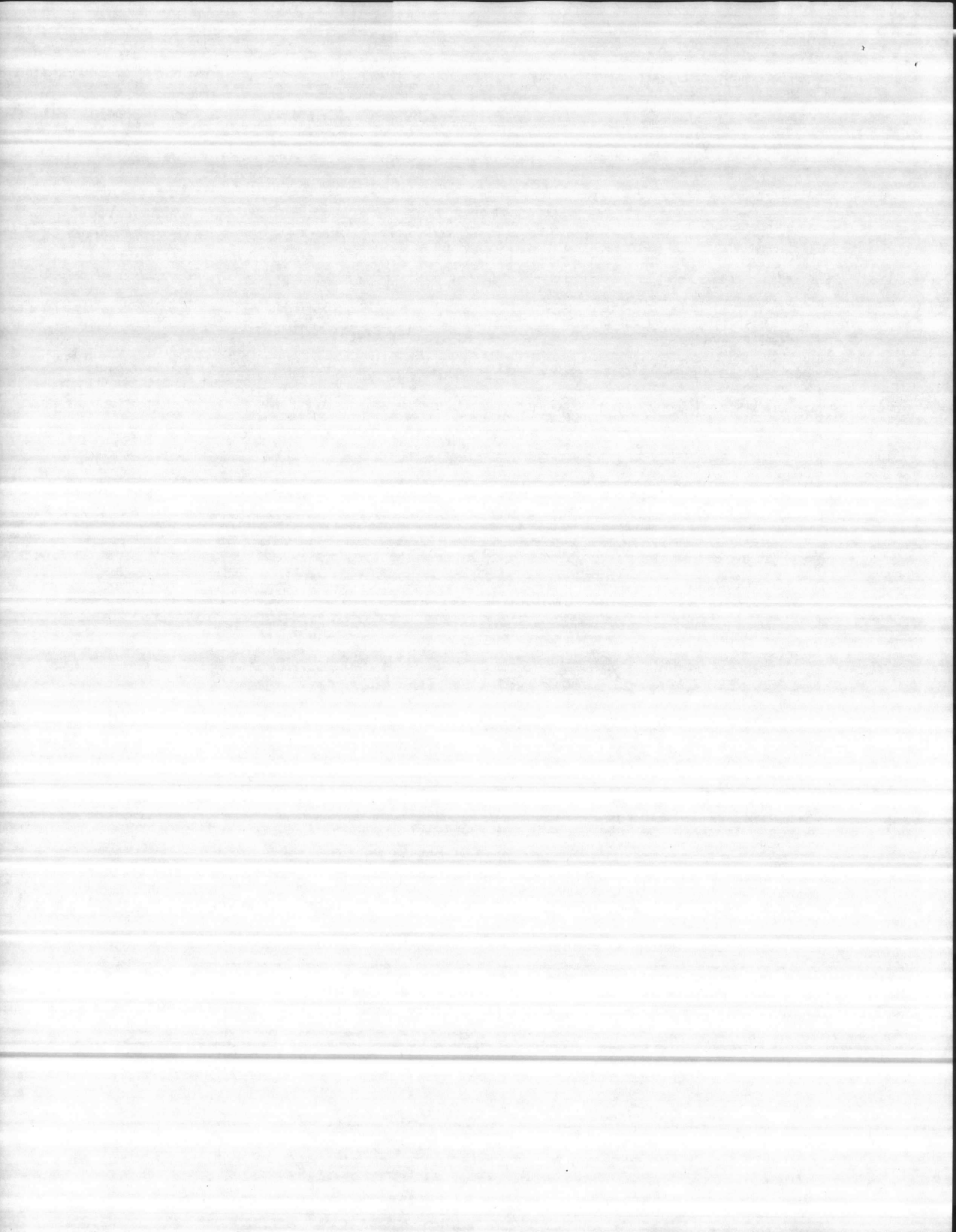
COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC		CONTRACTOR REPRESENTATIVE (Signature)	
2-5-80		W.J.H.	
DATE RECEIVED BY REVIEWER	FROM (Reviewer)	TO	

- Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.
- Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on ONE COPY of the transmittal form.

REVIEWER'S COMMENTS



COPIES TO: ROICC (2) LANTDIV (1) A-E (1)	DATE	SIGNATURE
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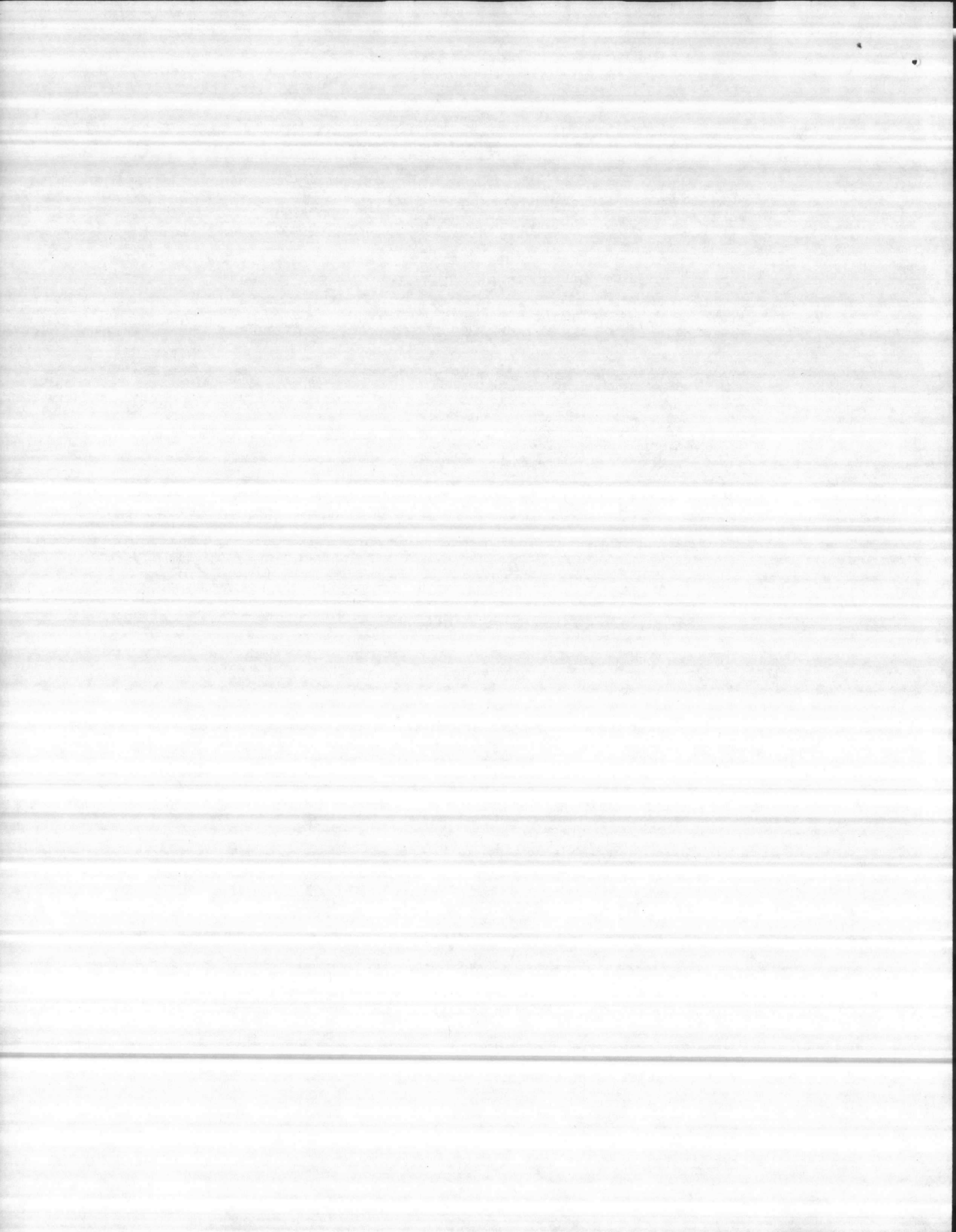


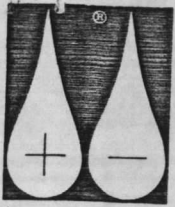
COMMENTS

1. Deionizers specified for 100 PSIG working pressure. If the units submitted must be operated at 45 psig, a reducing valve should be included.
2. Purity meter submitted is acceptable.
3. Recommend accepting 12,000 grain capacity tank in lieu of 12,500 grain specified, as this is the manufacturers standard size.
4. The deionized water pump should have a minimum capacity of 40 gpm at 50 psig discharge pressure. Motor should be 460/3/60.
5. Will the level control system submitted limit the deionizer flow to the 5 gpm specified?

Michael W. Jones







Continental

WATER CONDITIONING CORPORATION

P. O. BOX 15235 DURHAM, NC 27704 TELEPHONE: 919/477-2162

December 13, 1979

Waldinger Corporation
P. O. Box 8363
Camp LeJeune, NC 28542

Attn: Mr. R. J. Welch, Project Manager

Ref: Our Quote CL-1, dated 2/28/79;
Naval Regional Medical Center
Camp LeJeune, North Carolina

"It is hereby certified that the material/equipment shown and marked in this submittal is that approved to be incorporated into Contract Number NG2470-77-8-7526, is in conformance with the contract drawings and specifications, and can be installed in the allocated spaces, and is approved for use.

THE WALDINGER CORPORATION

Authorized Reviewer [Signature] Date 2-1-80

Signature CQC Rep [Signature] Date 2-5-80

Gentlemen:

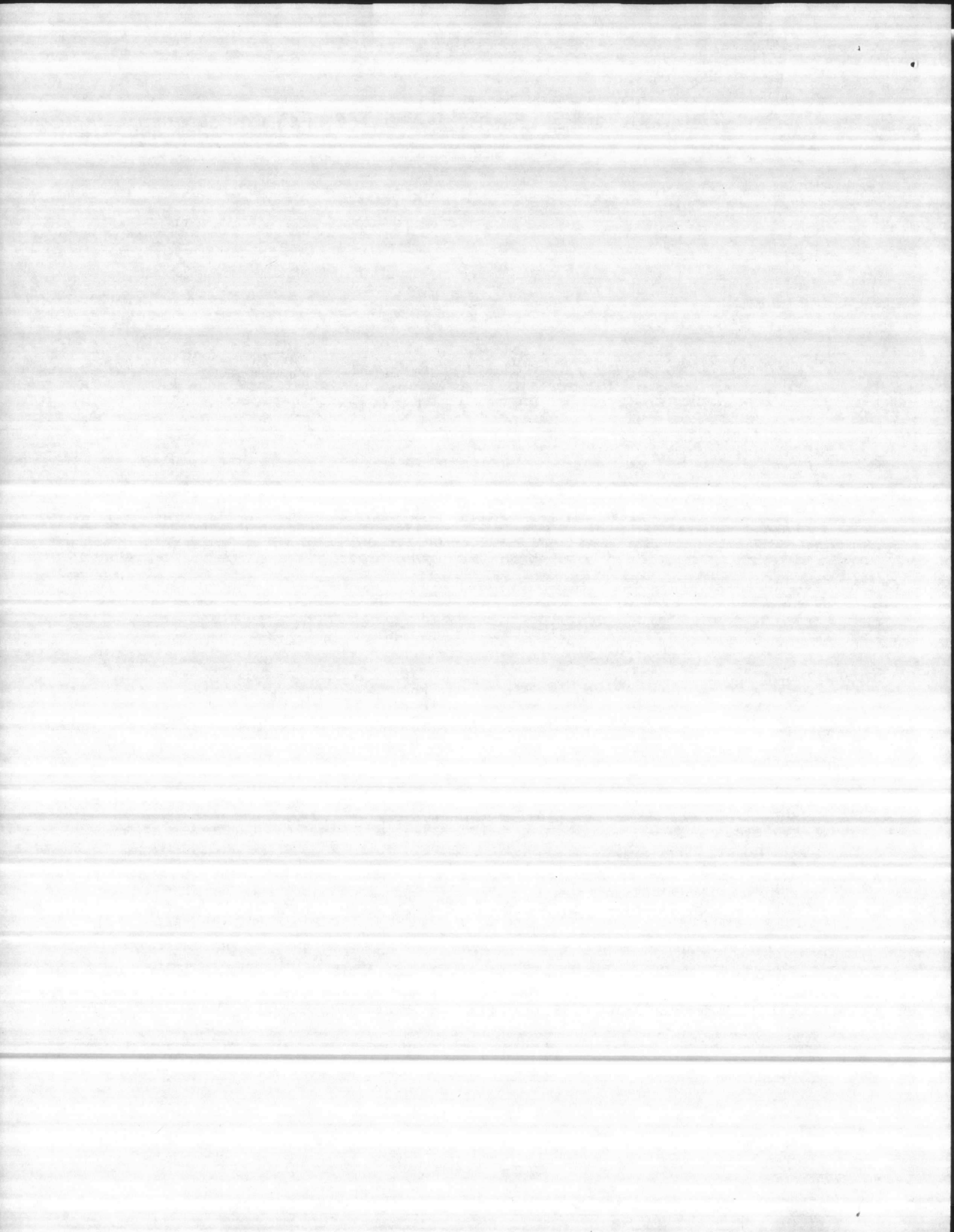
Thank you for your letter of October 30, 1979 regarding shop drawings and technical submittal data. We are sorry for the delay in the submittal as promised per our phone conversation in November, 1979.

I am herewith enclosing, twenty (20) submittal packets with index which will describe and illustrate the Type I and Type II Deionized Water Systems with accessories, to meet the requirements as called for in Section 15401-23, paragraph 8 through 8.4.1 of the specifications.

We hereby certify, that to the best of our knowledge, the materials used in the construction of the equipment and accessories is of the quality used in similar applications, and meets the specifications as set forth except as noted.

EXCEPTIONS

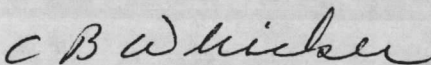
1. Specifications do not require it but all deionizers should have a pressure reducing valve set at 45 psi and installed ahead of the units as indicated on the attached drawing.
2. Due to cell body size on our direct reading meters, the cell will be mounted on the outlet side of the Type I Deionizer in a "T" with the cord leading to a wall or frame. The direct reading purity meter as indicated on the attached drawing is followed by the faucet outlet.
3. The cell and meter would be mounted in a similar manner on all Type II Deionizer systems. This is indicated on the attached drawing for Type II Deionizer System in Room S102 and C152.



4. The H-2971-6 Deionizer Units are rated at 12,000 grains removal capacity to the one megohm endpoint expressed as CaCO_3 , instead of 12,500 grains called for in the specifications, which did not specify NaCl or CaCO_3 . However, these units are listed in Continental's G.S.A. contract with the Federal Government for their standard supply as above.
5. The A-4000-H Type I Deionizer has a 1,530 grains capacity as NaCl, instead of the 1,230 grains called for in the specifications.
6. D.I. water pump is for 115/230, 60 cycle \emptyset .

Please do not hesitate to call us if we may be of assistance in any way. We are looking forward to receiving approval of this submittal and to working with you in the future.

Sincerely yours,



C. B. Whicker
Branch Manager

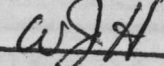
cew/sw

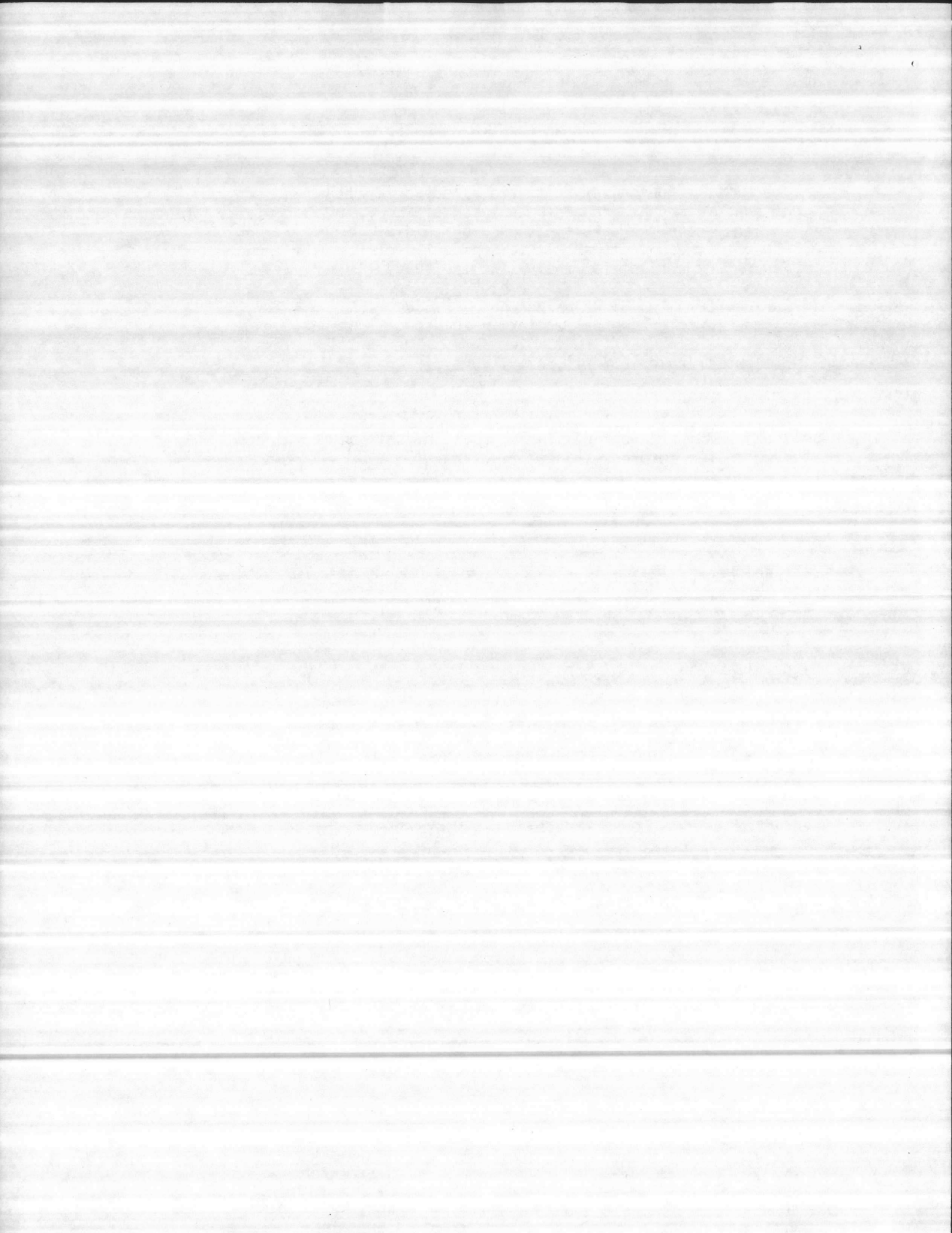
cc: Carl Wooten

"It is hereby certified that the material/equipment shown and marked in this submittal is that approved to be incorporated into Contract Number N62470-77-B-7526, is in compliance with the contract drawings and specifications, and can be installed in the allocated spaces, and is approved for use.

THE WALDINGER CORPORATION

Authorized Reviewer  Date 2-1-80

Signature CQC Rep  Date 2-5-80



INDEX

Item

1. Drawing "Type I Deionizer System", Room C125, "Pharmacy Area"
2. Continental Water Treatment Systems, Cartridge Deionization
3. Drawing "Type II Deionizer System", Room S102, "Laboratory Area"
4. Central D.I. Type II Deionizer System, Less In-Line U.V. Water Sterilizer, but with Storage Tank, Room C152
5. Typical Parallel Type II Deionizer System, Showing Operating D.I. Units and Stand-by Reserve Units
6. Aquafine Standard U.V. Water Sterilizers Model MP-2-SL
7. Continental Deionized Water Service (Pamphlet)
8. Stainless Steel Storage Tank (100 Gallon Capacity)
9. Stainless Steel Storage Tank (Dimensions)
10. Distribution Pumps (Stainless Steel)
11. Distribution Pumps (Dimensions)

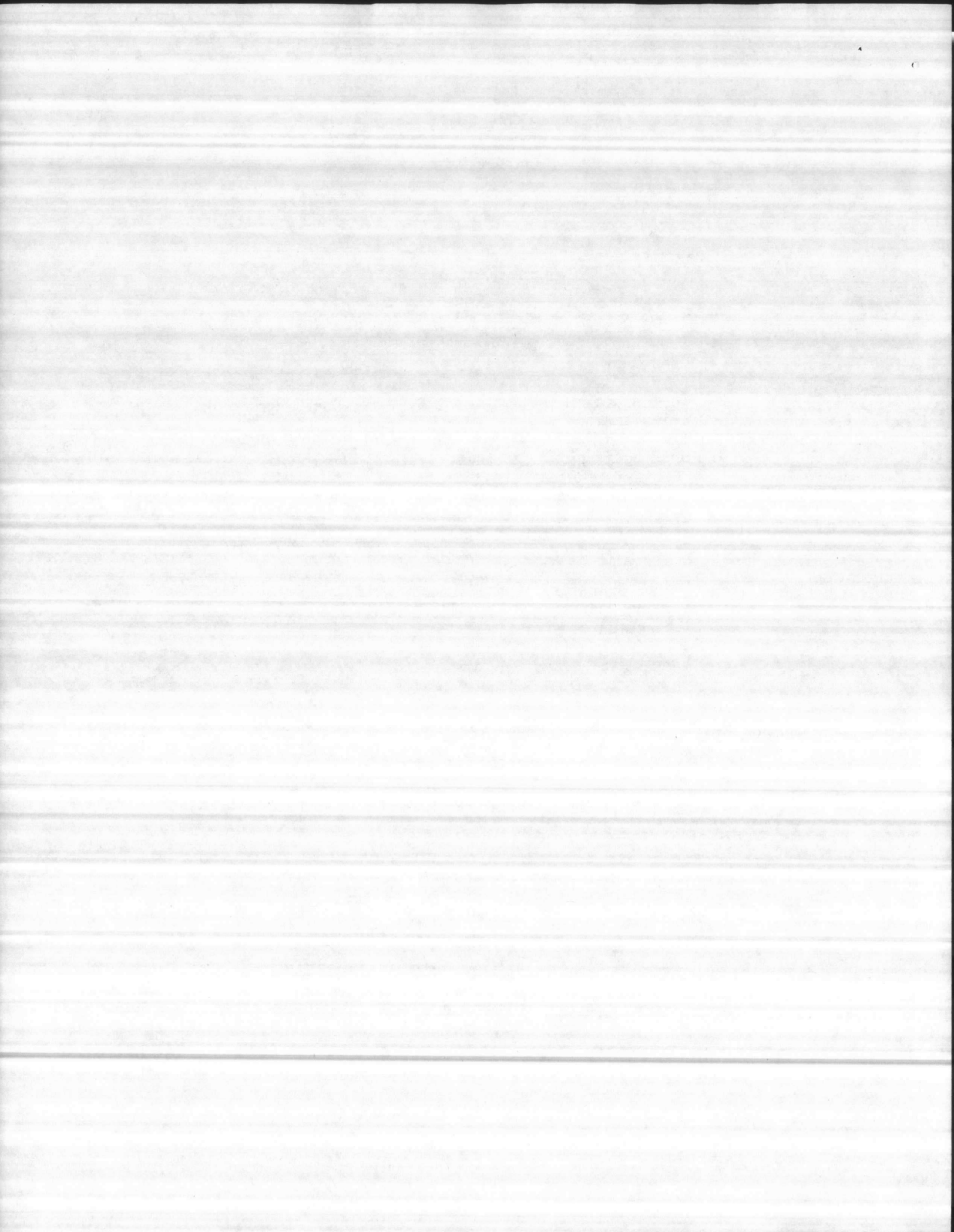


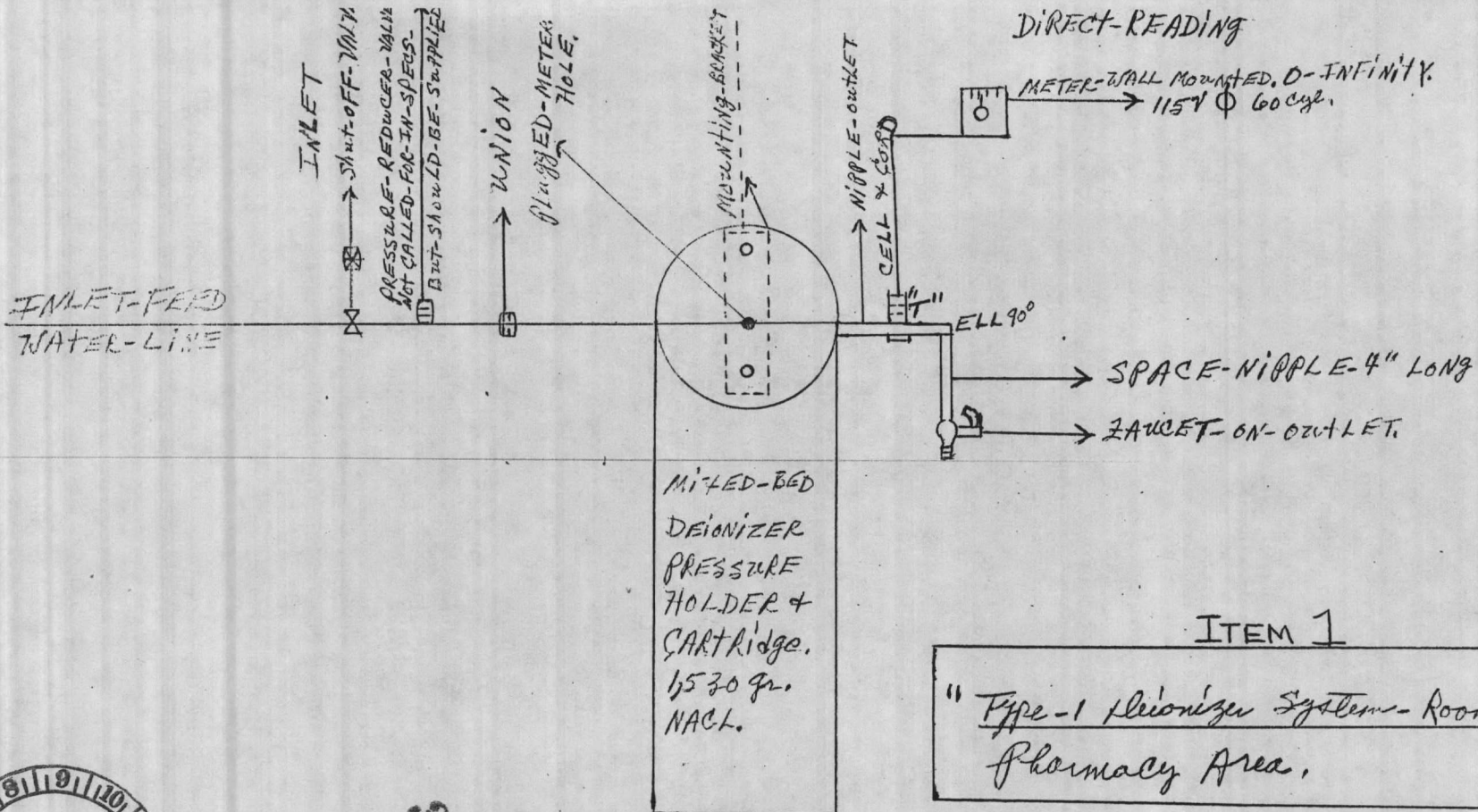
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THE WALDINGER CORPORATION

Authorized Reviewer _____ Date _____

Signature CQC Rep WJA Date 2-5-80





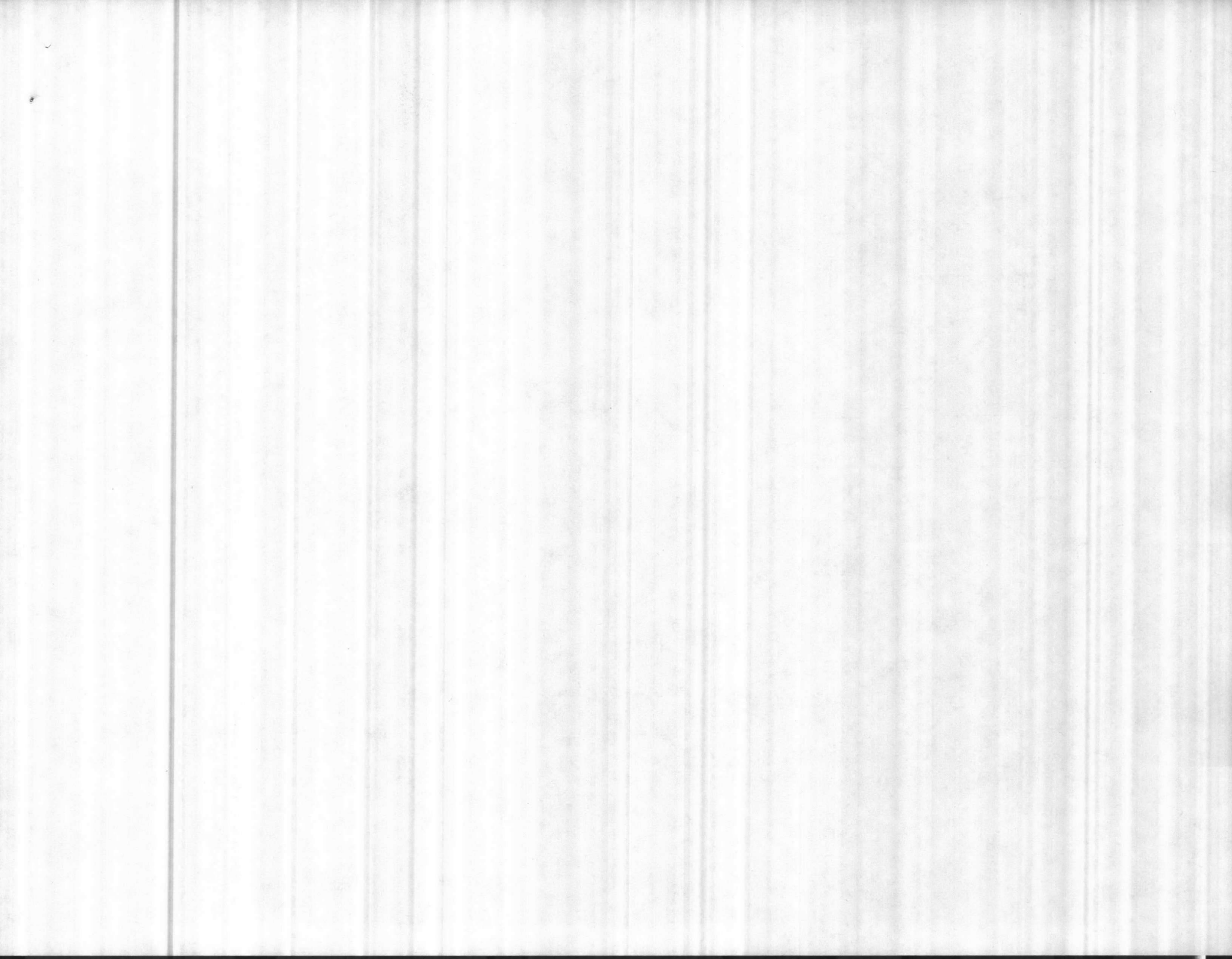
ITEM 1

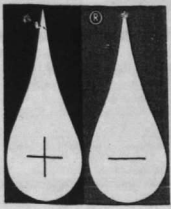
"Type-1 Deionizer System - Room-G12.5"
Pharmacy Area.



342

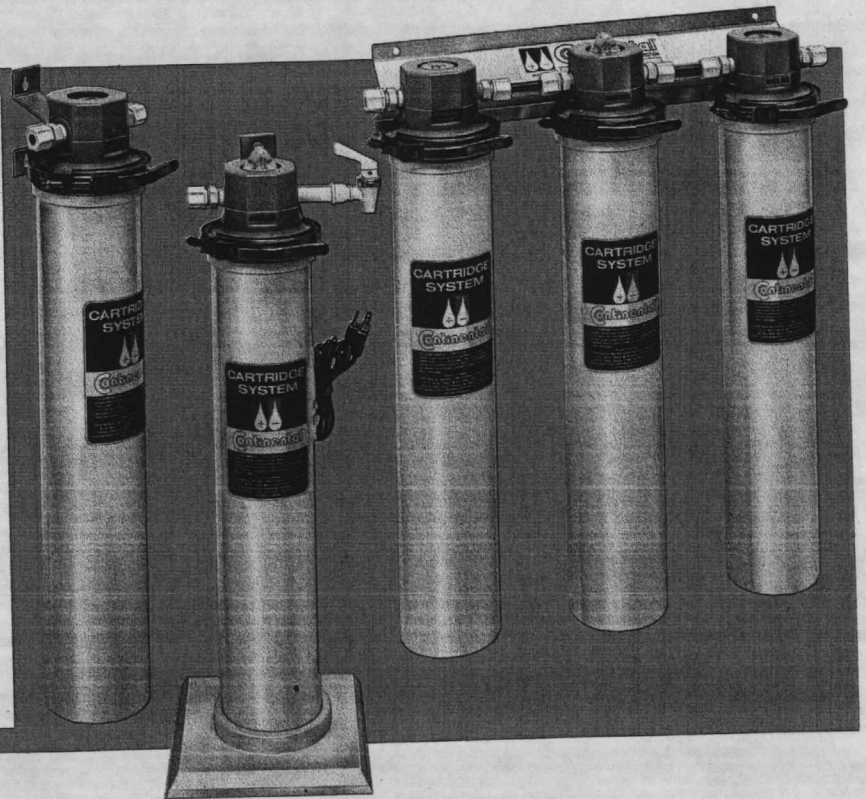
- LEGEND:
- ↑ Shut off Valve
 - ↑ Union
 - ↑ Pressure Reducer Valve



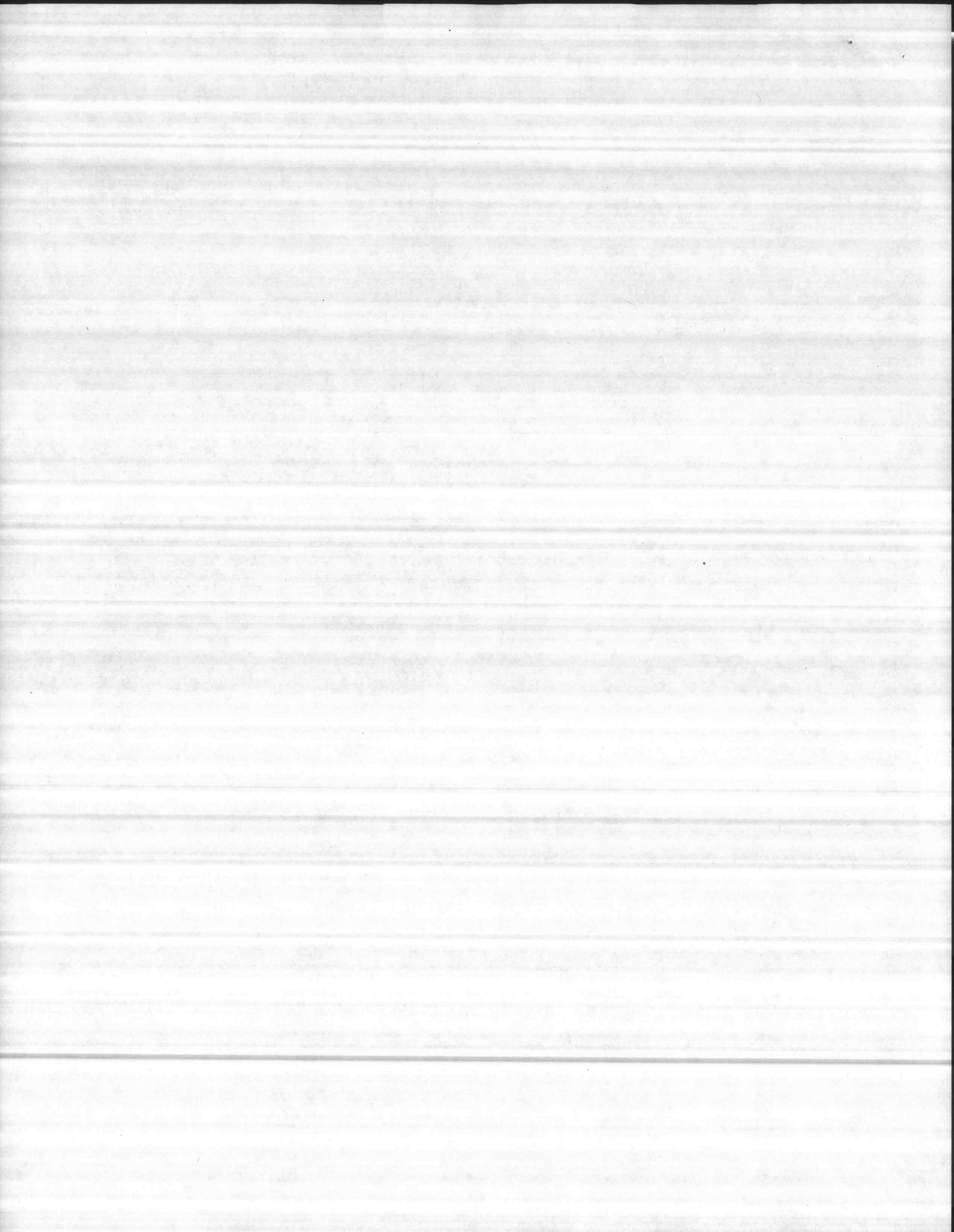


Continental[®] Water Treatment Systems

Cartridge Deionization



- Quick-change disposable cartridges
- Water 10 megohm specific resistance or better on most waters
- Water quality light selections and optional organics removal cartridge
- Several mounting options for added convenience
- Specially selected resins provide maximum efficiency



CONTINENTAL® CARTRIDGE SYSTEMS

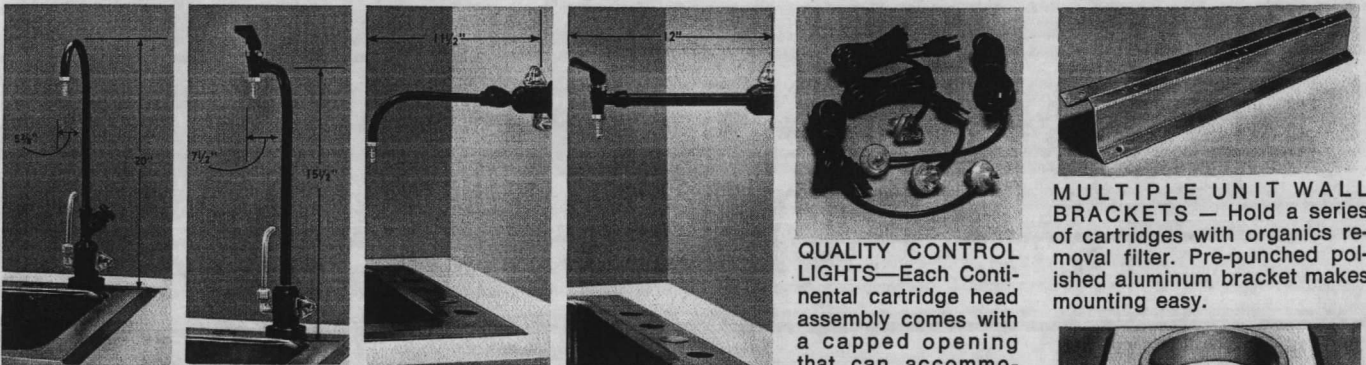
Best when high quality water is required at a relatively low flow rate ... with the convenience of quick-change disposable cartridges.

When your application requires high-quality water, we want you to call on us. CONTINENTAL water treatment systems are available to meet your specifications with quality to 18 megohms/cm at the flow rate you desire. Peak quality depends primarily on the mineral constituents in your tap supply and the flow rate through the system. Our single CARTRIDGE SYSTEM can deliver up to .95 liters/minute (.24 gpm), and maintain high quality throughout most of the run. Constant high quality is available when our SERIES CARTRIDGE SYSTEM is used. Pre-treat with our ORGANICS REMOVAL CARTRIDGE SYSTEM, and the effluent quality is even greater. The capacity of a single CONTINENTAL Mixed-Bed Cartridge is 1,530 grains, ex-

pressed as NaCl (1,300 grains as CaCO₃), at a maximum flow rate of .95 lpm (.24 gpm).

The CONTINENTAL ORGANICS REMOVAL CARTRIDGE is available when required. This cartridge can be used by itself or in conjunction with the DEIONIZER CARTRIDGES. The systems are rated for pressures up to 100 psig. However, most applications will only require 25-50 psig.

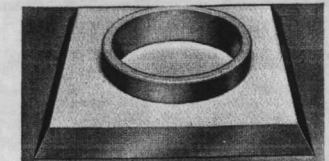
Each CONTINENTAL CARTRIDGE SYSTEM comes with a wall bracket for convenient installation. Optional base mounts are available for counter use. Accessory faucet assemblies can be mounted directly on the system or at a remote location, depending on your requirements.



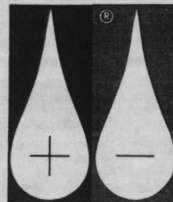
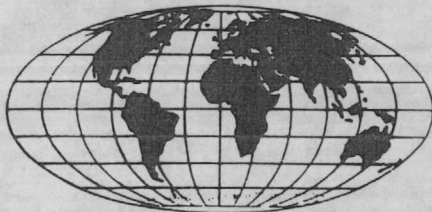
FAUCETS — Continental offers a full line of faucets. Remote faucets can be wall or bench mounted with an optional under-the-counter connection for the bench mounted series. Each model can be fitted with either a threaded stem or spring-loaded valve. The direct connect valve is spring-loaded. All faucets are rated for pressure up to 50 psig. Your Continental Representative will be happy to assist you in selecting the best faucet for your application.

QUALITY CONTROL LIGHTS—Each Continental cartridge head assembly comes with a capped opening that can accommodate one of Continental's quality control light assemblies. Depending upon your quality requirements the range of lights available is from 50K to 5 megohm.

MULTIPLE UNIT WALL BRACKETS — Hold a series of cartridges with organics removal filter. Pre-punched polished aluminum bracket makes mounting easy.



BASE—Heavy white base holds cartridge securely and allows easy relocation of system.

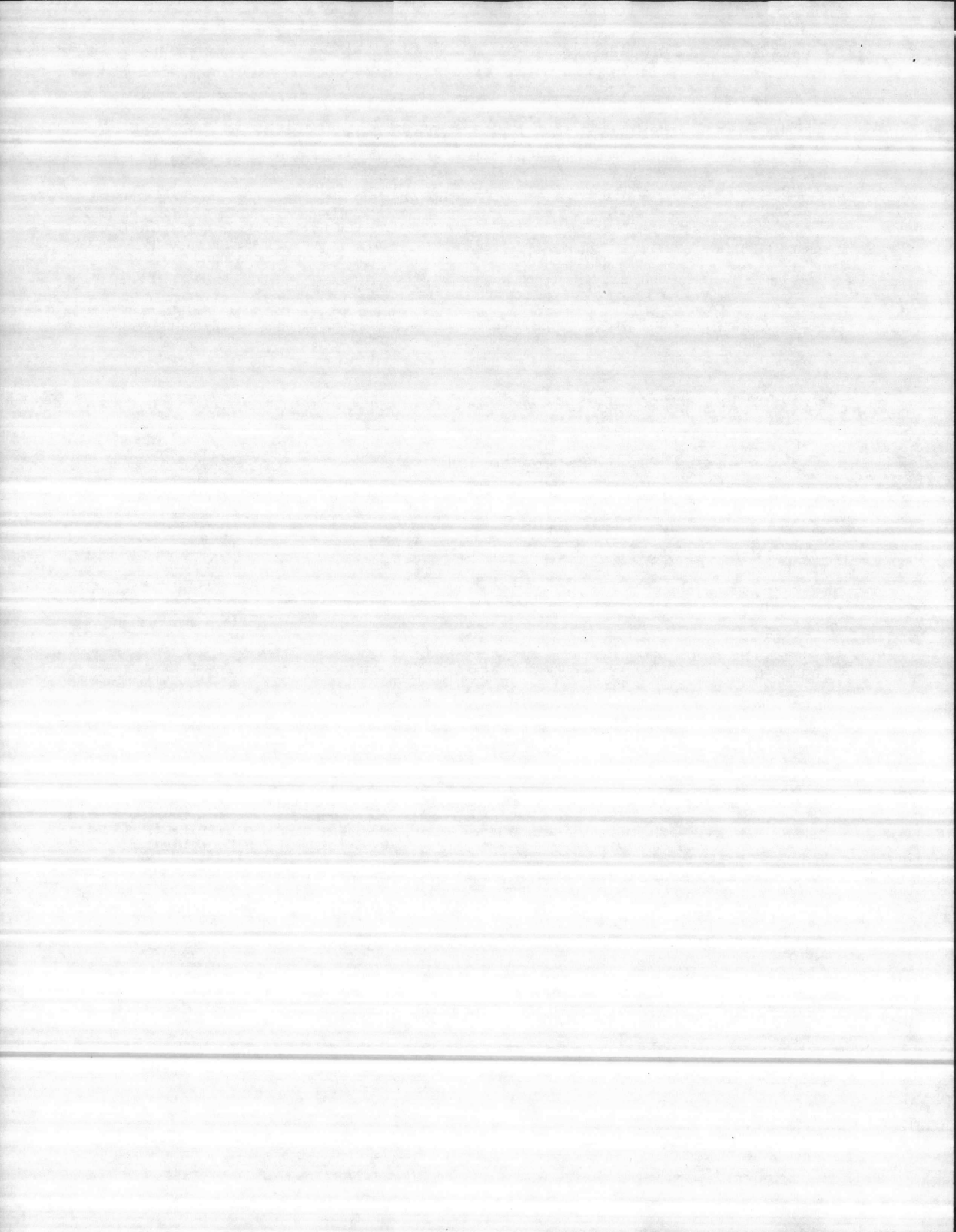


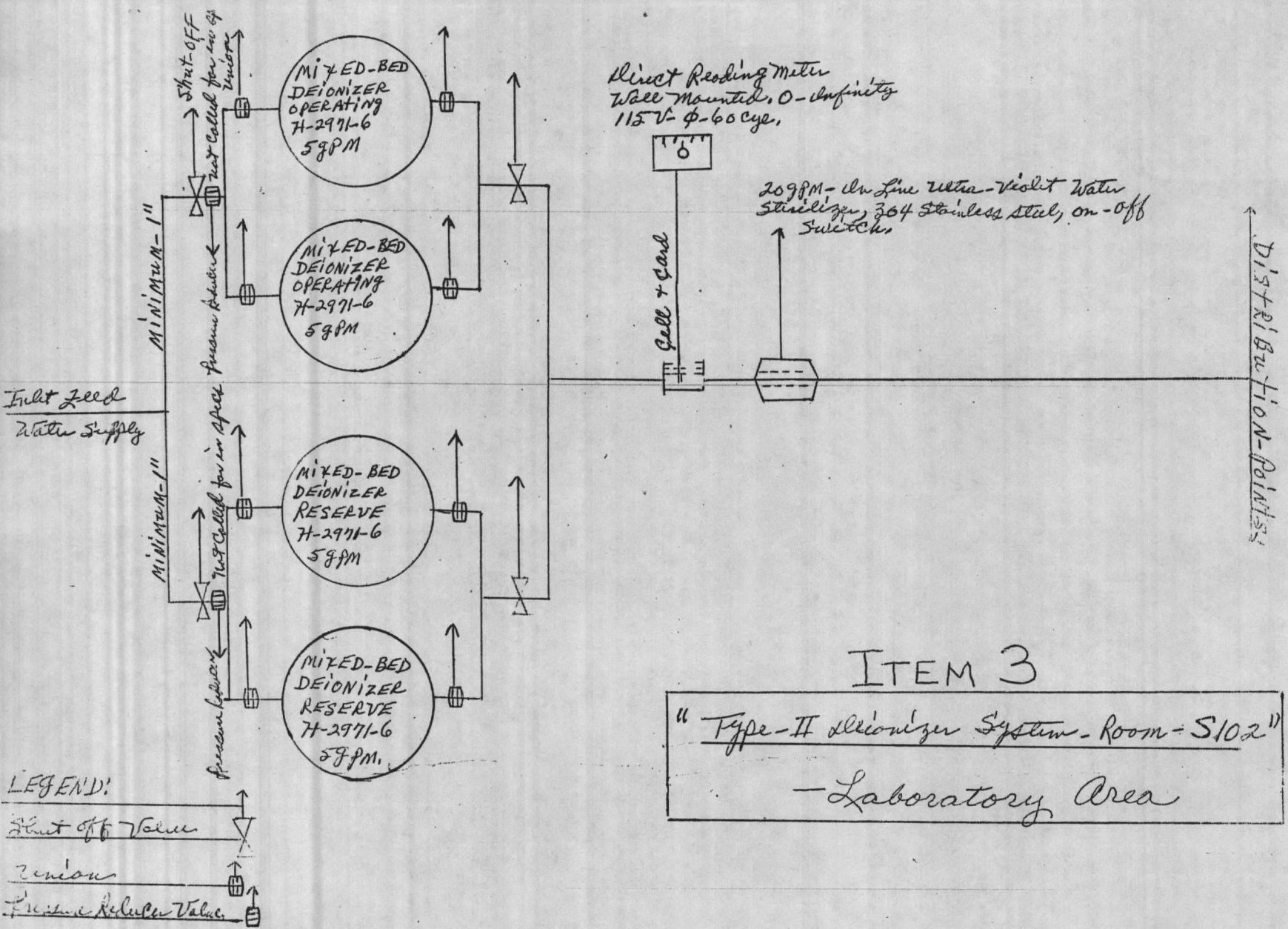
Continental
WATER CONDITIONING CORPORATION

Continental® Service

CONTINENTAL water treatment systems are serviced by knowledgeable, highly-trained experts located near you. These specialists can provide routine maintenance and are available for round-the-clock emergency service in most areas.

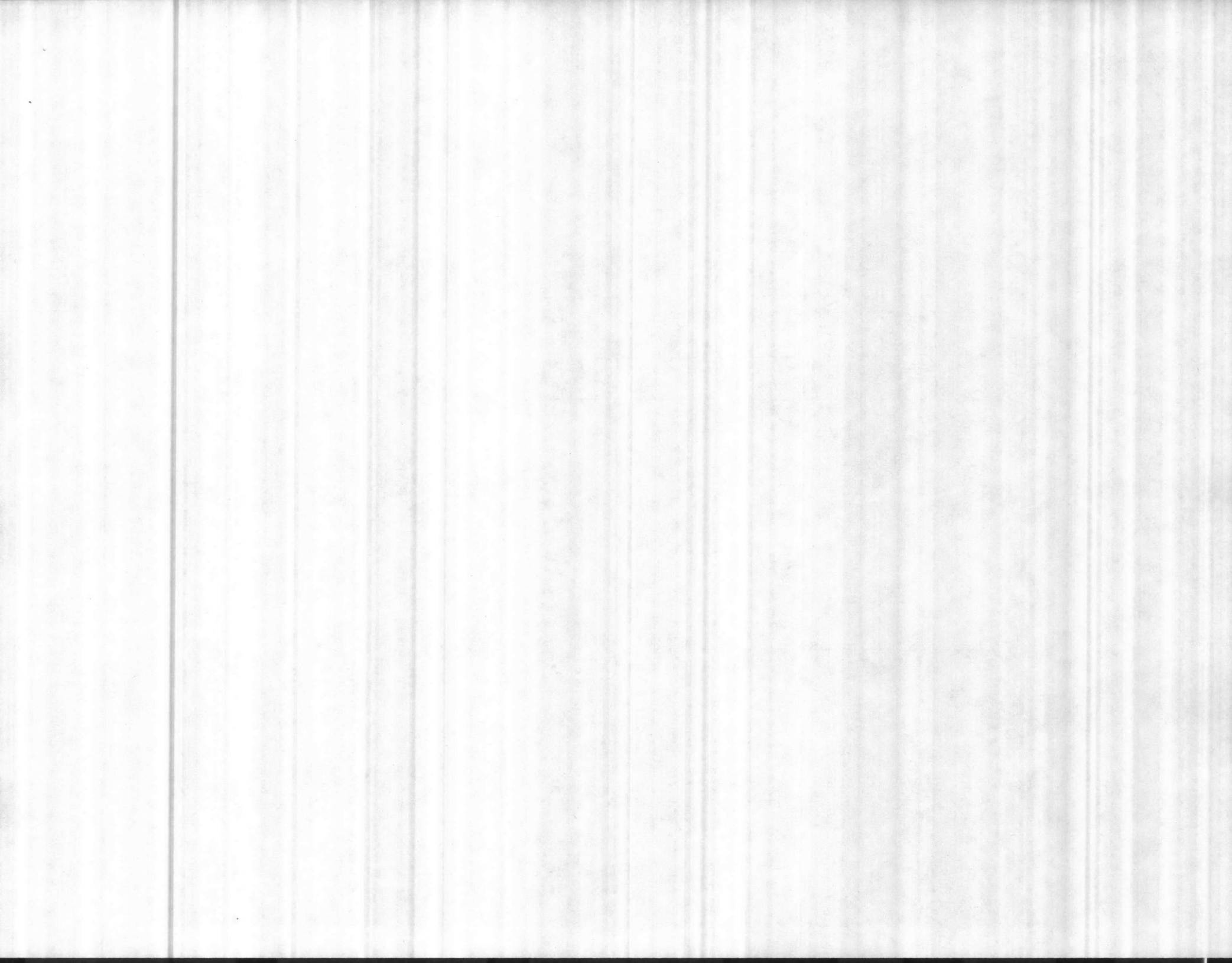
Call or Write —





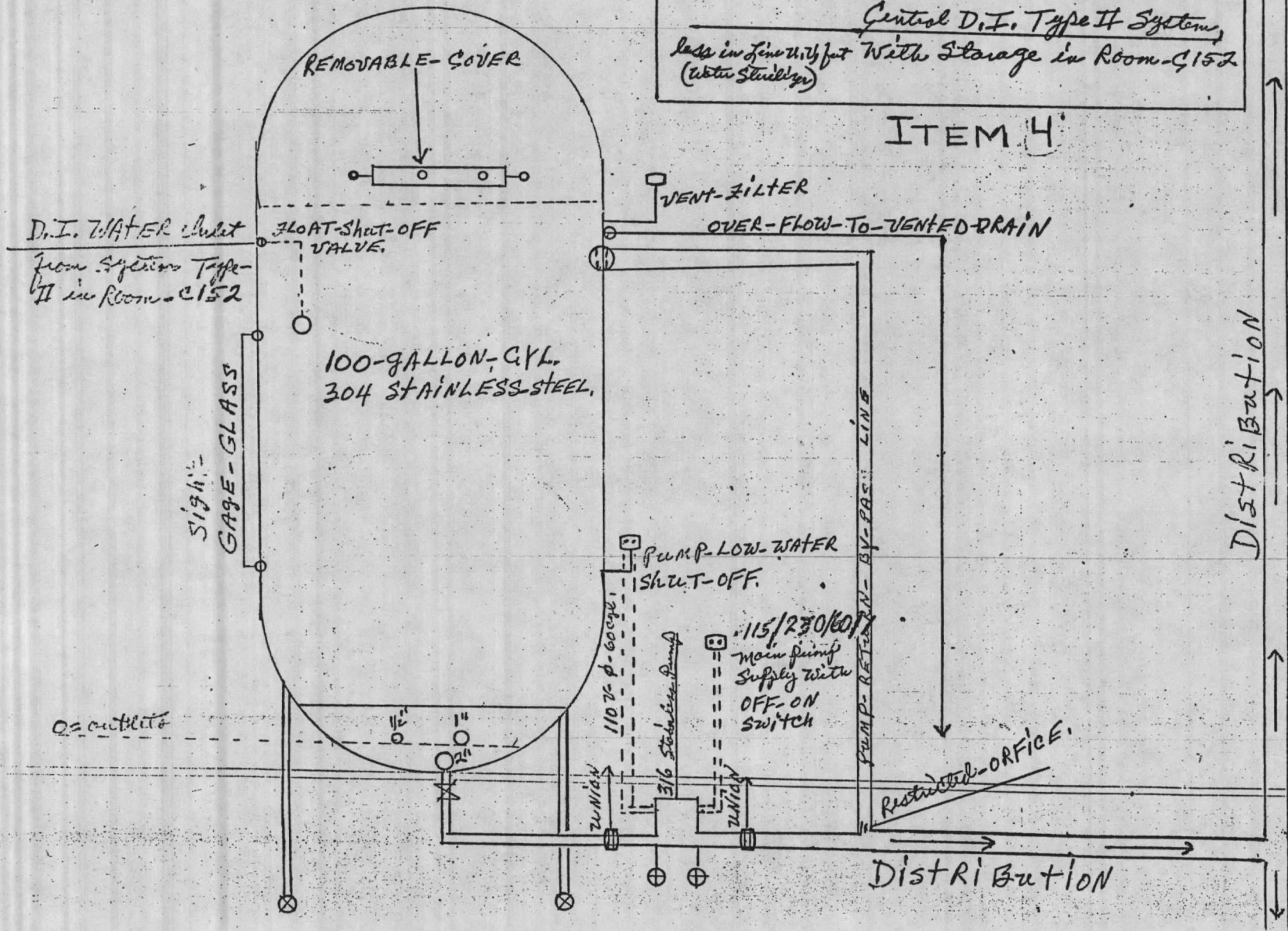
ITEM 3

"Type-II deionizer System - Room - S102"
 - Laboratory Area



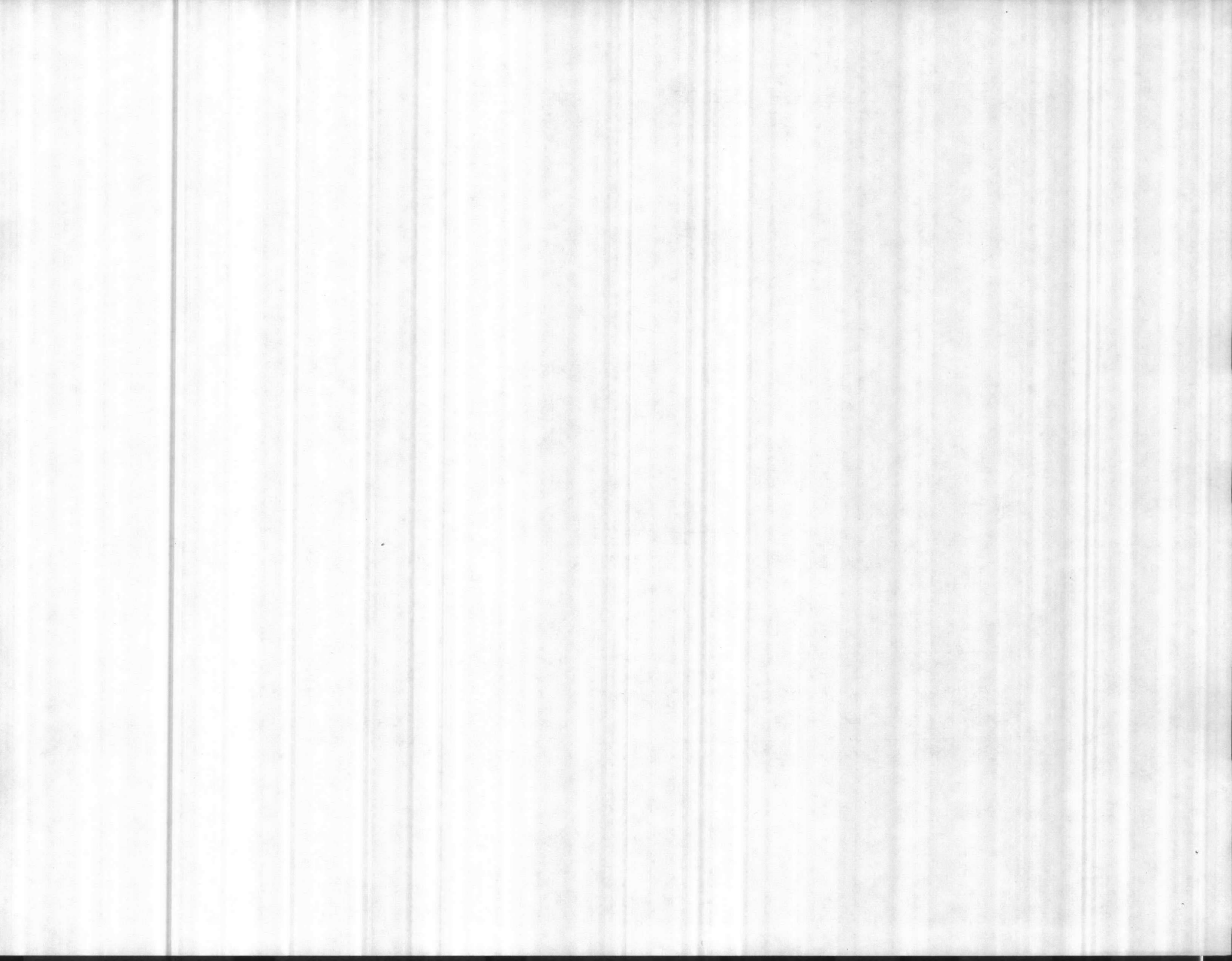
Central D.I. Type II System,
less in line with put With Storage in Room-C152
(Water Stillage)

ITEM 4



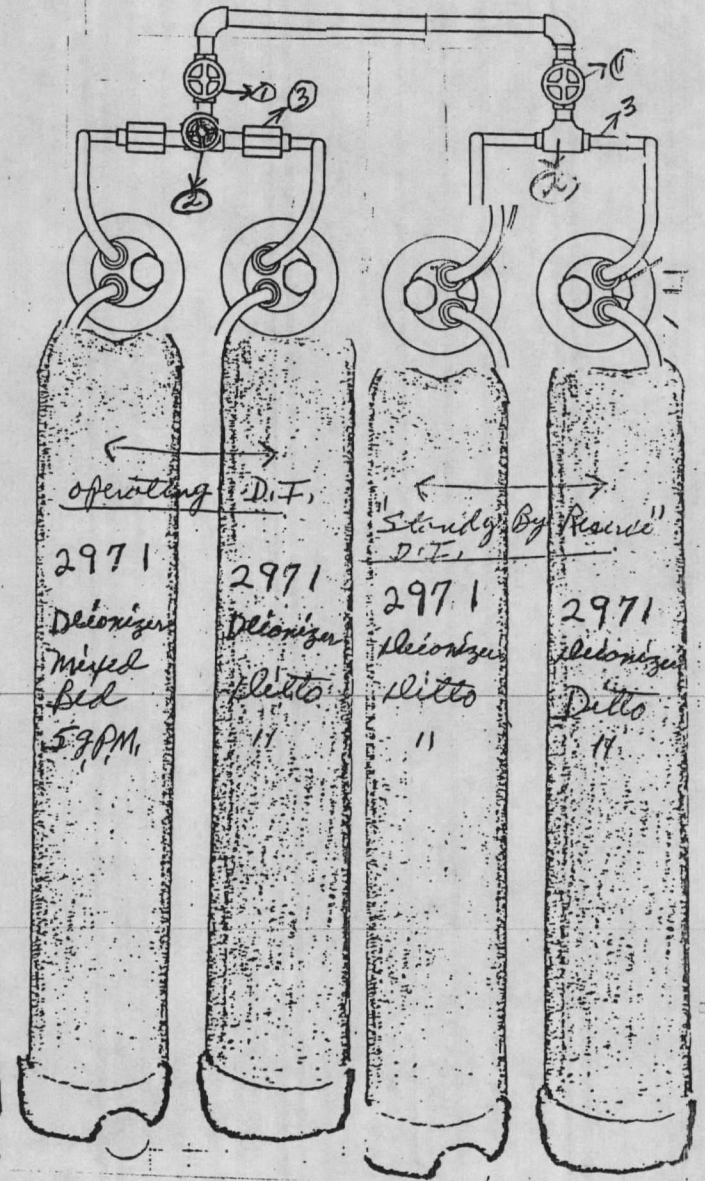
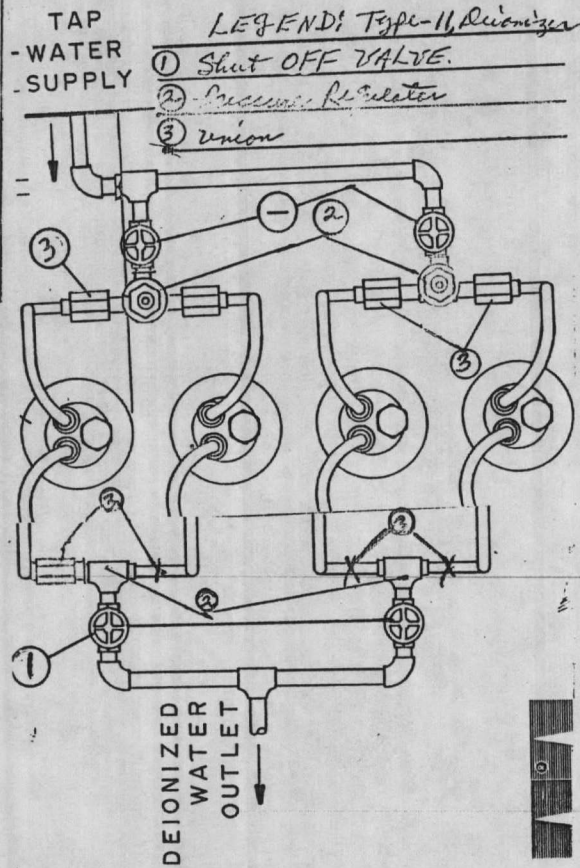
DISTRIBUTION

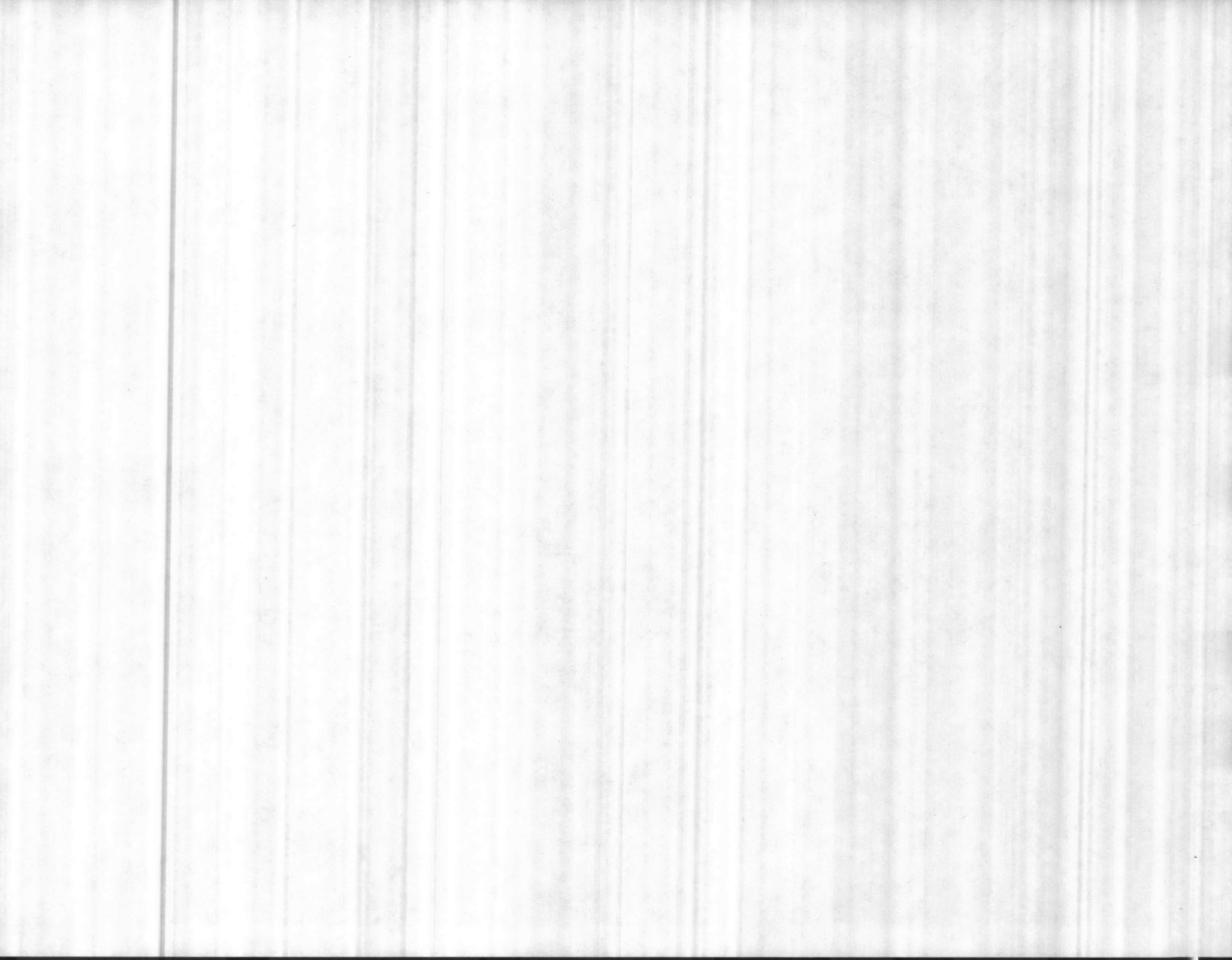
DISTRIBUTION



ITEM 5

*Diagram of typical
 Deionizer
 system for use
 operating D.I. units
 and Standby Reserve
 units.*

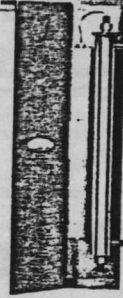
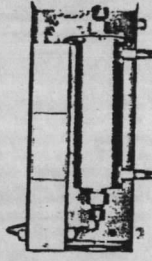
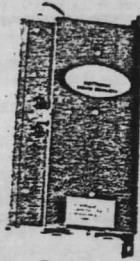




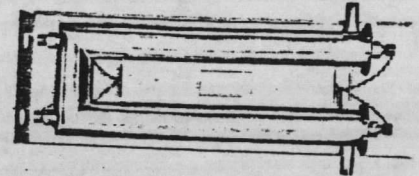
For over 30 years Aquafine Corporation has been the leading supplier of ultraviolet water sterilizers for a wide variety of applications. Thousands of units are in use throughout the world.

Aquafine standard

Technical data shown below for off-the-shelf models. Specifications for other models supplied on request.



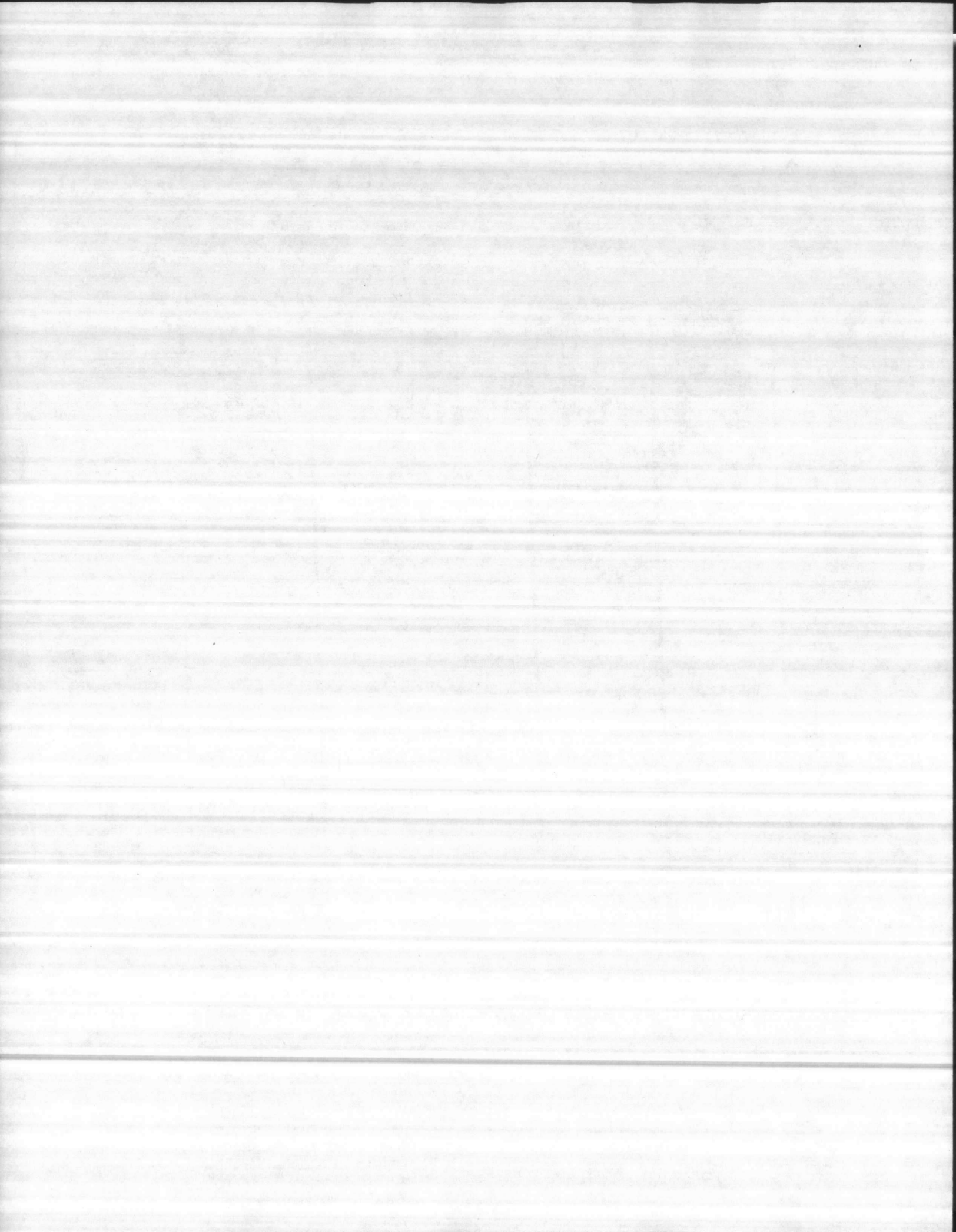
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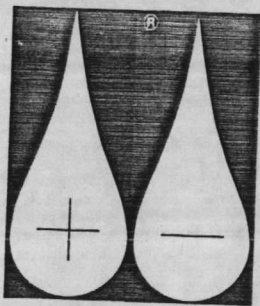


MODEL NO.	DP-10-2U	SL-10A	SL-1	PVCL-1	MP-2-SL	MP-2-PVCL
MAXIMUM CAPACITY: CLEAR FRESH WATER	1½ GPM	3 GPM	10 GPM	10 GPM	20 GPM	20 GPM
DISTILLED D.I./R.O. WATER	2 GPM	4 GPM	12 GPM	N/A	24 GPM	N/A
SALT WATER	1 GPM	N/A	N/A	8 GPM	N/A	16 GPM
SHIPPING WEIGHT	9 Lbs.	21 Lbs.	40 Lbs.	40 Lbs.	60 Lbs.	60 Lbs.
NO. OF U.V. LAMPS	2	1	1	1	2	2
WATTS	16	40	50	50	100	100
MPS	0.32	0.42	0.5	0.5	1.0	1.0
INLET/OUTLET (Size)	3/8" NPT Female	½" NPT	¾" NPT	¾" NPT	1½" NPT	1" NPT
OVERALL DIMENSIONS	7½ x 13½ x 3-3/8	6 X 10½ X 19	5 X 8 X 38	5 X 8 X 38	5 X 13 X 38	5 X 13 X 38
STERILIZING CHAMBER (letted Parts) MATERIAL	Quartz	304 SS	304 SS	Sch. 80 PVC	304 SS	Sch. 80 PVC
CABINET HOUSING	20 ga. Steel, Baked Enamel	No. 4 Finish, 304 SS	20 ga. Steel, Baked Enamel	20 ga. Steel, Baked Enamel	20 ga. Steel, Baked Enamel	20 ga. Steel, Baked Enamel
254 SENSOR available at extra cost	No	No	Yes	Yes	Yes	Yes

GENERAL NOTES:

1. The AL-CSL Series Models use sterilizing chambers constructed of aluminum, hard anodized to MIL Spec. A-8625C Type III Class 1. With the exception of the aluminum sterilizing chambers all other specifications are identical to corresponding CSL Standard Sterilizers.
2. All 304 SS used in construction of sterilizing chambers is electropolished and passivated to MIL Spec. S-5002.
3. All flow rate capacities are based on 99% plus bacterial reduction. (If required, performance efficiency may be increased by oversizing to next larger unit.)
4. The average U.V. dosage for all models exceeds 30,000 microwatt seconds. This is more than twice the amount necessary to kill the average bacterium.
5. At rated flow, the pressure drops range from 2.5 to 5 psig, depending upon the specific model.
6. All sterilizers are equipped for 118 V.A.C., single phase, 60 Hz. electrical service unless otherwise requested. 220 V.A.C., 50 Hz. available at slight extra cost.





CONTINENTAL[®]

DEIONIZED WATER SERVICE

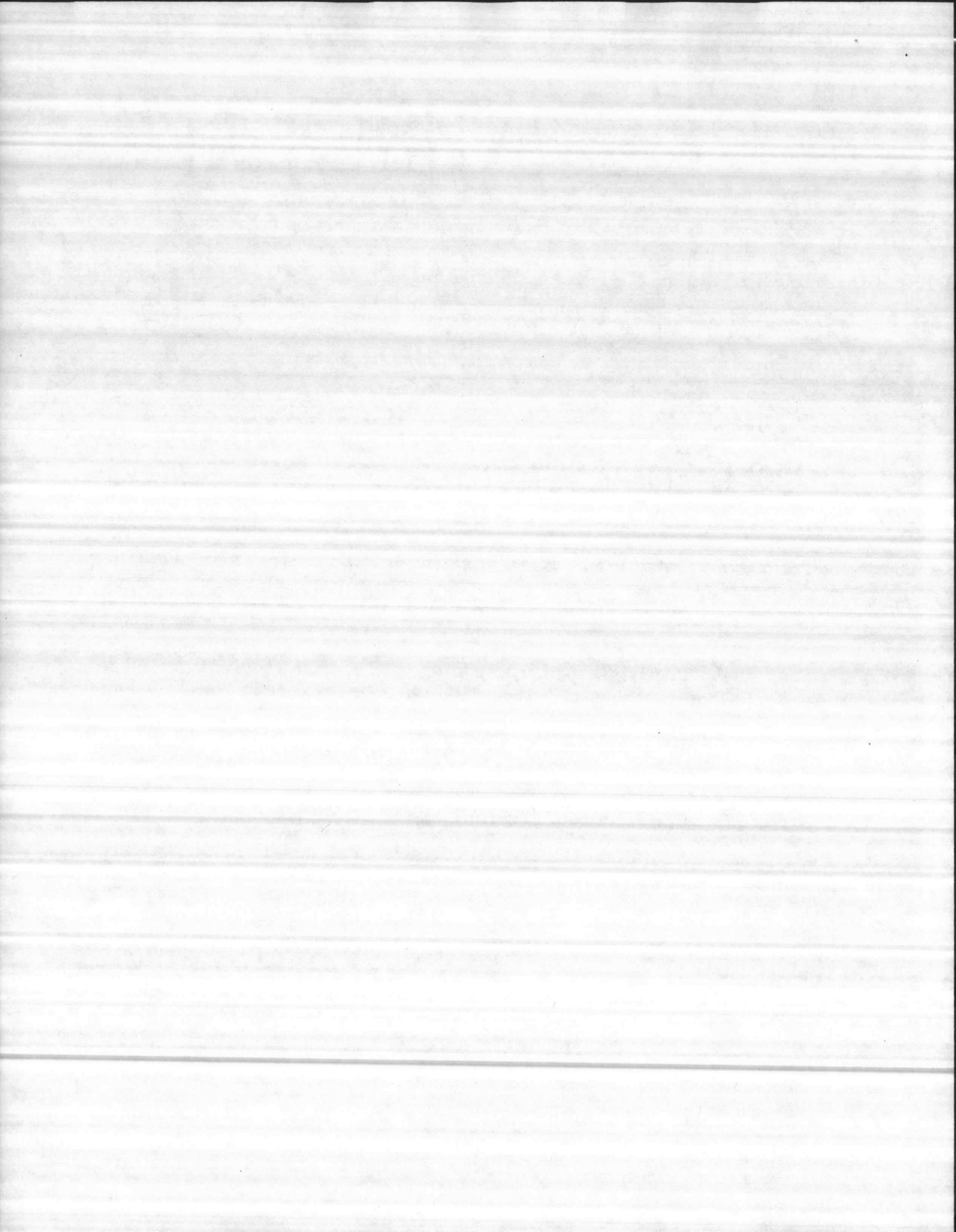
PROVED BEST FOR INDUSTRIAL
PURIFIED WATER REQUIREMENTS

- ✓ dependable service
- ✓ controlled water quality
- ✓ engineered to your requirements
- ✓ dependable product performance

A CUSTOM SERVICE SYSTEM

PERFORMING

TO YOUR SPECIFICATION



CONTINENTAL HISTORY

CONTINENTAL is a national organization specializing in the production of highest purity mineral-free water by the process of deionization. Our parent company was organized in 1958 and now, Continental Deionized Water Service is available throughout the United States from Franchised Dealers, who are independent owners, and Company Branches. Almost every major metropolitan area includes Continental in its list of rapidly growing businesses. Our aim is to provide you the very finest in Purified Water — The Basic Chemical.

FACILITIES & EQUIPMENT

CONTINENTAL facilities and equipment are the product of the finest research, development and marketing techniques in our industry. Every product is designed, engineered and produced for the ultimate purpose of providing our Customers the very best water conditioning equipment and service. Only materials inert to the ravages of corrosion are employed by Continental as we don't want even trace solids present in the water our Customers use. We offer a variety of deionization systems so there will be no difficulty recommending one designed for your specific application. Should your needs vary, it is a simple matter to change the system. Continental versatility means you have what you need at all times. We'll never send a "boy" to do your work.

PERFORMANCE QUALIFICATIONS

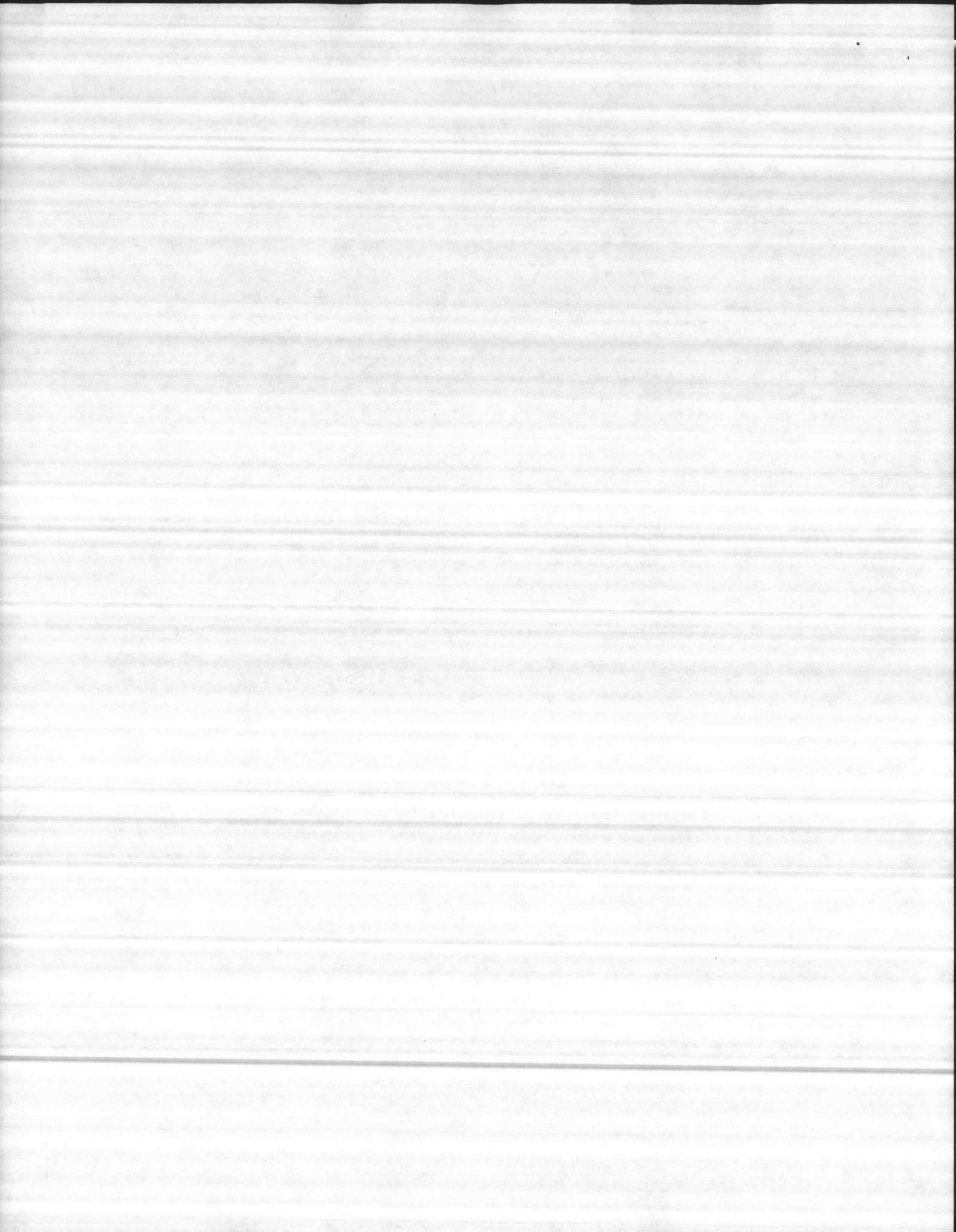
CONTINENTAL performance qualifications are the finest in our field. Our scope of activity includes all users of purified water, large and small, from laboratories to missile components — clean rooms to electroplating. Whether you require ten or a million gallons of intrinsic water, Continental will perform for you — to your specifications. When you require the finest water, call on Continental and join the many other firms and agencies enjoying the best. North American Aviation, Stauffer Chemical, U. of Chicago, Northrup, N.A.S.A., Autonetics, Stanford U., Texas Instruments, U. S. Army, Hycel, Inc., General Mills, Standard Oil, N.Y.U., U. S. Air Force, Sherwin Williams, Duke U., Texaco, Eastman, U.C.L.A., Gen.-Electric are but a few of our many customers. Wish we could name them all, but if you desire further references, call your competitor. He is likely a Continental Account.

QUALITY CONTROL

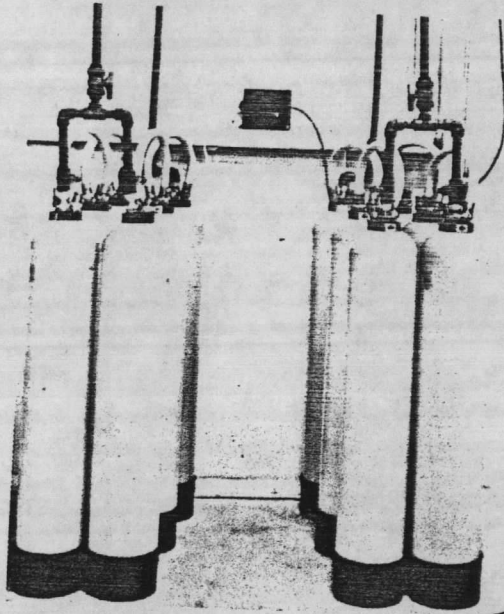
CONTINENTAL is top rated because of rigid Quality Control from the time production is begun until you complete your use of Continental Water. All resins used in our system are pretested and only those meeting our rigid standards are accepted. The effluent from each deionization system is constantly monitored by a sensing device which is a part of each customer's installation. The Quality Control System is rated according to your requirements and signals when deionizer replacement is required. With Continental, nothing is left to chance because we know you cannot afford to gamble. Where else can you place your bet on a sure thing?

SERVICE AVAILABILITY

CONTINENTAL'S specialty is service. Realizing any product is only as reliable as the service behind it, Continental long ago set out to make its name synonymous with Service. That's why you'll hear "Continental Service" used to define our product, whether it be by the Customer calling for exchange or the company requiring special equipment for use at a Trade Show. We are equipped to handle your needs now. Give us a call. You'll be glad you did.

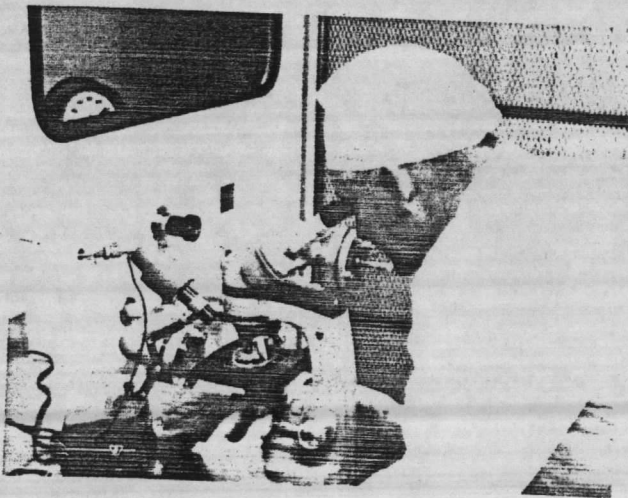
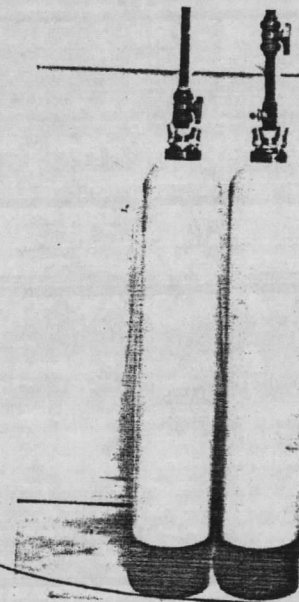


CONTINENTAL CAPABILITIES



LARGE FLOW REQUIREMENTS are easily handled by multiple Continental Systems. That shown on left is engineered for flow rates up to 30 gallons per minute, yet space required measures less than 12 square feet. Deionizer height is 45 inches. The system shown includes the Continental Automatic Quality Controller which provides an uninterrupted flow of purified water. Continental versatility means you always have the equipment needed for the job you have to do.

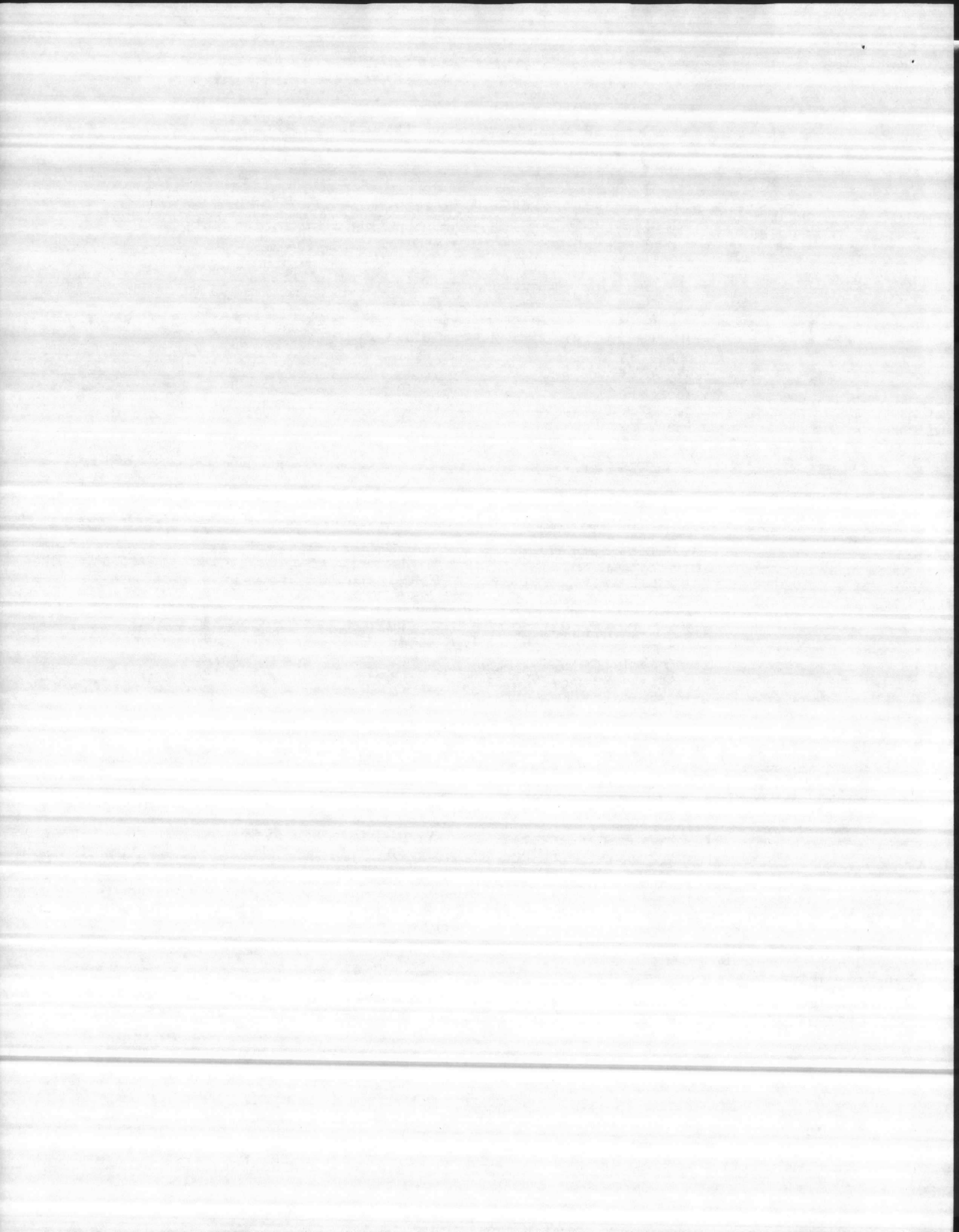
YOUR DIVERSIFIED REQUIREMENTS are often best served by employing separate Continental Systems connected at the points-of-use. The picture to right shows two Continental Deionizers connected in series. The second unit further polishes the water so that the end product is of the highest possible quality. This system offers flow rates to 5 GPM. The Continental Quality Control System signals exhaustion of the first deionizer and exchange service is provided.



YOUR QUALITY CONTROL PROCEDURES require Continental Purified Water. Laboratories, Clean Rooms, Systems Testing, Electroplating — all need the finest water. With Continental, parts cleaning without recontamination is assured. Lab test accuracy is never questioned. Variables are eliminated and standards guaranteed. Continental Water quality capabilities include neutral pH with purity meeting or exceeding your specification.

Whatever your purified water requirements, check with Continental. Our trained specialists are experienced in solving water problems and look forward to working with you.

THE EXCELLENCE OF OUR PRODUCT IS REFLECTED IN YOURS





Stainless-Steel Storage Tanks

Vertical stainless-steel storage tanks are available in both vertical and horizontal configurations. They are fabricated from Type 304 stainless steel but are available in Type 316 on special order and at additional cost. Outer surfaces are brightly polished. Inner surfaces are ground and polished to eliminate crevices that would normally trap impurities.

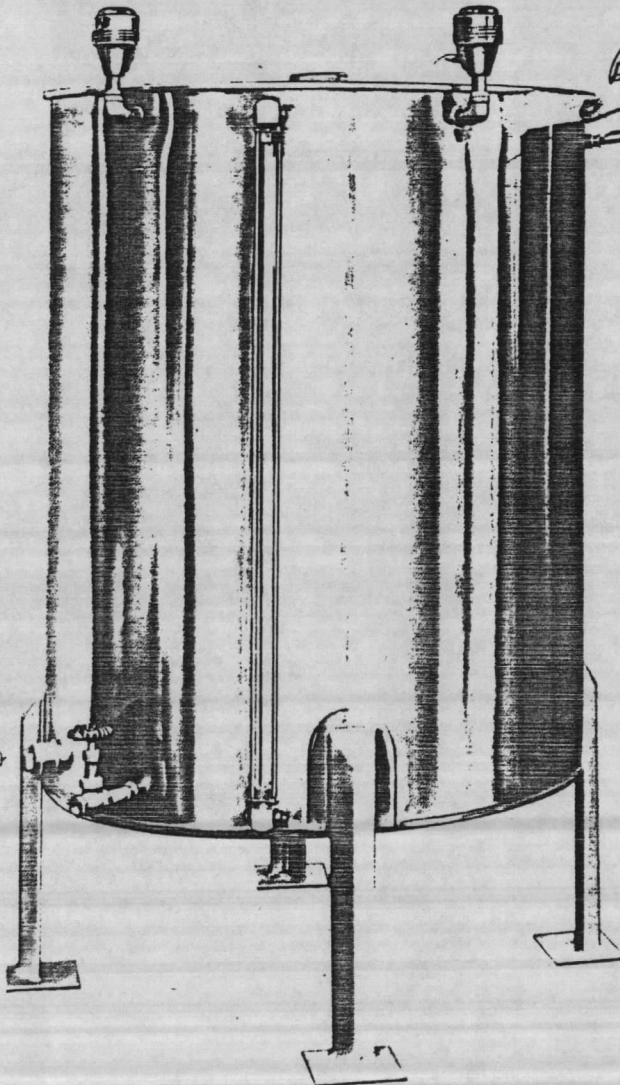
Legs are supplied for the vertical tanks and cradles for the horizontal tanks. Separate floorstands are not required. Other standard equipment includes a stainless-steel ball-type draw-off faucet, gage glass, and removable cover.

All stainless-steel tanks are fabricated with connections for:

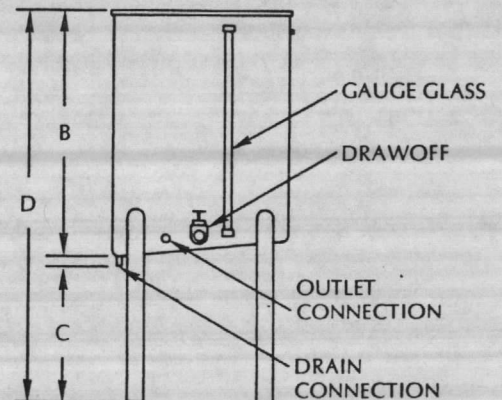
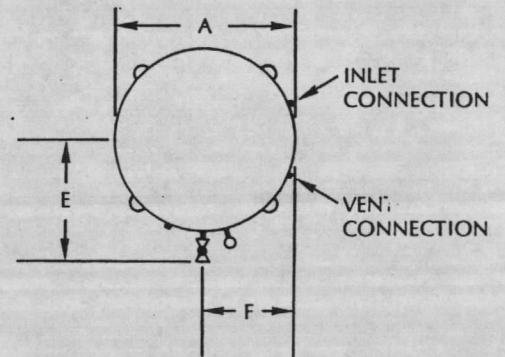
- Inlet, pump, and distribution outlet
- Drain
- Vent, air filter

Special connections can be included at additional cost. Order tanks by catalog number.

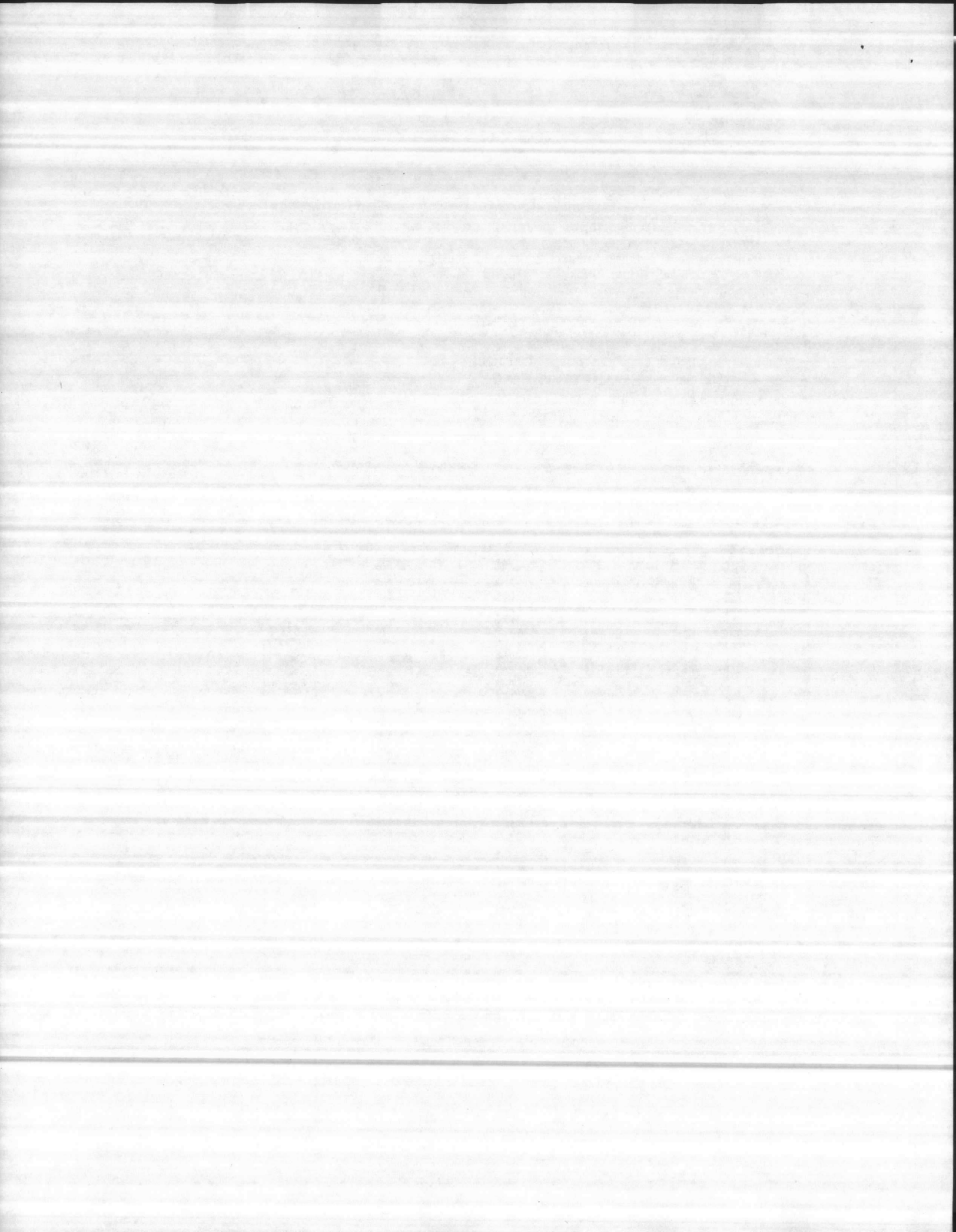
DESCRIPTION	CAPACITY GAL.	CATALOG NO.	APPROXIMATE SHIPPING WT., LB.
Vertical Stainless-Steel Storage Tank	30	3070	60
	50	3071	75
	100	3072	120
	250	3073	300
	500	3074	500
	1000	3075	675
Horizontal Stainless-Steel Storage Tank	300	3080	425
	500	3081	515
	1000	3082	700
	2000	3083	1275
	3000	3084	1925



VERTICAL STAINLESS-STEEL STORAGE TANK



ROUGHING-IN DIAGRAM, 30 TO 250-GAL. VERTICAL STAINLESS-STEEL STORAGE TANKS



30-250 Gal Vertical S-S Storage Tanks

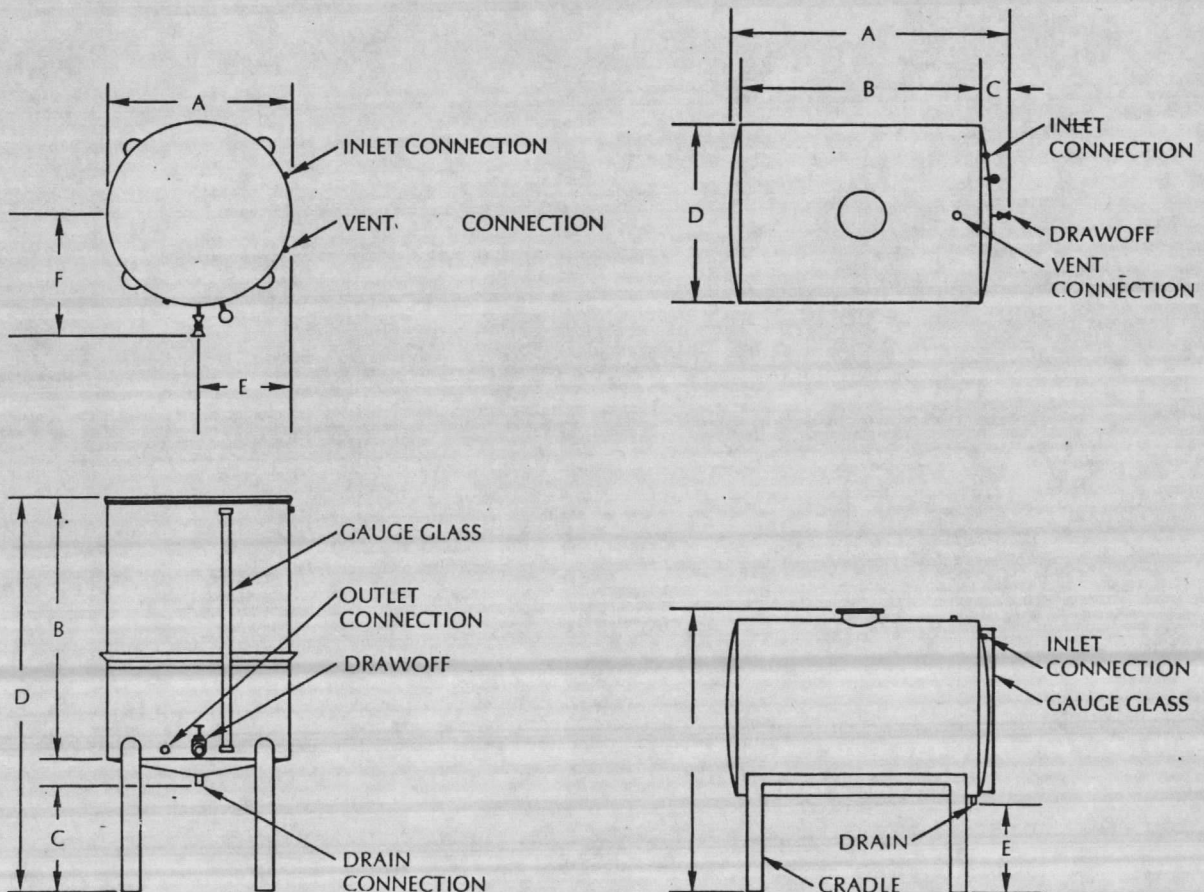
Catalog Number	Capacity Gal.	Dimensions, In.						Tubing Connections In. NPT		No. Ven. Required
		A	B	C	D	E	F	Outlet	Drain	
3070	30	20	24	12	36	17	14	1/2	3/4	1
3071	50	22 1/2	30	14	44	18 1/2	15 1/2	1	3/4	1
3072	100	30 1/2	36	18	54	22 1/4	19 1/4	1	1	1
3073	250	40	48	24	72	27	24	1 1/2	1 1/2	1

500 and 1000-gal Vertical S-S Storage Tanks

Catalog Number	Capacity Gal.	Dimensions, In.						Tubing Connections In. NPT		No. Ven. Required
		A	B	C	D	E	F	Outlet	Drain	
3074	500	56	48	12	74	32	35	1 1/2	2	2
3075	1000	69	60	12	84	39	42	2	3	4

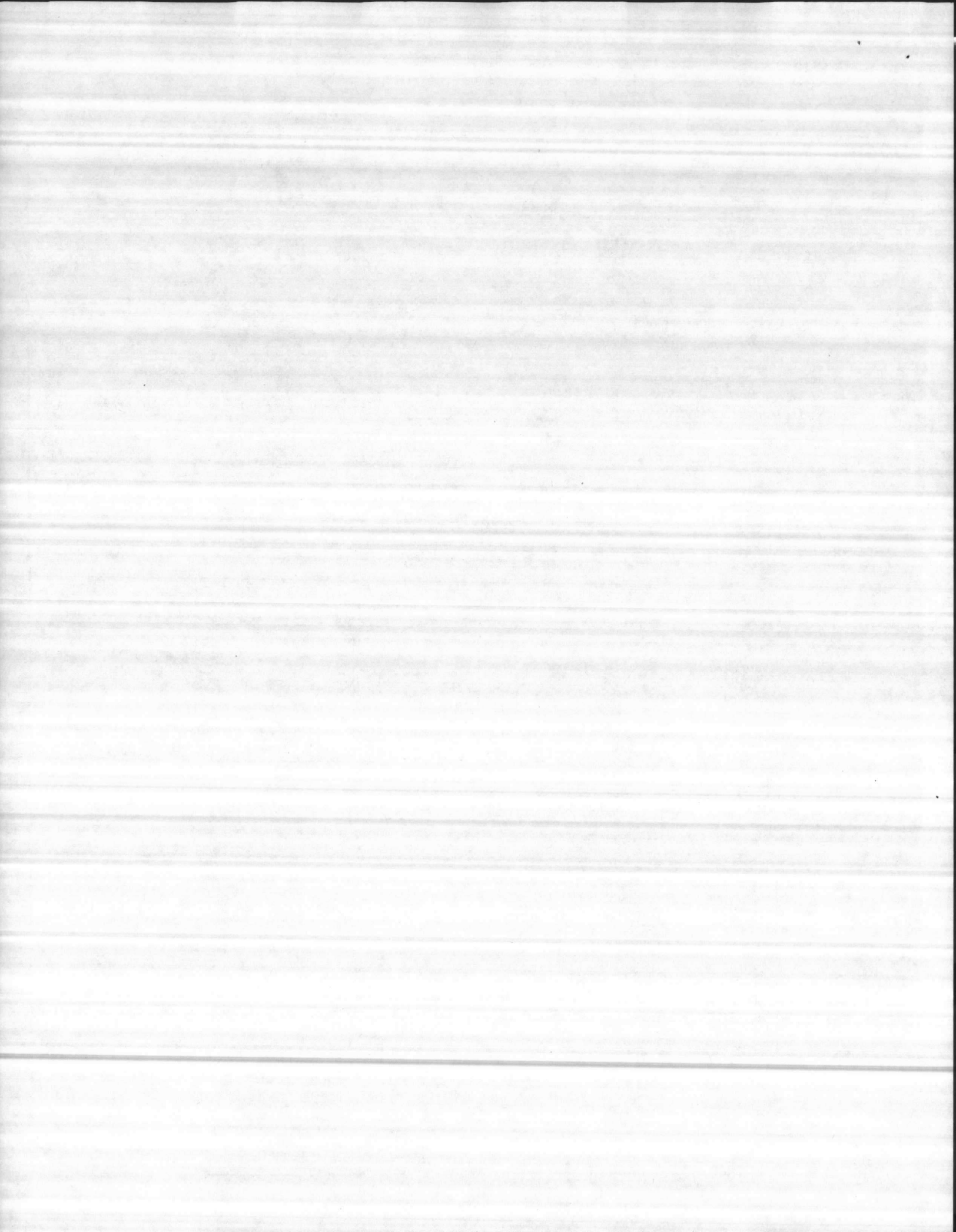
Horizontal S-S Storage Tanks

Catalog Number	Capacity Gal.	Dimensions, In.						Drain Connection, In. NPT	No. Ven. Required
		A	B	C	D	E	F		
3080	300	44	48	14	72	10	59	2	2
3081	500	48	60	15	86	10	63	2	2
3082	1000	61	72	17	102	10	76	3	4
3083	2000	76 1/2	96	18	132	10	91 1/2	3	8
3084	3000	86 1/2	108	21	146	10	101 1/2	3 1/2	12



ROUGHING-IN DIAGRAM, 500 AND 1000-GAL. VERTICAL STAINLESS-STEEL STORAGE TANKS

ROUGHING-IN DIAGRAM, HORIZONTAL STAINLESS-STEEL STORAGE TANKS



DISTRIBUTION PUMPS

D.I. distribution pumps are used with water storage tanks when it is desired to keep the water under pressure for delivery to locations above tank level.

In addition to the pumps, *Continental* furnishes all necessary tubing and fittings for connecting the pump to the storage tank, a pump by-pass with restrictive orifice to prevent pump overheating during low-flow conditions, and a low-level cutoff to protect the pump from low-water conditions in the storage tank.

All pumps (Sizes A, B, C, and D) are of the centrifugal type designed for floor mounting. Housings are 316 stainless steel. Each pump is sealed by Viton gaskets and a mechanical rotary shaft seal. Housing piping connection sizes are listed in the table of pump data.

The pumps are driven by heavy-duty, totally enclosed, split-phase induction motors. Motor shafts are supported by ball bearings. Leads are contained in a junction box for connecting to the power supply and low-water cutoff (a pressure-operated switch with U-tube). Pump starters are not included. Motor specifications are listed in the table.

All connecting piping is with threaded fittings. Flow through the by-pass line is regulated by an orifice (#60 drill size) in the by-pass union. Thread sizes of the connecting piping are shown in the table.

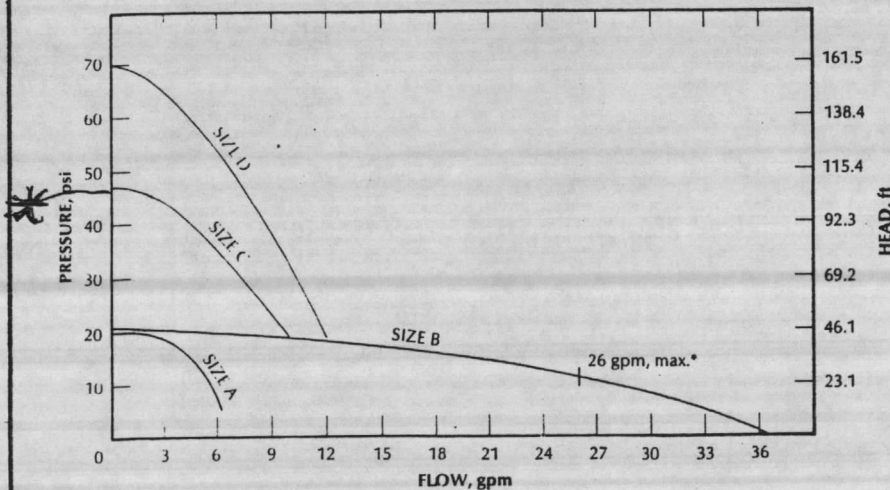
Order by catalog number.

DESCRIPTION	SIZE	CATALOG NO.
Distribution Pump With By-Pass and Low-Water Cutoff	A	1010
	B	1020
	C	1030
	D	1040

CONNECTING PIPING DATA

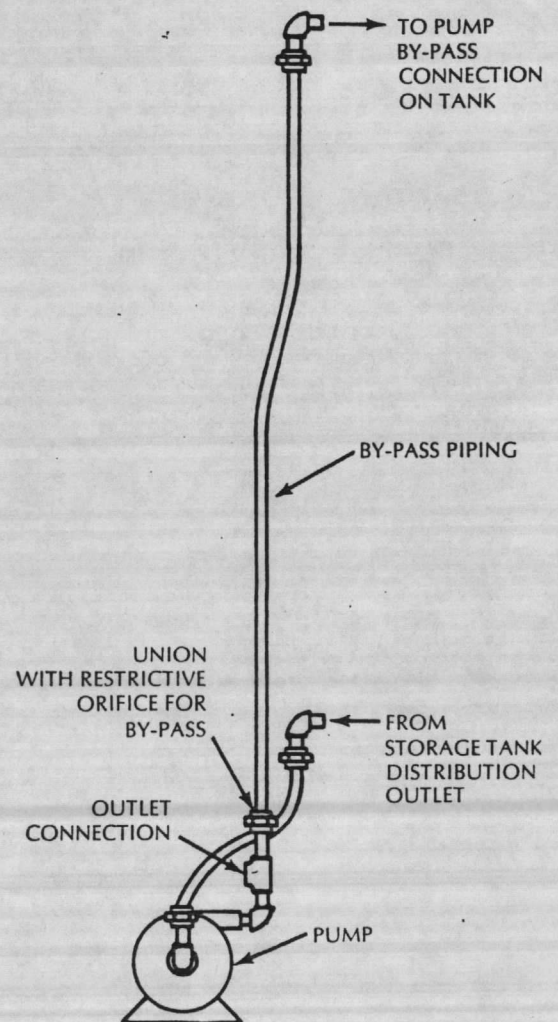
PUMP SIZE	PUMP INLET (MALE), NPT, IN.	DISTRIBUTION OUTLET (FEMALE) NPT, IN.	BY-PASS RETURN (MALE), NPT, IN.
A	1/4	1/2	1/4
B*	1	3/4	1/4
C	1/2	3/4	1/4
D	1/2	3/4	1/4

* Requires flow-limiting device in outlet line to restrict flow to 26 gpm max.



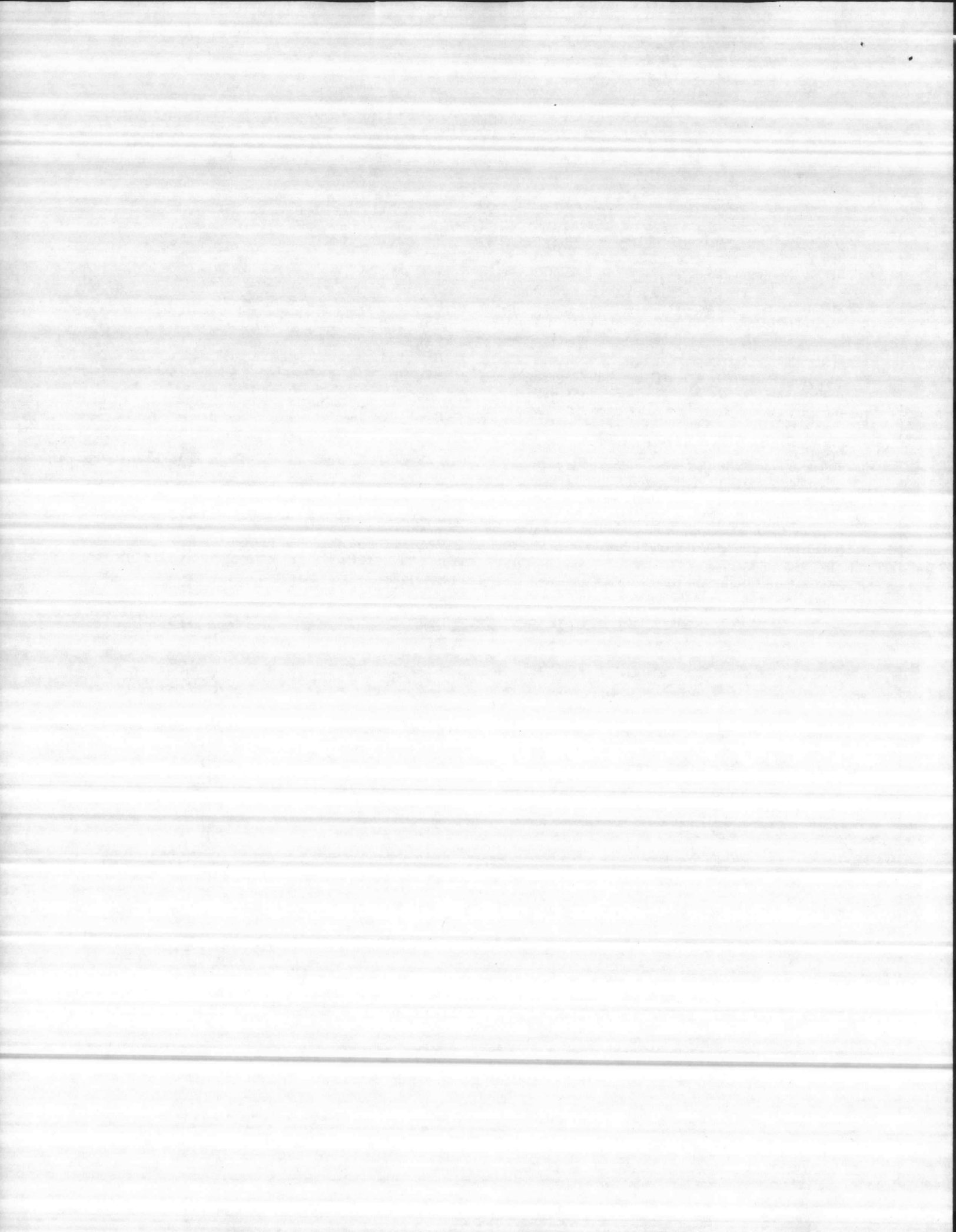
*Flow limiting device required in outlet line to restrict flow to this value.

DISTRIBUTION PUMP CURVES



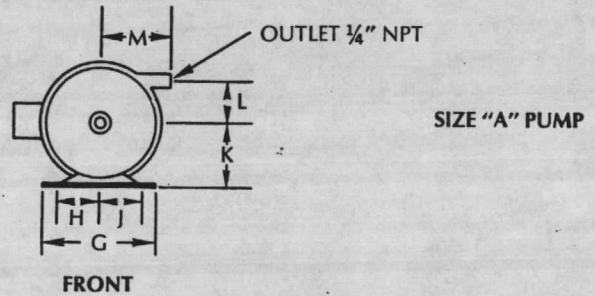
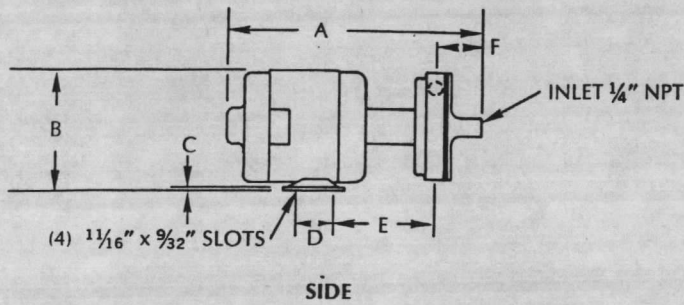
NOTE: PUMP LOW WATER-CUTOFF NOT SHOWN

TYPICAL DISTRIBUTION PUMP AND BY-PASS ARRANGEMENT

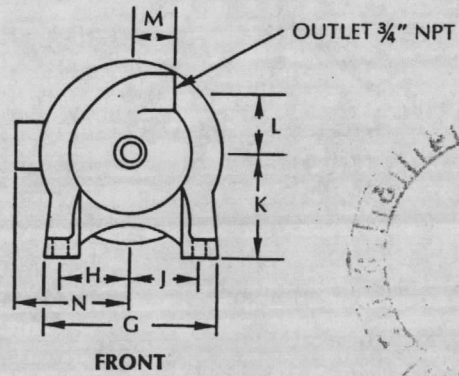
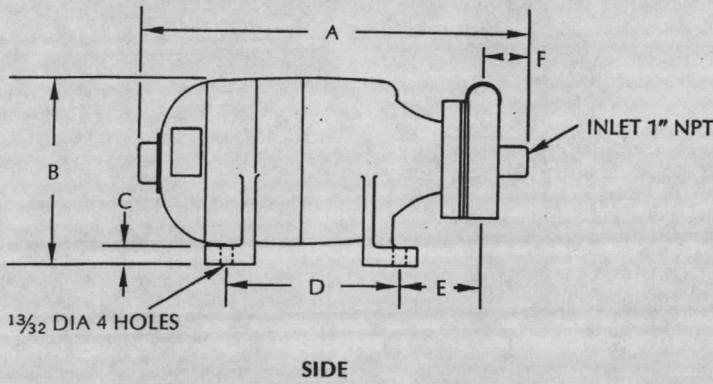


Pump Size	Wt. Lb.	HP	HP	Motor Specifications*				Dimensions, in.												
				Speed RPM	VAC	Hz	ϕ	A	B	C	D	E	F	G	H	J	K	L	M	N
A	18	316 SS	1/5	3450	110/115	60	1	11 3/4	5	1/8	1 1/2	3 3/4	1 5/8	4 3/4	1 3/4	1 3/4	2 5/8	1 1/8	3	3 3/8
B	58	316 SS	1/2	3450	115/230	60	1	14 3/4	8 1/2	1/2	5 1/2	1 1/2	1 3/4	7	3	3	3 3/4	2 1/2	2 3/8	5 7/8
C	75	316 SS	1	3450	115/230	60	1	16 7/8	8 7/8	1/2	5 1/2	1 1/4	2 1/2	7	3	3	3 3/4	1 7/8	3 3/4	5 7/8
D	85	316 SS	1 1/2	3450	230/460	60	3	17 3/8	8 7/8	1/2	5 1/2	1 1/4	3 1/8	7	3	3	3 3/4	1 7/8	3 3/4	5 7/8

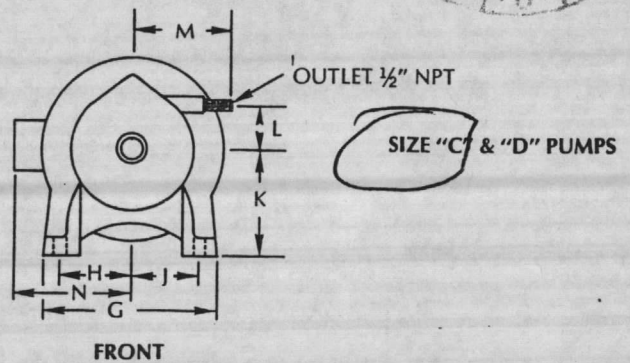
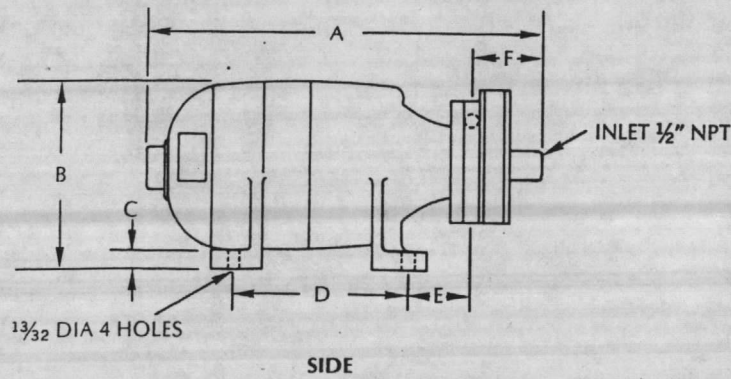
* Listings are for standard electrical services. Other electrical services are available but require longer delivery times.



SIZE "A" PUMP

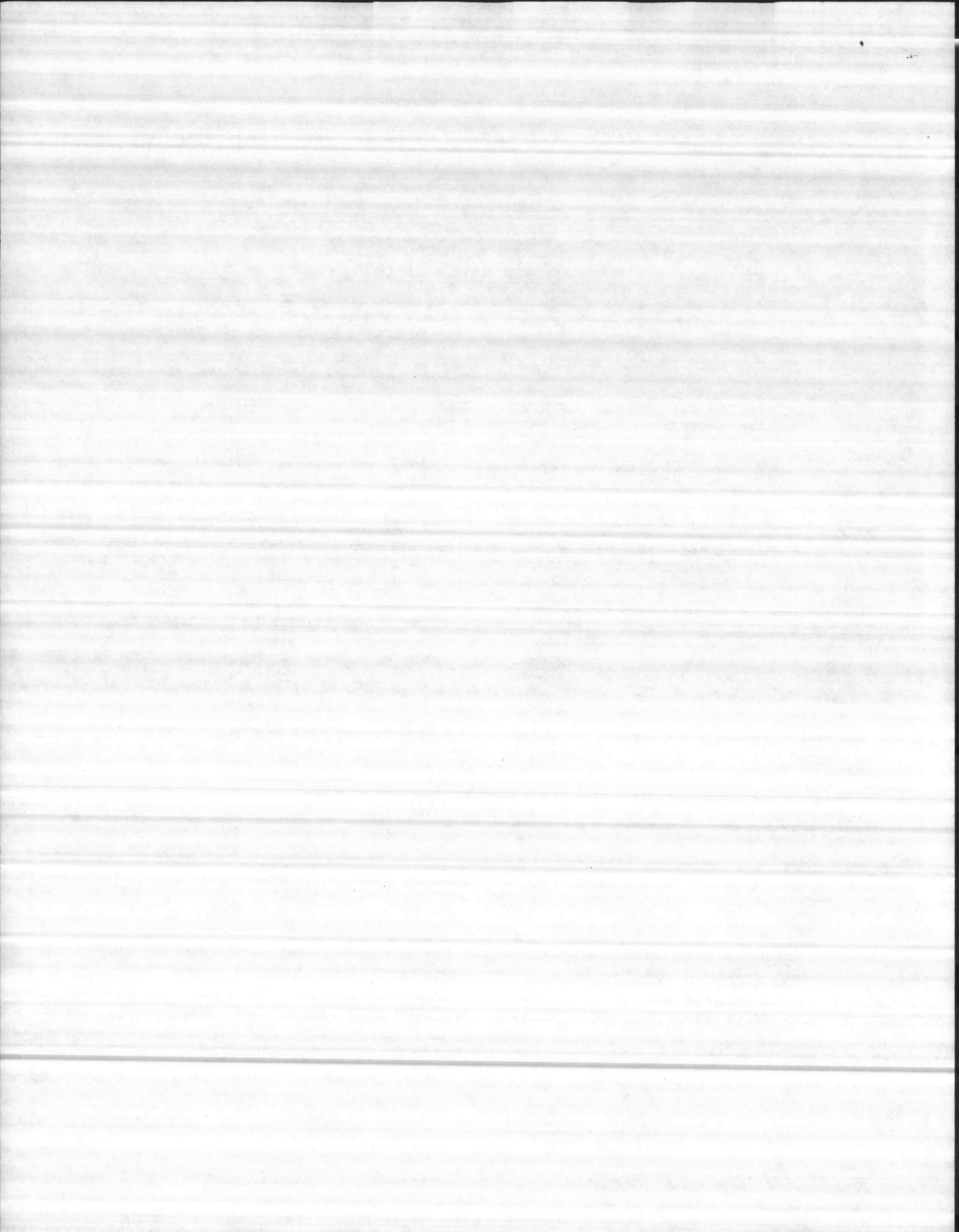


SIZE "B" PUMP



SIZE "C" & "D" PUMPS

ROUGHING-IN DIAGRAM, DISTRIBUTION PUMPS



file 4-22 ROCC

CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDIV 4-4355/3 (Rev. 6/79)

SECTION 15401

CONTRACT NO. N62475-77-C-7528	TRANSMITTAL NO. 745	DATE 3/21/80
----------------------------------	------------------------	-----------------

FROM CONTRACTOR
CARDINAL CONTRACTING CO., INC.
TO
LOCKWOOD-GREENE ENGRS.

PROJECT TITLE AND LOCATION
NAVAL REGIONAL MEDICAL CENTER
CAMP LEJEUNE, NORTH CAROLINA 28541

CONTRACTOR USE ONLY

REVIEWER USE ONLY

*List only one specification division per form.

List only one of the following categories on each transmittal form, and indicate which is being submitted

- Contractor Approved
 OICC Approval
 Deviation/Substitution For OICC Approval

- **ACTION CODES**
 A-Approved
 D-Disapproved
 AN-Approved as noted
 RA-Receipt acknowledged.
 C-Comments
 R-Resubmit

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
745		Hot Water Heaters	11	D	RWT 403 4/11/80
		693			

CONTRACTOR'S COMMENTS

PLEASE RETURN A MINIMUM OF 6 COPIES WITH OWNERS APPROVAL.

NOTE: See letter of explanation

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

CONTRACTOR REPRESENTATIVE (Signature)

DATE RECEIVED BY REVIEWER 7 APRIL 80	FROM (Reviewer) LANTDIV	TO CARDINAL CONTRACTING CO.
---	----------------------------	--------------------------------

- Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.
- Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on ONE COPY of the transmittal form.

REVIEWER'S COMMENTS

SPEC REQUIRES PACKAGED UNIT COMPLETE W/ CIRCULATING PUMPS, CONTROL VALVES, RELIEF VALVES, AND OTHER ACCESSORIES REQUIRED FOR A COMPLETE SYSTEM. CONTROL VALVES SHOULD BE SIZED AS FOLLOWS:

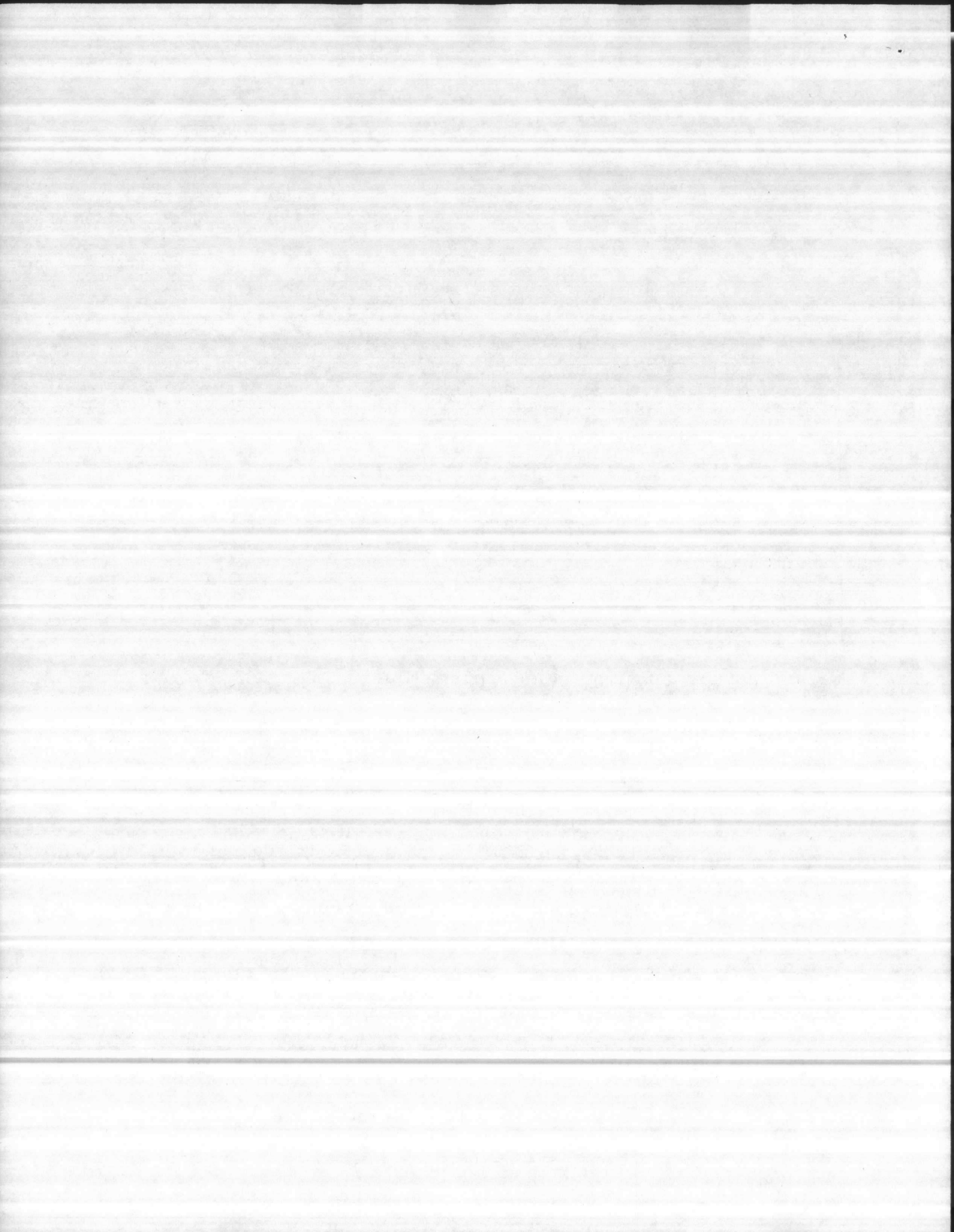
WH-1 125 PSIG INLET, 217 lb/hr, Cv = 1.53

WH-2,3 125 PSIG INLET, 652 lb/hr, Cv = 4.63

COPIES TO:
ROICC (2)
LANTDIV (1)
A-E (1)

DATE
11 APRIL 80

SIGNATURE
J.P. McJannet



RDC
AD
C.P.

CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTD'V 4-4355/3 (Rev. 6/76)

SECTION 15401

CONTRACT NO. N62475-77-C-7526	TRANSMITTAL NO. 745	DATE 3/21/80
----------------------------------	------------------------	-----------------

FROM CONTRACTOR
CARDINAL CONTRACTING CO., INC.

TO
LOCKWOOD-GREENE ENGRS.

PROJECT TITLE AND LOCATION
NAVAL REGIONAL MEDICAL CENTER
CAMP LEJEUNE, NORTH CAROLINA 28541

CONTRACTOR USE ONLY

REVIEWER USE ONLY

*List only one specification division per form.

List only one of the following categories on each transmittal form, and indicate which is being submitted

- Contractor Approved OICC Approval Deviation/Substitution For OICC Approval

**ACTION CODES
A-Approved
D-Disapproved
AN-Approved as noted
RA-Receipt acknowledged.
C-Comments
R-Resubmit

CP
CH
AD
C-
JL
JC

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
745		Hot Water Heaters	11		

CONTRACTOR'S COMMENTS

PLEASE RETURN A MINIMUM OF 6 COPIES WITH OWNERS APPROVAL.

NOTE: See letter of explanation .

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

3-29-80

CONTRACTOR REPRESENTATIVE (Signature)

Bailey R. Shoter

DATE RECEIVED BY REVIEWER

FROM (Reviewer)

TO

- Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.
- Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on ONE COPY of the transmittal form.

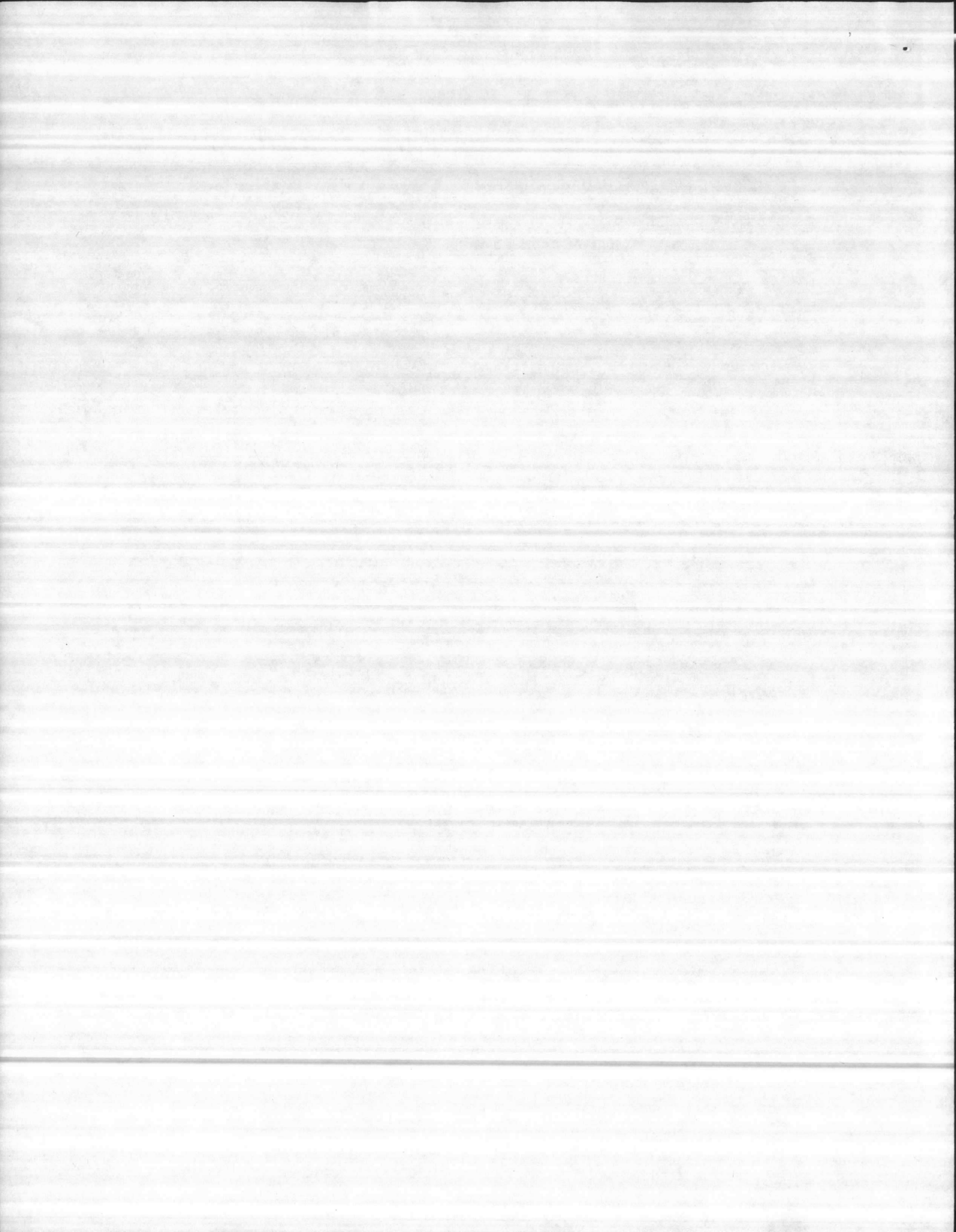
REVIEWER'S COMMENTS



COPIES TO
ROICC (2)
LANTDIV (1)
A-E (1)

DATE

SIGNATURE





THE WALDINGER CORPORATION


P. O. BOX 8363 / CAMP LE JEUNE, NORTH CAROLINA 28542

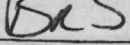
INDEX

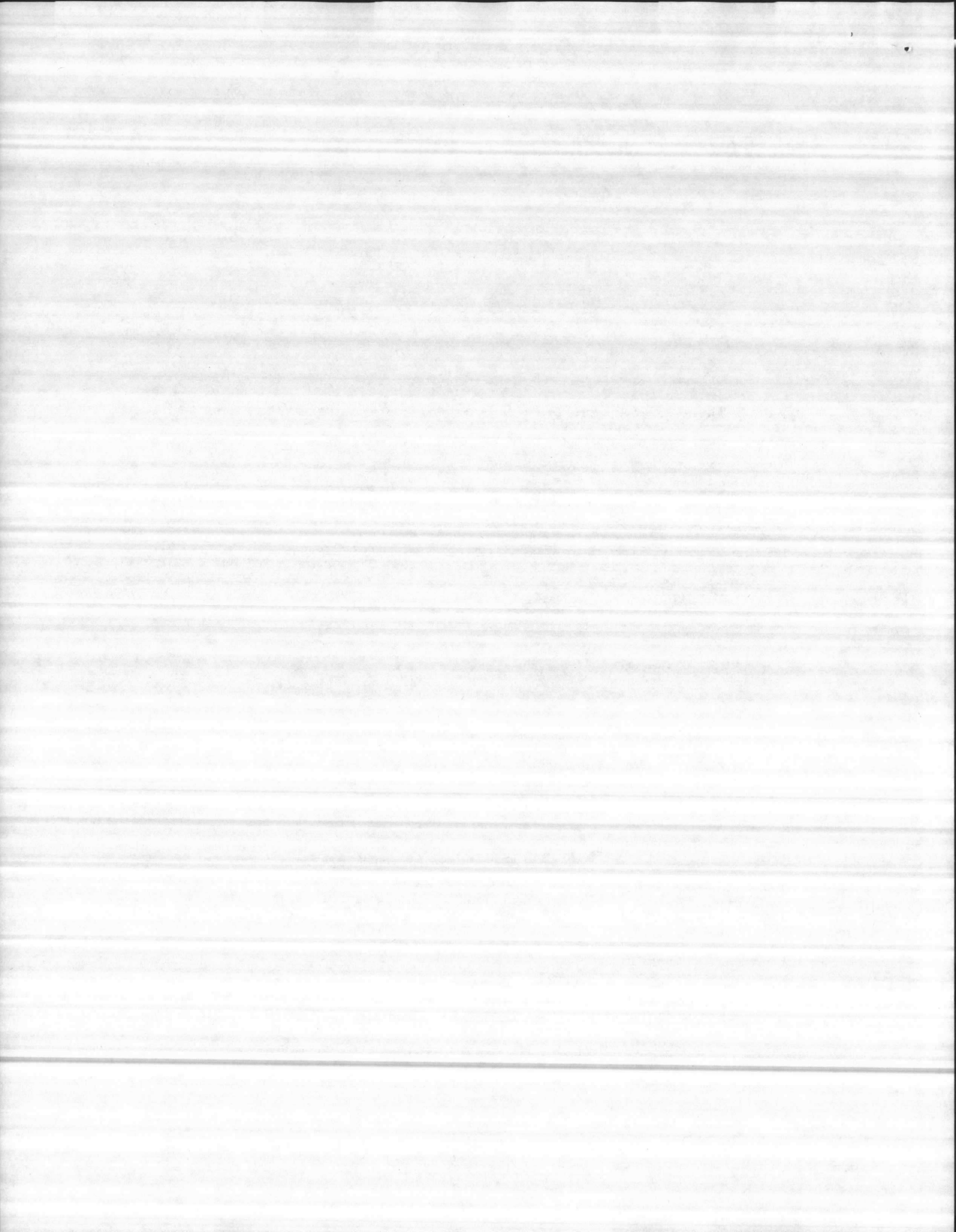
1. RECO South Carolina Letter Of Certification
2. RECO Letter Of Explanation
3. RECO Horizontal Storage Heater Dwg. A-79-8141A
4. RECO Standard Saddles For 30" thru 54" DIA Tank
5. RECO Horizontal Storage Heater Dwg. A-79-8141B
6. RECO Standard Saddles For 60", 66", 72" DIA Tanks
7. Controls For Portable Water System Dwg. 939-79611-1xI
8. Value Pressure Schedule
9. Type VF 591V Single Seat Stainless Steel Trim Valves
General Information
10. Type VF 591V Dimensions, Selection and Application

"It is hereby certified that the material/equipment shown and marked in this submittal is that proposed to be incorporated into Contract Number N62470-77-B-7526, is in compliance with the contract drawings and specifications, and can be installed in the allocated spaces, and is (submitted for Government approval).

THE WALDINGER CORPORATION

Authorized Reviewer  Date 3-21-80

Signature CQC Rep  Date 3-29-80



RECO South Carolina

RECO South Carolina, Inc.
Box 147, West Columbia, South Carolina 29169
803-794-3360
Plant at Cayce, S.C.

March 18, 1980

The Waldinger Corp.
c/o T.W.C.
P.O. Box 8363
Camp LeJune, N. C. 28542

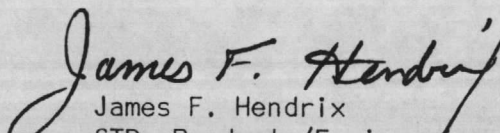
RE: Waldinger #IM-2145-009 REV. #2
U.S. Naval Regional Med. Ctr.
Camp LeJune, N.C.
(RECO #S-08141A & B)

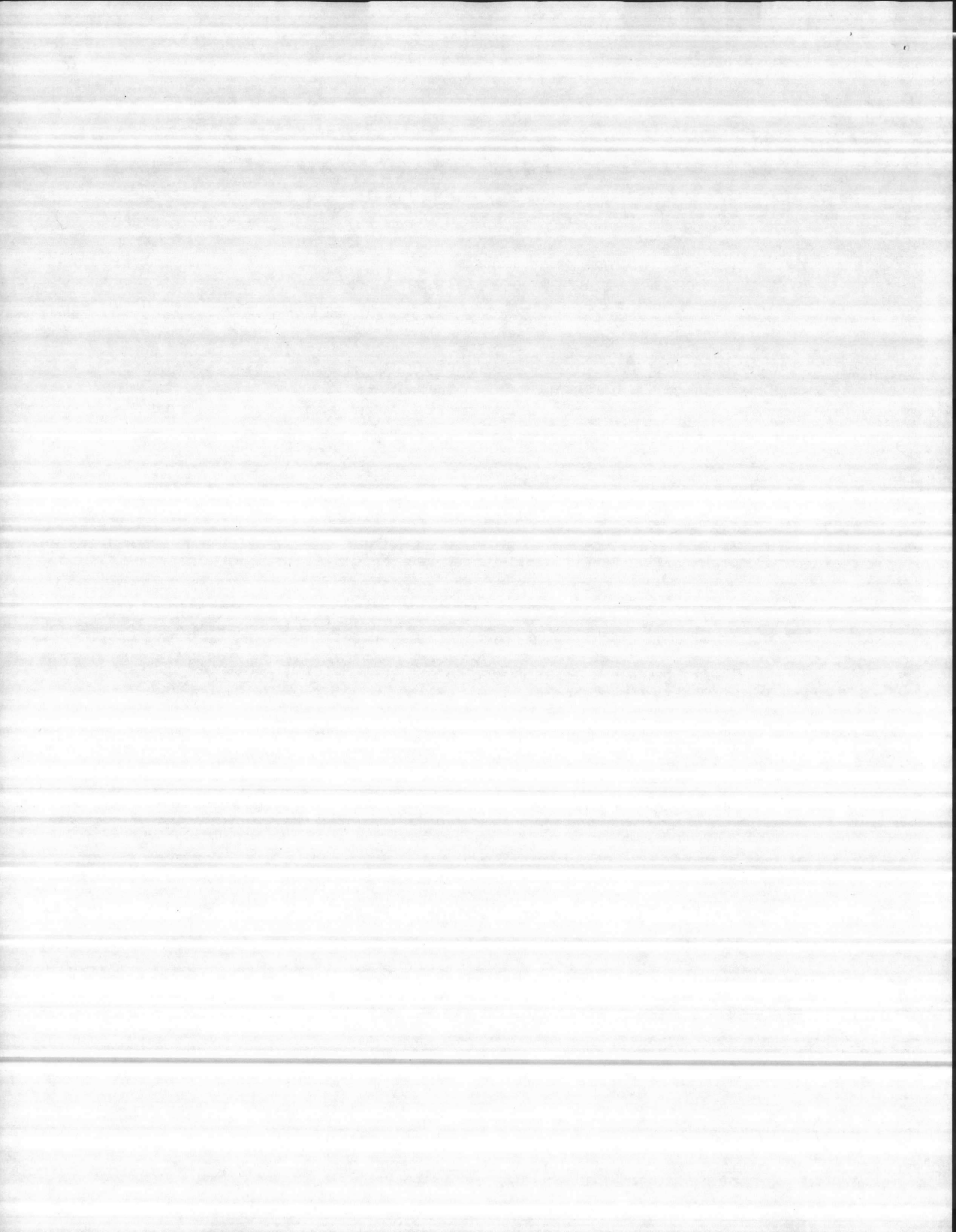
Gentlemen:

This letter certifies that RECO Job #S-08141A and S-08141B meets military spec. #MIL-12295-D Type II Class I-style A for the tanks and #MIL-H-12322C, Class I for the heating coils.

Also attached are letters on sizing controls and control specs.

Yours truly,


James F. Hendrix
STD. Products/Engineering



RECO

Richmond Engineering Company, Inc.
Box 25189, Richmond, Virginia 23260
7th & Hospital Streets 804/644-2611
Telex 827-474 Telecopy 804/643-3561

February 12, 1980

Dozier & Son Sales Co.
P.O. Box 240923
Charlotte, N.C. 28224

Attention: Grayson Dozier

Reference: U.S. Naval Reg. Medical Ctr.
New Construction
Brewster Blvd.
Camp Lejeune, N.C.

Customer: The Waldinger Corp.
P.O. IM-2145-009 REV. #1

Dear Grayson:

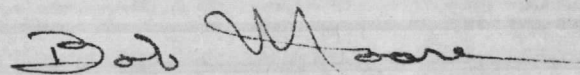
This letter is an effort to clarify the sizes of control valves and traps selected by RECO as opposed to those sizes that would have resulted based on LBS/HR of steam called for in SPECS. WH-1 has a $\frac{1}{2}$ " control valve based on 125# STM at the valve and 100# STM in the tubes with a required recovery of 240 GPH 60°F to 140°F resulting in only 181 LBS/HR, not 276 LBS/HR as specified.

WH-2 and WH-3 have control valves sized based on same STM pressure at valve and in the tubes as WH-1. Valve is $\frac{3}{4}$ " to pass 543 LBS/HR which results from a required recovery of 1150 GPH 60°F - 110°F. 1322 LBS/HR was specified. The method used to arrive at the LBS/HR stated by RECO is as follows.

$$\text{GPH} \times 8.33 \times \text{Temperature Rise} = \frac{\text{BTUH}}{\text{Latent Heat of STM in Tubes}}$$

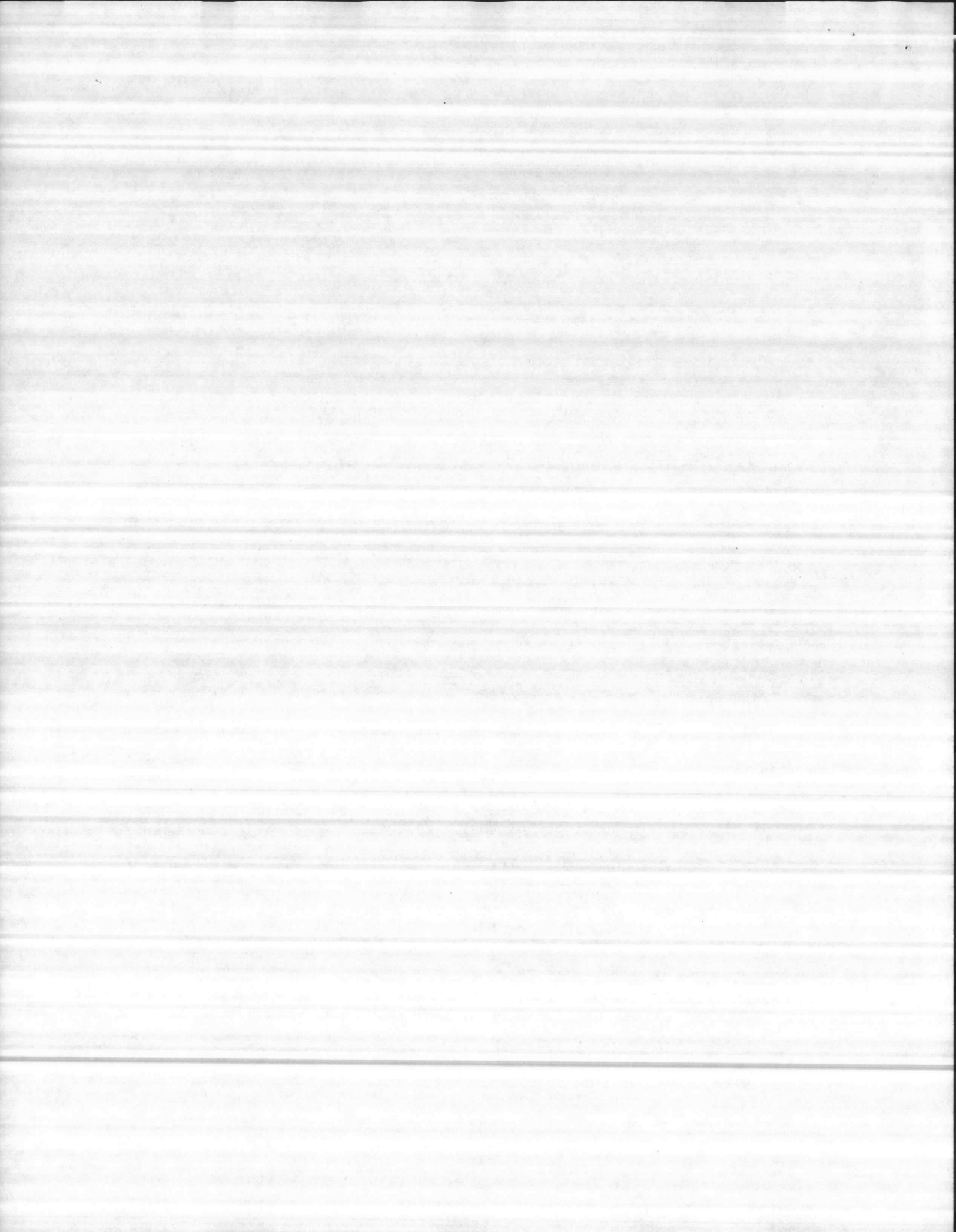
If you have any questions please don't hesitate to call.

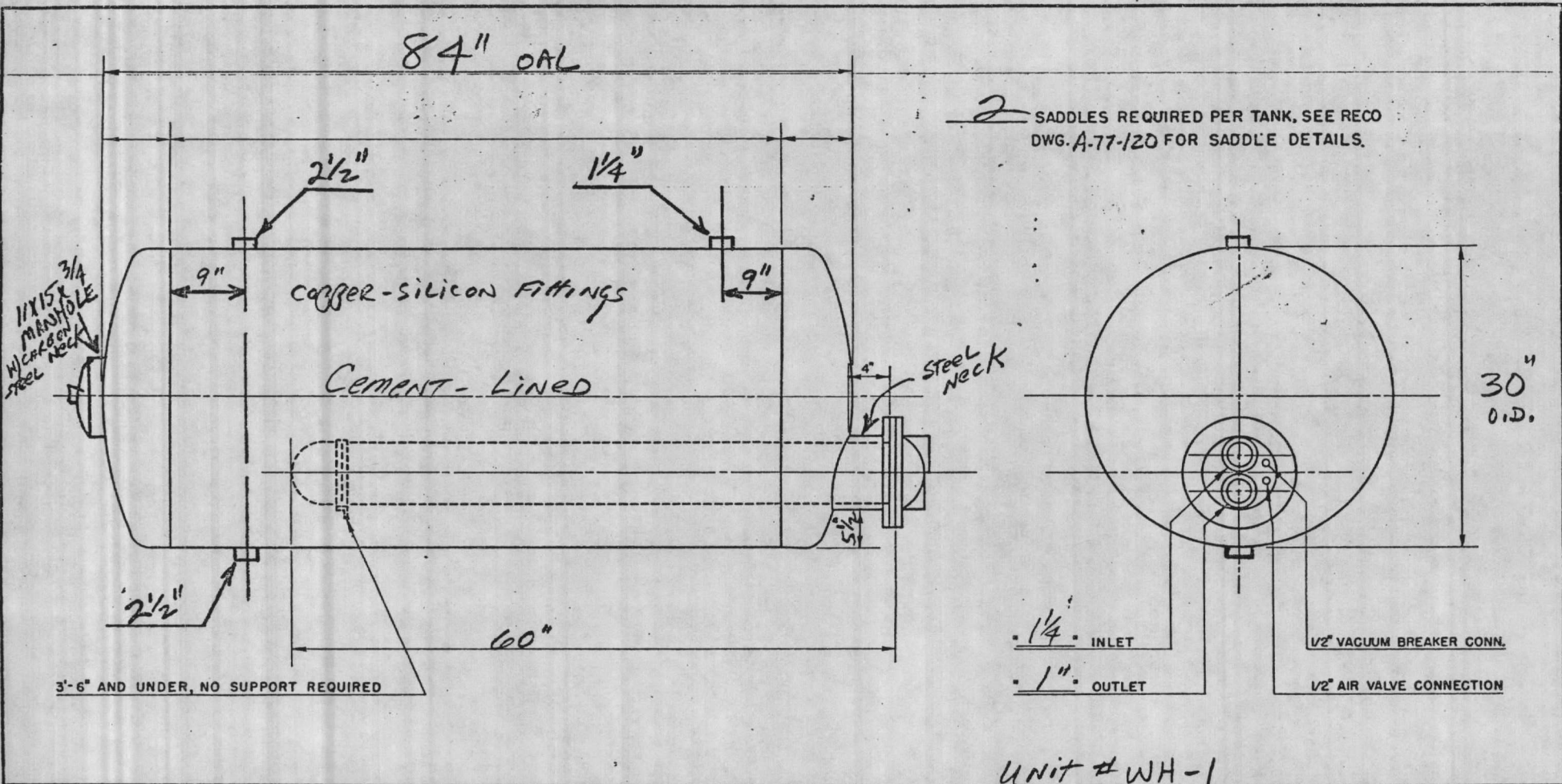
Respectfully yours,



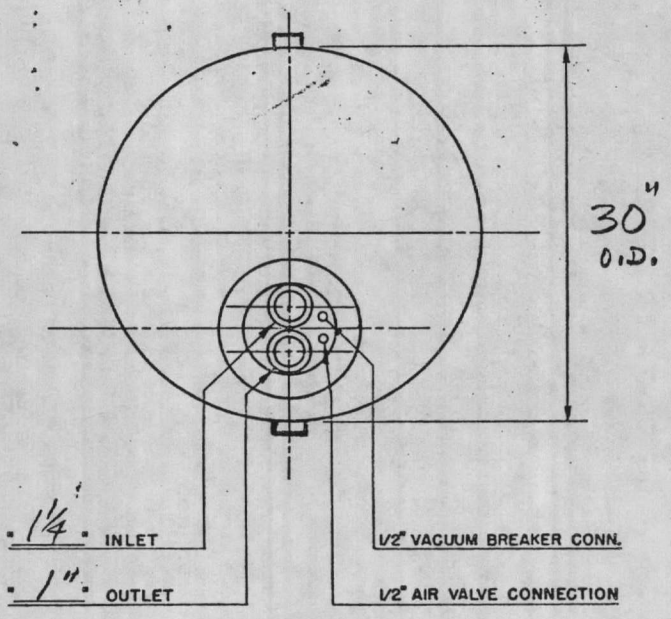
Bob Moore
Commercial Product Sales

BM/ba





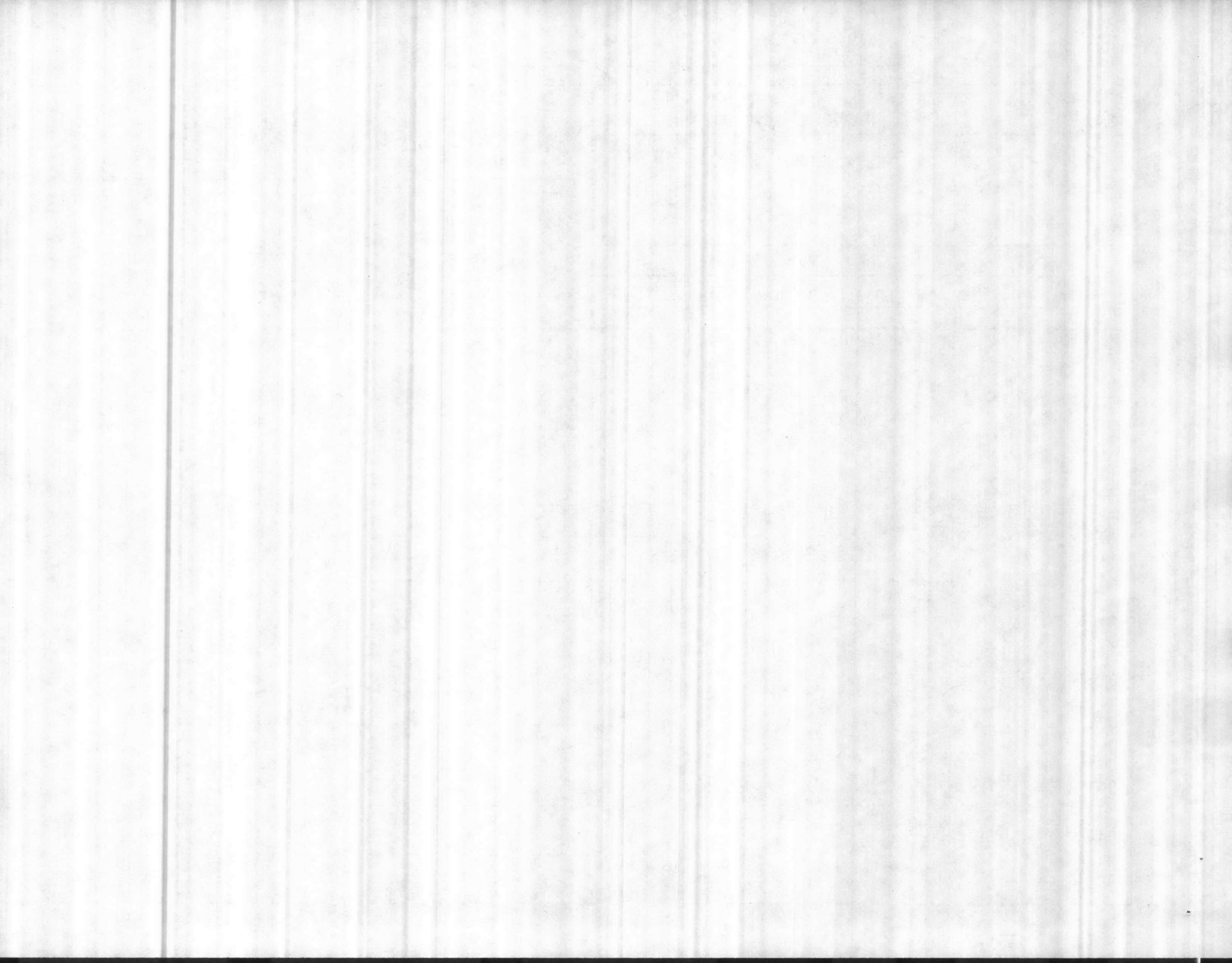
2 SADDLES REQUIRED PER TANK, SEE RECO DWG. A-77-120 FOR SADDLE DETAILS.

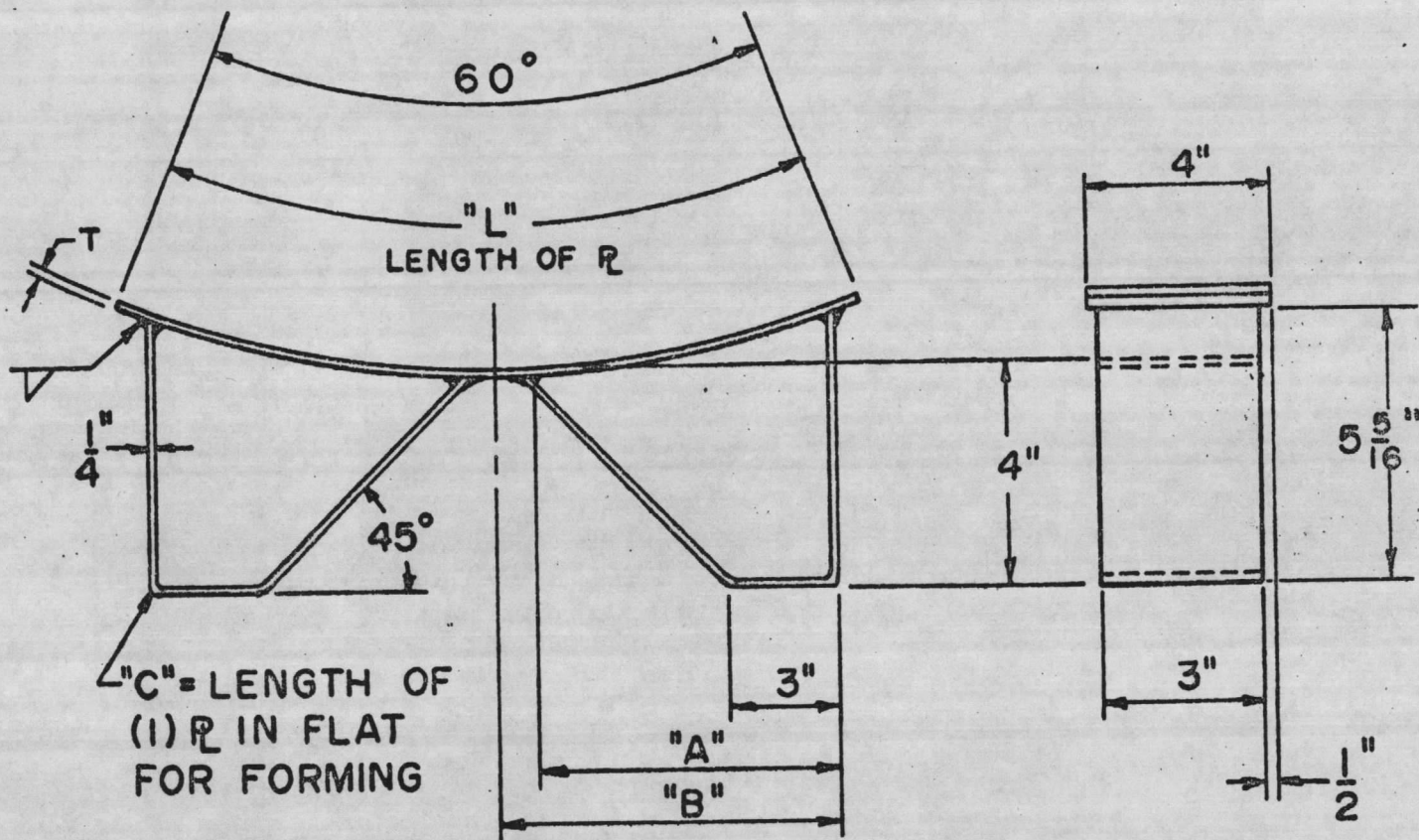


UNIT # WH-1

1. SHELL TK. <u>3/16" SASIS-70</u>	HEAD TK. <u>1/4" SASIS-70</u>
2. DESIGN PRESSURE <u>85 @ 200° P.S.I.</u>	TEST PRESSURE <u>127.5</u> P.S.I.
3. CONSTRUCTION <u>ASME VIII DIV. 1 SUMMER '78</u>	
4. MATERIAL <u>SASIS-70 CIS</u>	
5. PAINT <u>RED PRIMER OUTSIDE ONLY</u>	
6. OFFSET	
7. JOINT EFF. - <u>70%</u>	
8. Cement-Lined	
NUMBER REQUIRED <u>ONE (1)</u>	
1. ELEMENT U- <u>4-9.4</u> [<u>3/4</u> O.D. * <u>18</u> BWG] SEAMLESS COPPER TUBES	
2. HEATING SURFACE <u>9.4</u> SQ. FT. HEATING CAPACITY <u>290</u> G.P.H.	
3. TEMPERATURE RANGE <u>60</u> °F TO <u>170</u> °F	
4. HEATING MEDIUM <u>125# STEAM</u>	
5. ALL STEEL PARTS	

ENGINEER _____
RICHMOND ENGINEERING CO., INC. RICHMOND VIRGINIA
HORIZONTAL STORAGE HEATER
CUSTOMER <u>WALDINGER CORP.</u> P.O. NO. <u>DM-04681</u>
JOB <u>U.S. NAV. REG. MED. CTR. - Camp Lejeune, NC</u>
REPRESENTATIVE <u>Dozier & Son</u>
JOB NO. <u>S-08141A</u> DRAWN BY <u>MCC</u>
DATE <u>8-13-79</u> APP'D BY _____
DRAWING NO. <u>A-79-8141A</u>





ALL MATERIALS ARE CARBON STEEL.
ALL SURFACES ARE PAINTED ONE COAT
OF RED ZINC CHROMATE PRIMER.

(2) REQ'D.

TANK DIA.	A	B	L	T	C
30"	6-7/16"	7"	15"	1/4"	12-1/2"
36"	6-7/16"	7-3/4"	19"	1/4"	12-1/2"
42"	6-7/16"	8-3/8"	22"	5/16"	12-1/2"
48"	6-7/16"	8-7/8"	25"	5/16"	12-1/2"
54"	6-7/16"	9-11/16"	28"	3/8"	12-1/2"

REVISIONS	BY	DATE

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RICHMOND ENGINEERING CO., INC.

RICHMOND

VIRGINIA

JOB NO. S-08141A

DRAWN BY CST

CHECKED BY LEO

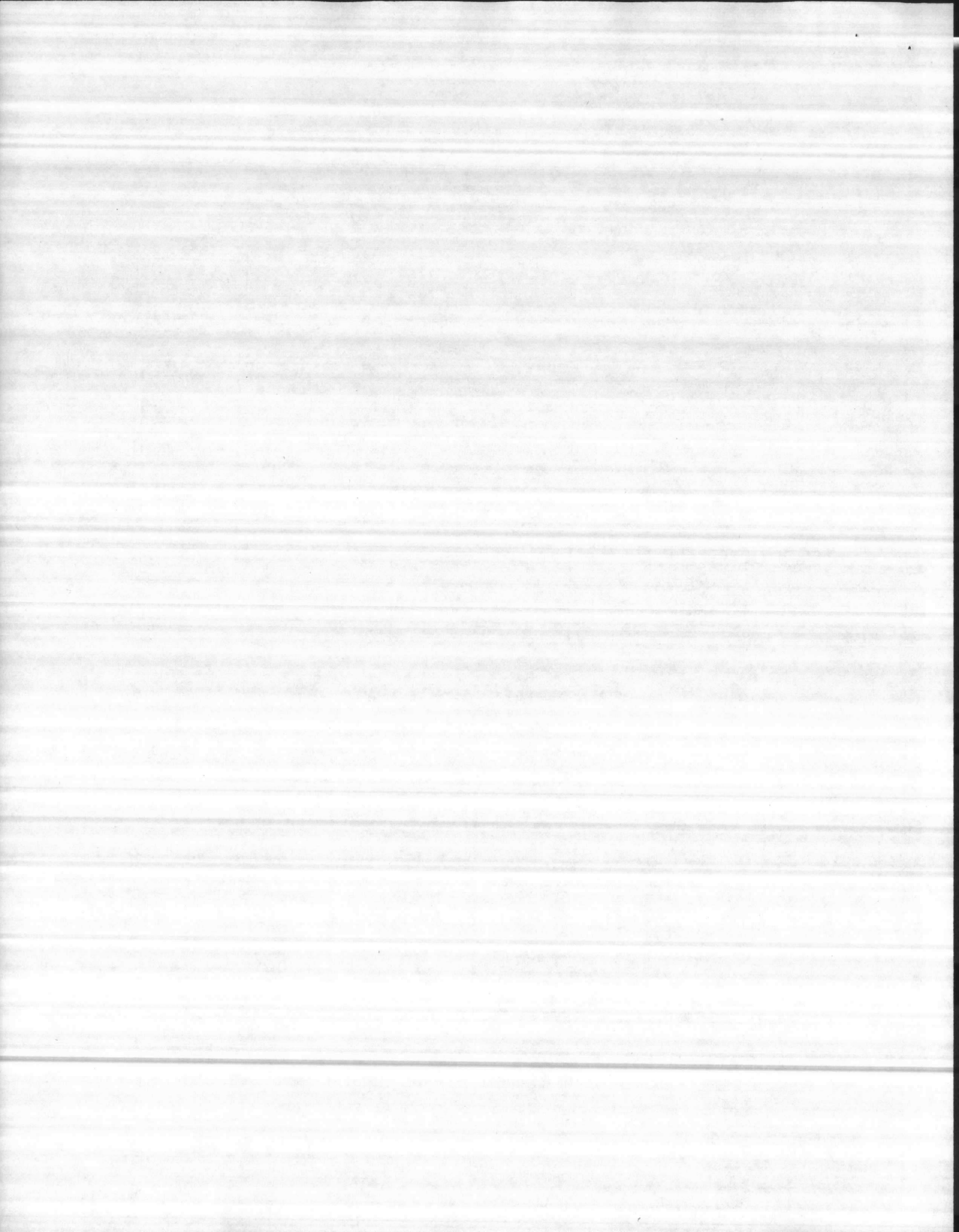
APPROVED BY

RECO STANDARD SADDLES
FOR 30" THRU 54" DIA. TANK

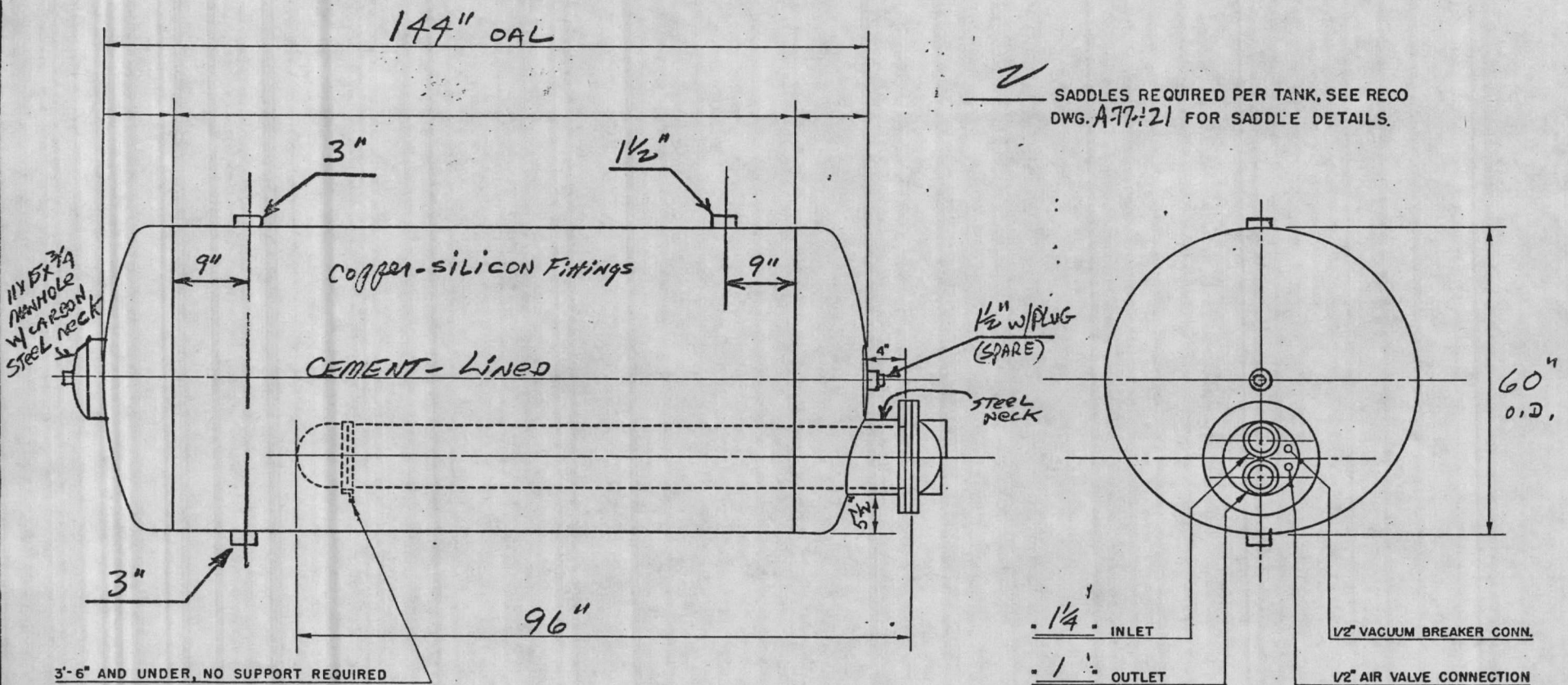
REFERENCE DRAWINGS
SCALE:

DRAWING NUMBER

A-77-120



JE-7070



2 SADDLES REQUIRED PER TANK, SEE RECO DWG. A-77-21 FOR SADDLE DETAILS.

UNITS #WH-2 & WH-3

1. SHELL TK. 1/4" SA515-70 HEAD TK. 3/8" SA285C

2. DESIGN PRESSURE 85 P.S.I. TEST PRESSURE 127.5 P.S.I.

3. CONSTRUCTION ASME VIII DIV. 1 SUB. 78

4. MATERIAL SA515-70 & SA285C CARBON STEEL

5. PAINT RED PRIMER OUTSIDE ONLY

6. OFFSET

7. JOINT EFFICIENCY - 70%

8. CEMENT-LINED

NUMBER REQUIRED TWO (2)

ENGINEER _____

RICHMOND ENGINEERING CO., INC.
RICHMOND VIRGINIA

HORIZONTAL STORAGE HEATER

CUSTOMER WALDINGER CORP. P.O. NO. DM-04681

JOB U.S. NAV. REG. MED. CTR. - CAMP LEJEUNE, NC

REPRESENTATIVE Dozier & Son

1. ELEMENT U-4-15.2 [3/4" O.D. x 18 BWG] SEAMLESS COPPER TUBES

2. HEATING SURFACE 15.2 SQ. FT. HEATING CAPACITY 1150 G.P.H.

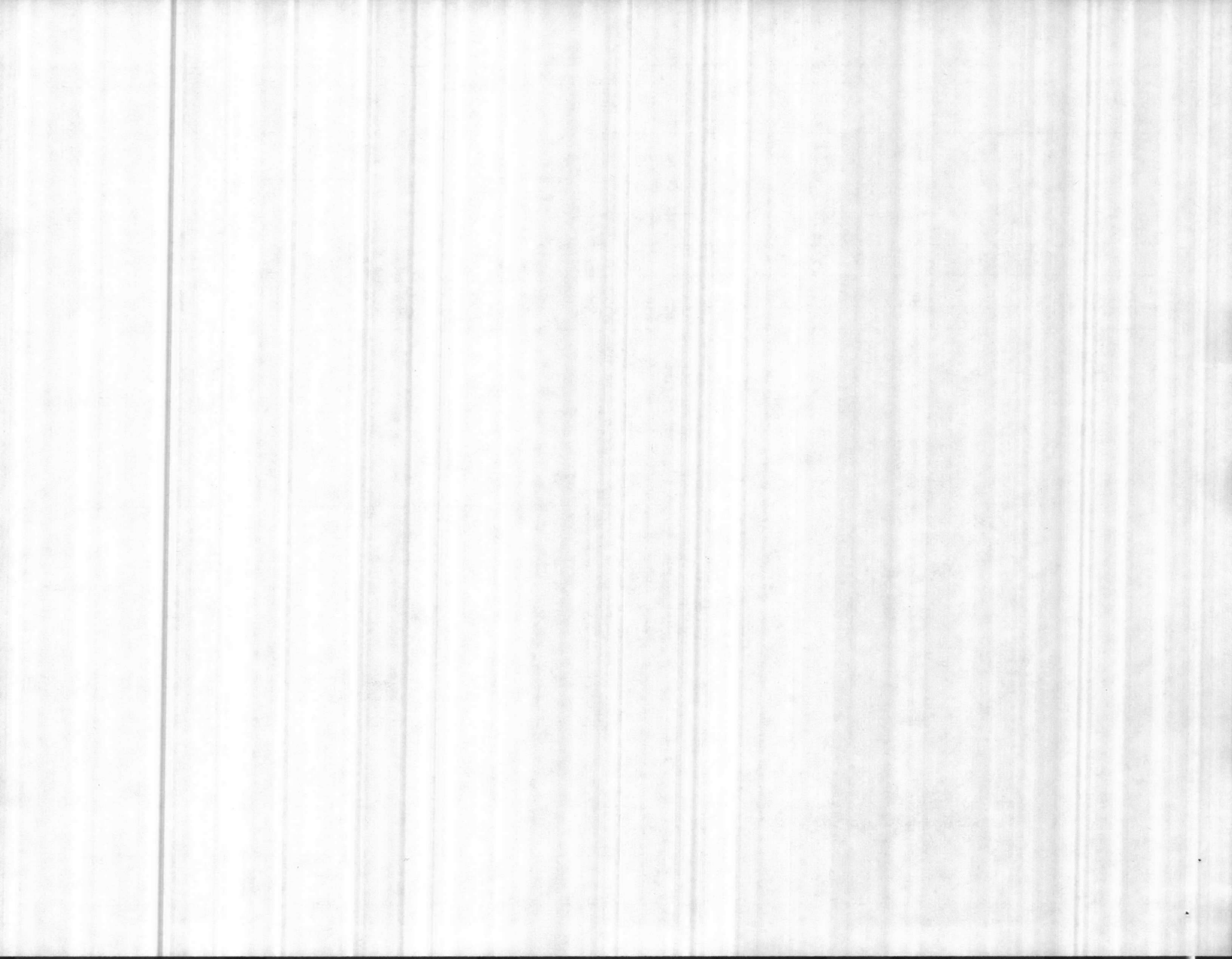
3. TEMPERATURE RANGE 60 °F TO 110 °F

4. HEATING MEDIUM 125# STEAM

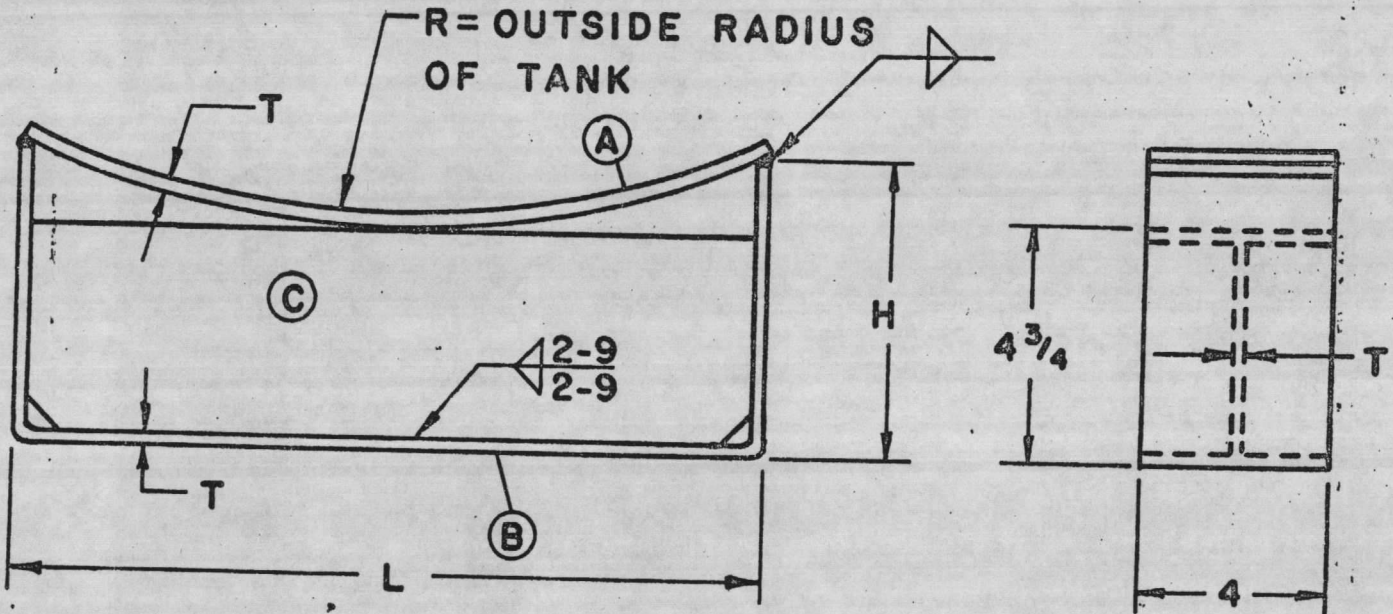
5. ALL STEEL PARTS

JOB NO. S-08141B DRAWN BY MJC DRAWING NO. A-79-841B

DATE 8-14-79 APP'D BY _____



ALL MATERIALS ARE CARBON STEEL.
 ALL SURFACES ARE PAINTED ONE COAT
 OF RED ZINC CHROMATE PRIMER.
 ALL DIMENSIONS IN INCHES UNLESS
 OTHERWISE NOTED.



(2) REQ'D, EACH TANK

				PLATE SIZES		
TANK DIA.	L	T	H	A	B	C
60	40	3/8	11 5/8	4 x 44	4 x 62 1/2	4 x 39 1/4
66	44	3/8	12 3/8	4 x 48 1/2	4 x 68	4 x 43 1/4
72	48	3/8	13	4 x 52 3/4	4 x 73 3/8	4 x 47 1/4

NO.	DESCRIPTION	BY	DATE
REVISIONS			

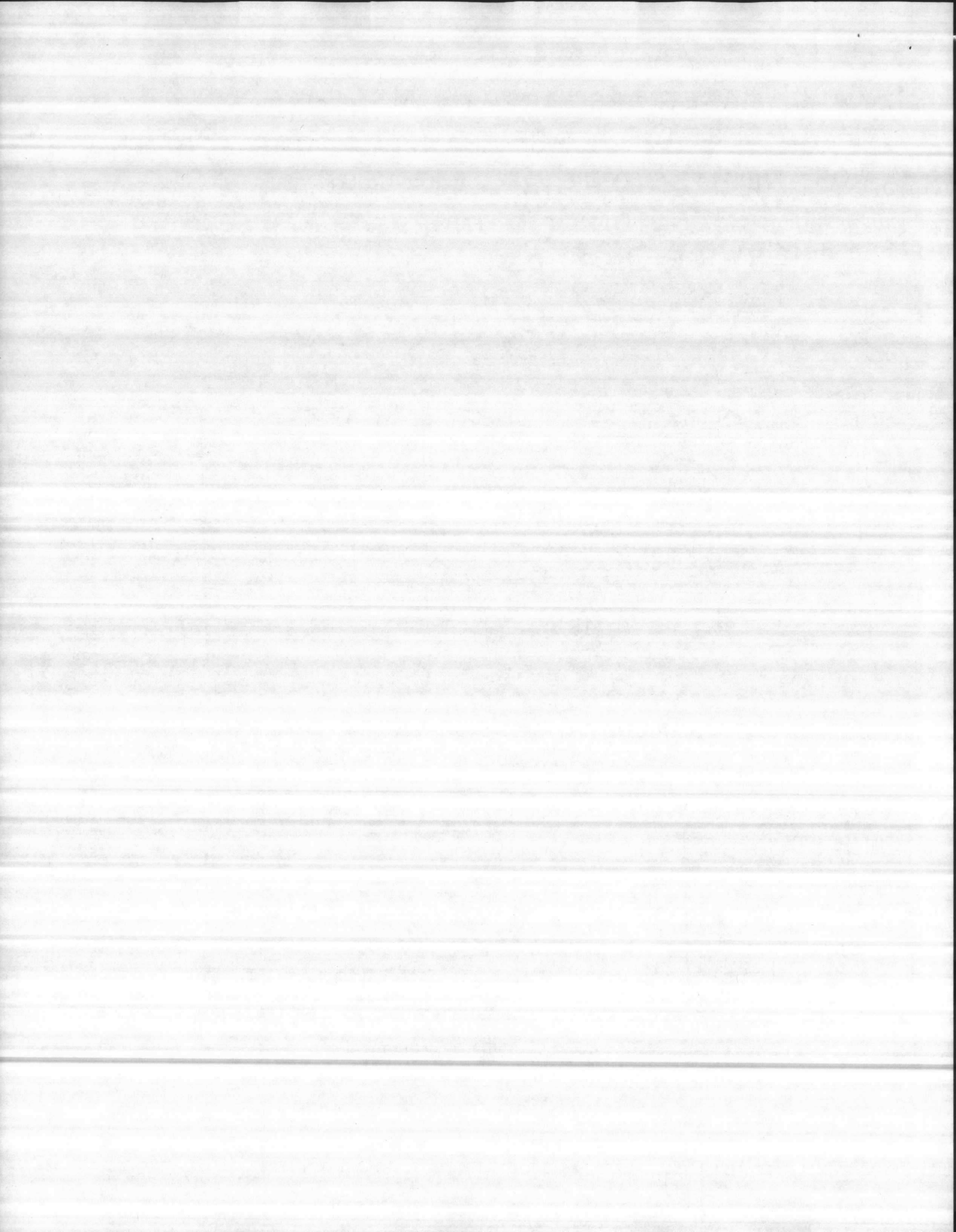
THIS DRAWING IS THE PROPERTY OF RICHMOND ENGINEERING CO., INC. AND IS NOT TO BE PRINTED, PHOTOGRAPHED, COPIED, LOANED, OR USED WITHOUT ITS PERMISSION.

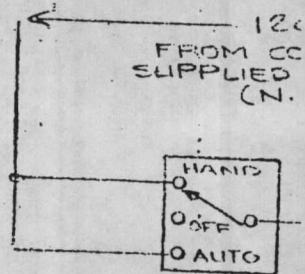
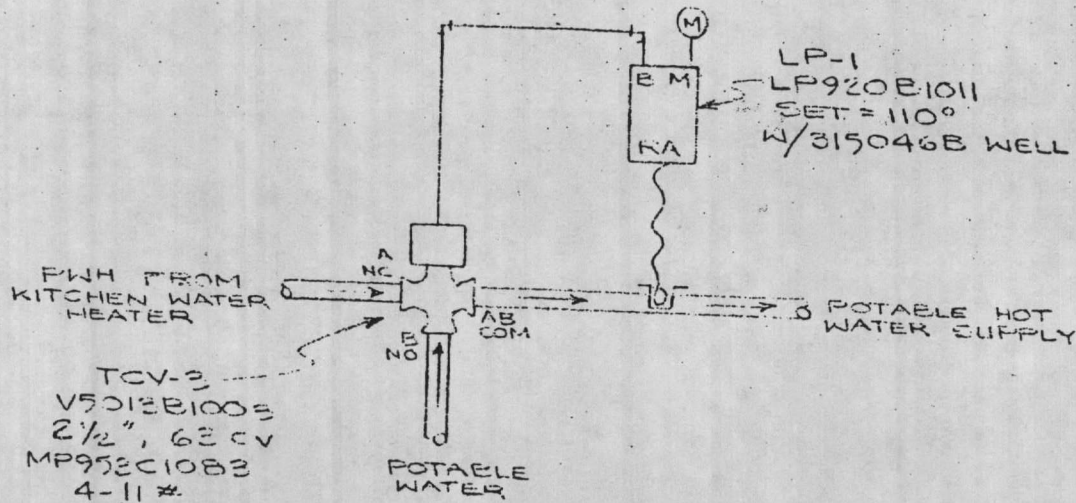
RICHMOND ENGINEERING CO., INC.
 RICHMOND VIRGINIA

JOB NO. 5-081418
 DATE 5-23-78
 DRAWN BY RKC
 CHECKED BY
 APPROVED BY

RECO STANDARD SADDLES
 FOR 60", 66", 72" DIA. TANKS

REFERENCE DRAWINGS
SCALE: <i>H</i>
DRAWING NUMBER
A-77-121





H-O-A SW.
SUPPLIED W/STARTER AT MOTOR CONTROL CENTER. (N.E.H)

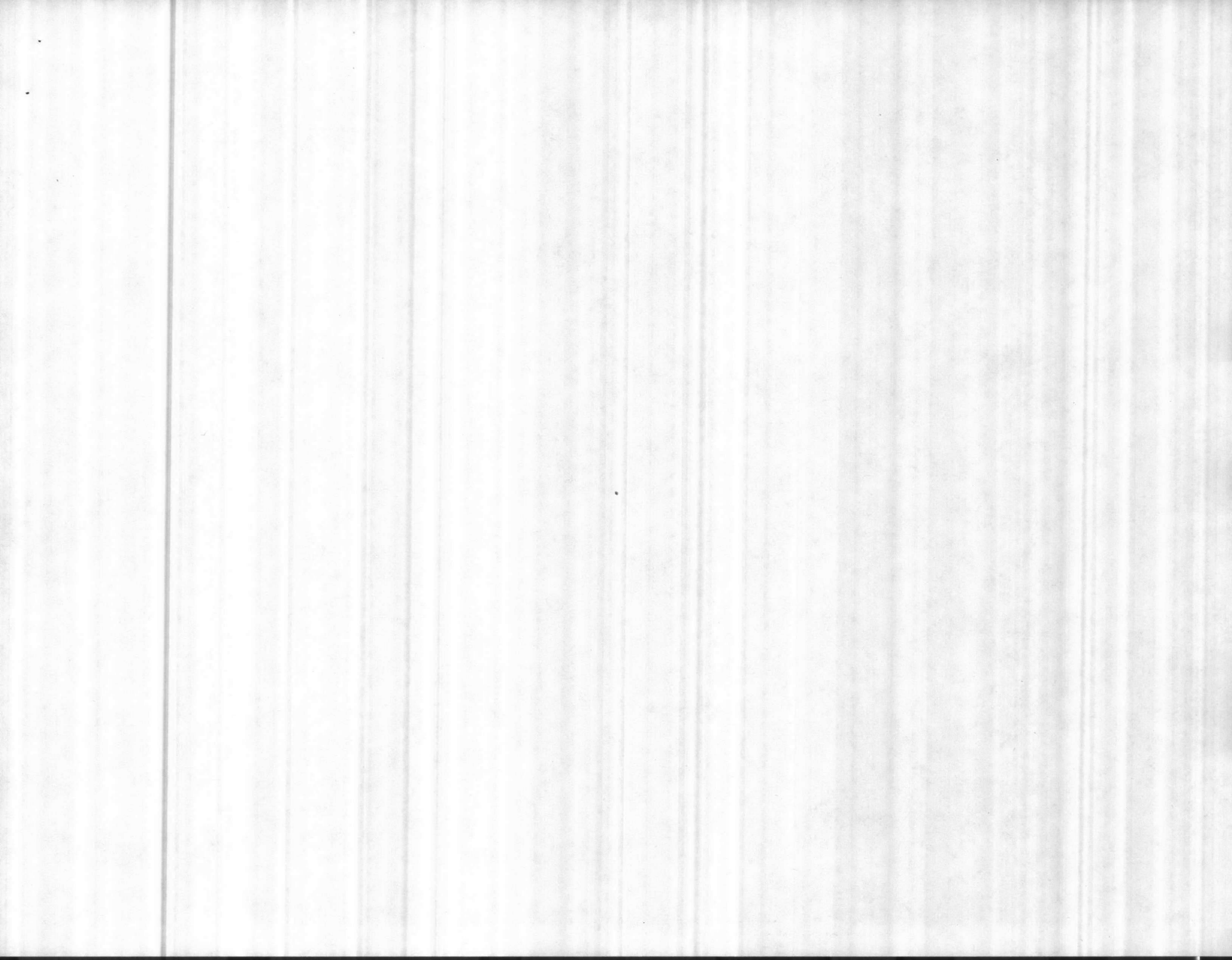
CONTROLS FOR TCV-3
(TYPE FOR 1)

WIRING FOR
(TYPE FOR 1)

CONTROLS FOR POTABLE WATER SYSTEM

Sequence of Operation for Potable Water System:

Pumps P-110, 111, and 112 will be started manually. Controller LP modulate control valve TCV-3 to maintain its setting.

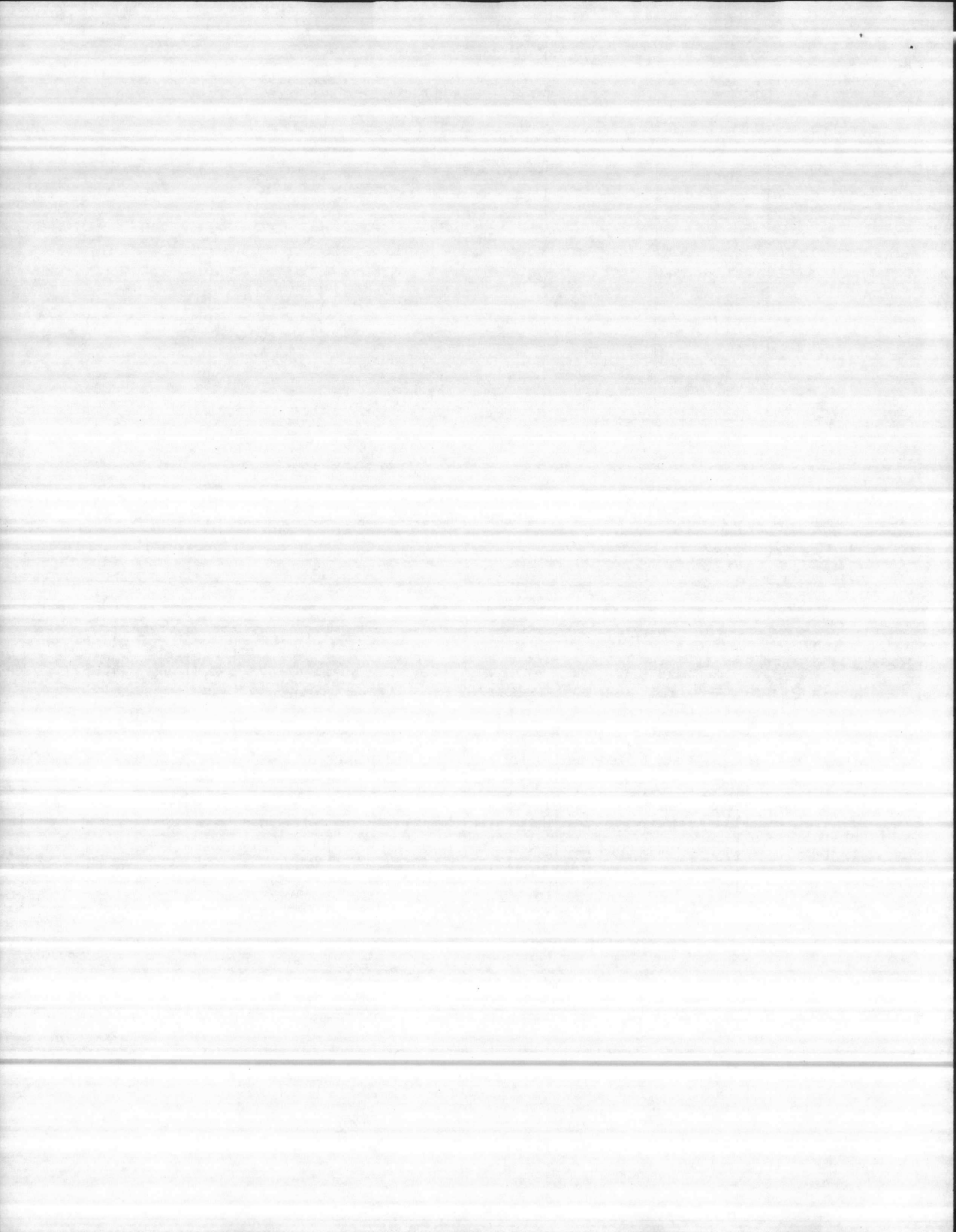


1/2A						
thru						
1/2D	250	250	250	250	250	250
3/4	250	250	250	221	250	250
1	250	250	250	142	250	250
1-1/4	250	250	227	114	250	250
1-1/2	250	200	126	42	224	179
2	171	142	82	53	94	107

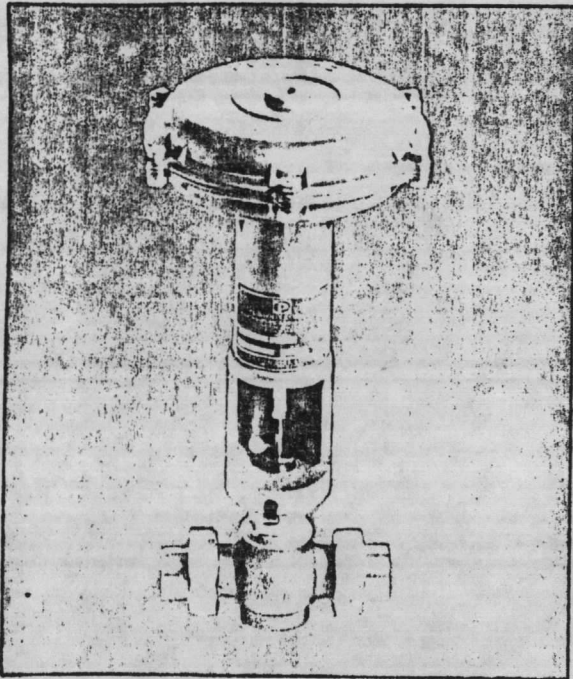
1. Minimum spring compression for normally open valves; maximum spring compression for normally closed valves.
2. Table values allow for packing friction.

INLET PRESSURE - PSIG																	VALVE SIZE (in.)
50				75				100				125	150	200	250		
AVAILABLE PRESSURE DROP FOR SIZING* - PSI																	
X 0	MAX.				MAX.				MAX.				MAX.	MAX.	MAX.	MAX.	
	10	15	20	32.5	10	25	35	45	10	25	35	57.5	70	82.5	107.5	132.5	
15	18	20	22	24	21	30	33	34	25	36	40	43	52	62	80	99	1/2A
30	35	41	44	49	42	60	66	67	49	72	79	86	105	123	161	199	1/2B
30	70	82	89	97	85	121	131	134	99	142	158	172	210	247	322	397	1/2C
19	140	164	178	194	169	241	262	269	194	284	317	344	419	494	644	794	1/2D
27	287	312	339	369	322	458	498	512	369	540	603	654	797	940	1225	1510	3/4
26	596	696	762	825	720	1025	1115	1145	825	1208	1350	1460	1780	2100	2740	3370	1
14	842	983	1080	1160	1015	1450	1570	1615	1165	1700	1900	2065	2515	2965	3865	4770	1-1/4
		1310	1435	1550	1350	1930	2100	2150	1550	2280	2540	2750	3350	3950	5150	6350	1-1/2
20	2290	2510	2720	2370	3380	3670	3770	2720	3980	4440	4820	5660	6810				2

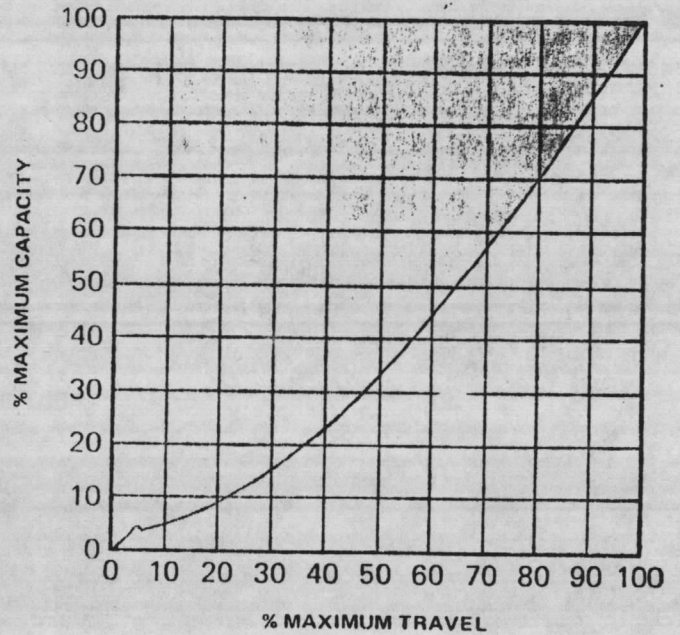
Turn page
for DIMENSIONS/SELECTION
& APPLICATION



TYPE VF 591V SINGLE SEAT STAINLESS STEEL TRIM VALVES



TYPICAL FLOW CURVE

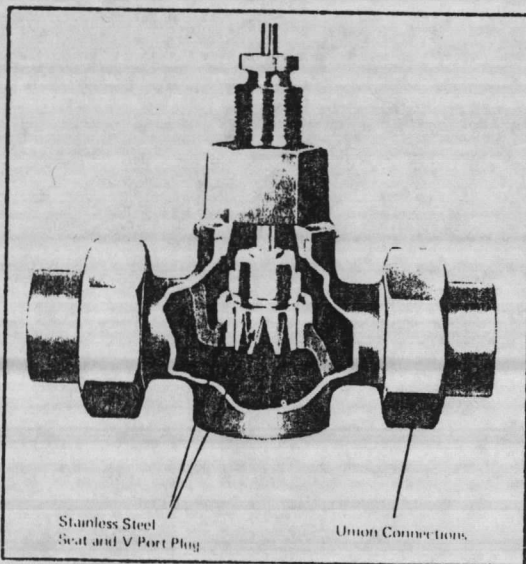


GENERAL INFORMATION

Recommended for modulating control of steam, water and some oils. May also be used with many other liquids because of the corrosion resistance of the stainless steel trim.

Beveled seating surface for the plug gives good shutoff and promotes long trim life even with higher pressure steam.

The high lift V-port plug has a modified linear flow characteristic for accurate throttling control.



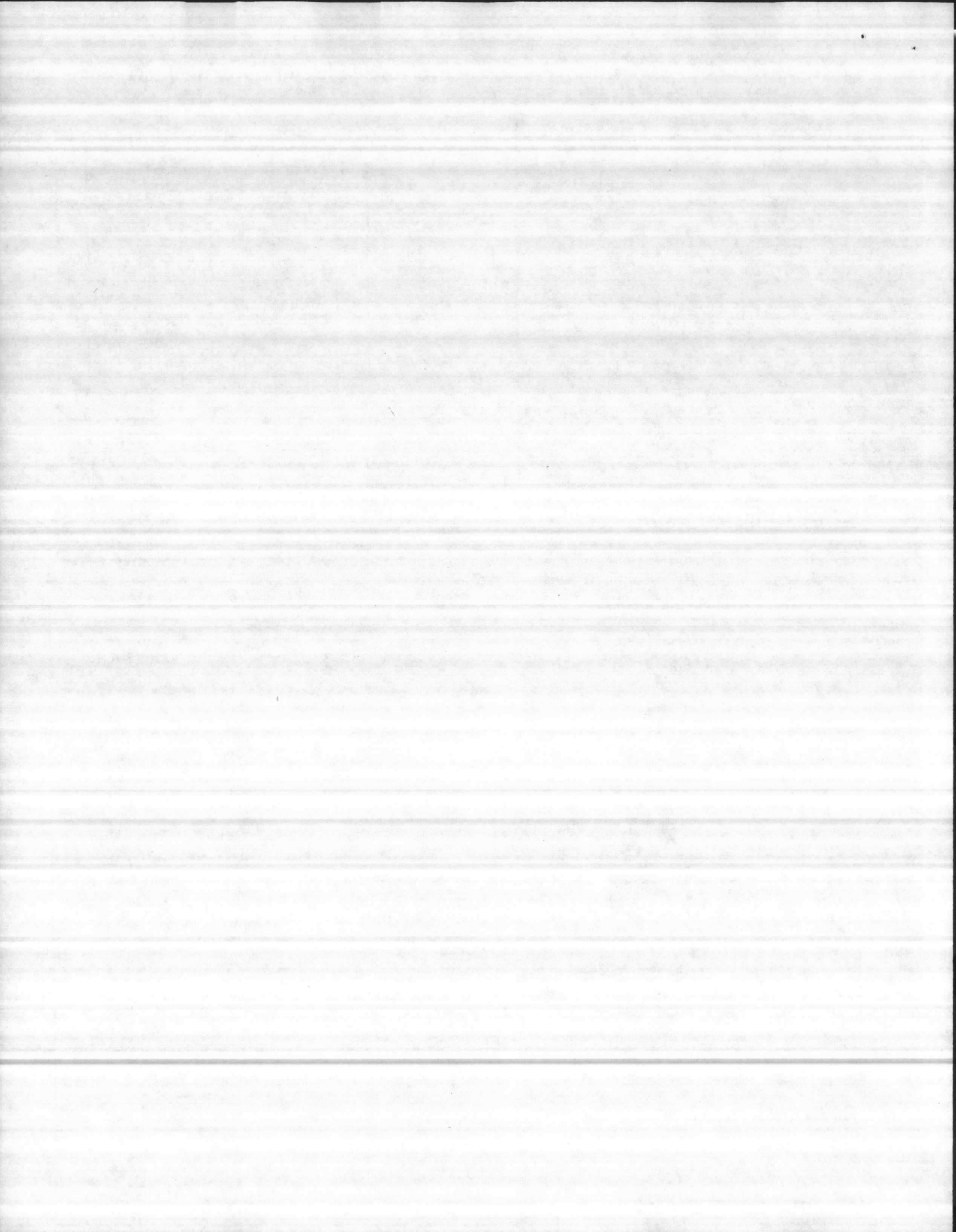
Applications include convertors, instantaneous water heaters, kettles, retorts and similar process equipment.

All single seat V-port valves have an adjustable 8" actuator (with 5 or 10 psi spring range), and a 250 psi bronze body with female threaded double union ends. Both normally open and normally closed models are available.

Stainless steel seat and plug with monel stem provides high corrosion resistance. The low C_v of the 1/2"A (15%), 1/2"B (30%) and 1/2"C (60%) throttling plugs provides good control of the low flow rates required with light loads on instantaneous heaters.

Turn page
for SIZING





TYPE VF 591V

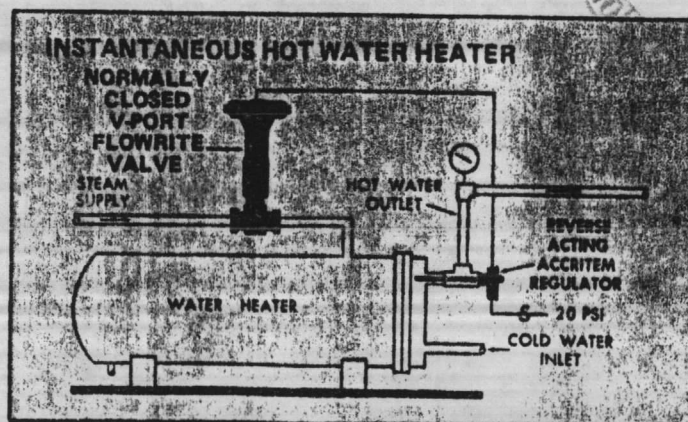
DIMENSIONS (Inches)

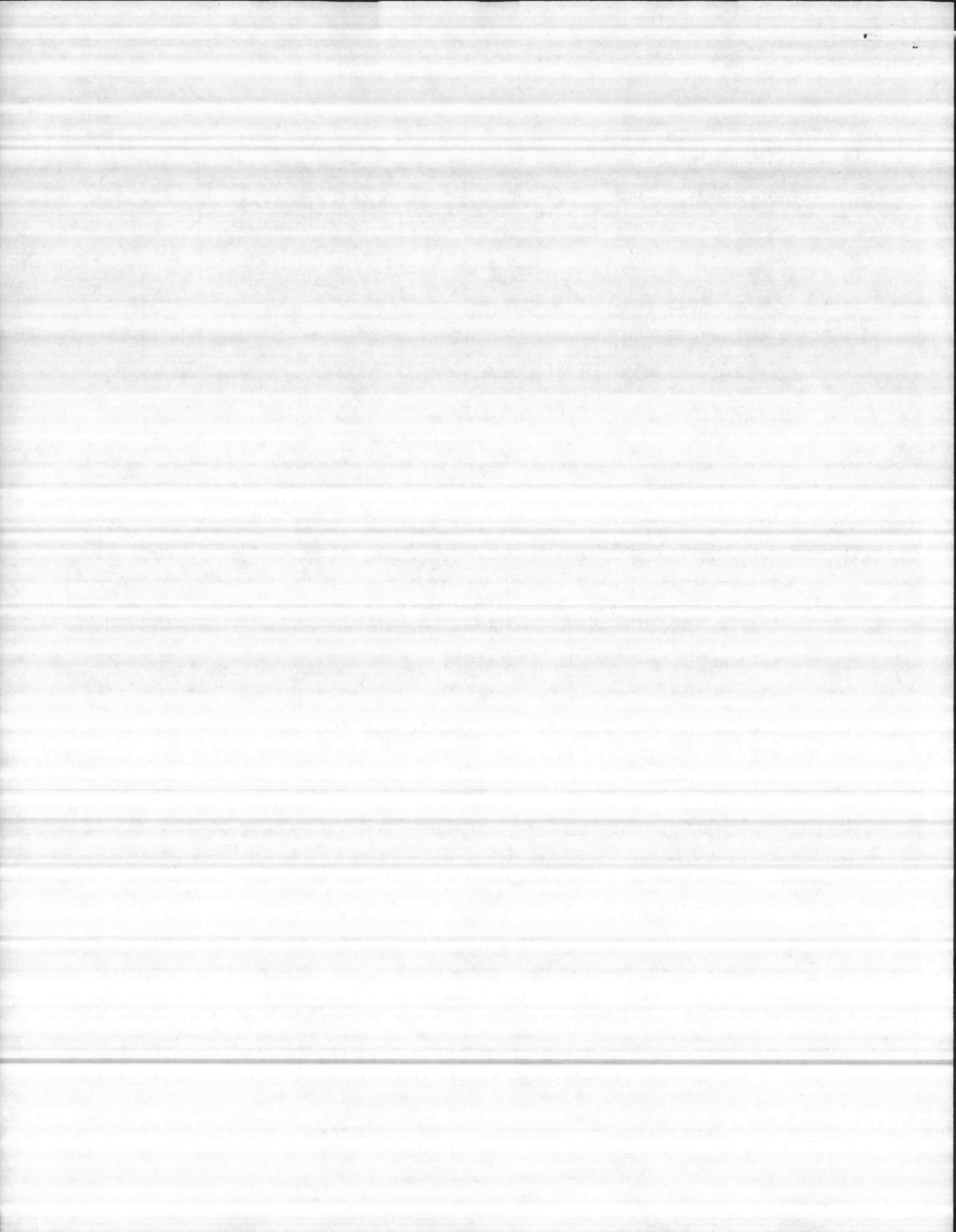
VALVE SIZE	A	B	C	Norm. Open D	Norm. Closed D	E	TRAVEL
1/2	8-3/4	12-5/16	2-7/16	1-3/16	1-3/4	5-5/8	1/4
3/4	8-3/4	12-5/16	2-5/8	1-3/8	2	6	3/8
1	8-3/4	12-5/16	2-3/4	1-1/2	2-3/16	6-3/4	1/2
1-1/4	8-3/4	12-5/16	3	1-3/4	2-7/16	7	5/8
1-1/2	8-3/4	12-5/16	3-1/4	2-1/16	2-5/8	7-7/8	3/4
2	8-3/4	12-5/16	3-5/8	2-7/16	3-3/16	8-5/8	1

SELECTION

VALVE SIZE (ins.)		1/2			3/4	1	1-1/4	1-1/2	2		
CAPACITY		15%	30%	60%	100%						
PRODUCT NUMBERS	NORMALLY OPEN	5 LB. SPRING	591-6000	591-6010	591-6020	591-6030	591-6040	591-6050	591-6060	591-6070	591-6080
		10 LB. SPRING	591-6090	591-6100	591-6110	591-6120	591-6130	591-6140	591-6150	591-6160	591-6170
	NORMALLY CLOSED	5 LB. SPRING	591-6180	591-6190	591-6200	591-6210	591-6220	591-6230	591-6240	591-6250	591-6260
		10 LB. SPRING	591-6270	591-6280	591-6290	591-6300	591-6310	591-6320	591-6330	591-6340	591-6350
VALVE TRAVEL (ins.)		1/4			3/8	1/2	5/8	3/4	1		
SHIPPING WEIGHT (LBS.)		23			25	27	30	32	35		

APPLICATION





15401

746-1

ACC
P
C
RE

DRAWING AND SPECIFICATION TRANSMITTAL

LOCKWOOD GREENE ENGINEERS, INC.

SPARTANBURG, SOUTH CAROLINA 29304
P.O. BOX 491 (803)582-2351

TO Naval Facilities Engineering
Command
Atlantic Division
Norfolk, Va. 23511

DATE March 28, 1980

JOB NO. 77239.16

JOB NAME Naval Regional Medical Center

TRANSMITTAL NO. 692

SHEET 1 OF 1

ORDER NO.

Contract Number

N-62470-77-C-7526

ATTN: Mr. John Grubbs Code 05

WE ARE SENDING YOU THE FOLLOWING DATA XX HEREWITH UNDER SEPARATE COVER

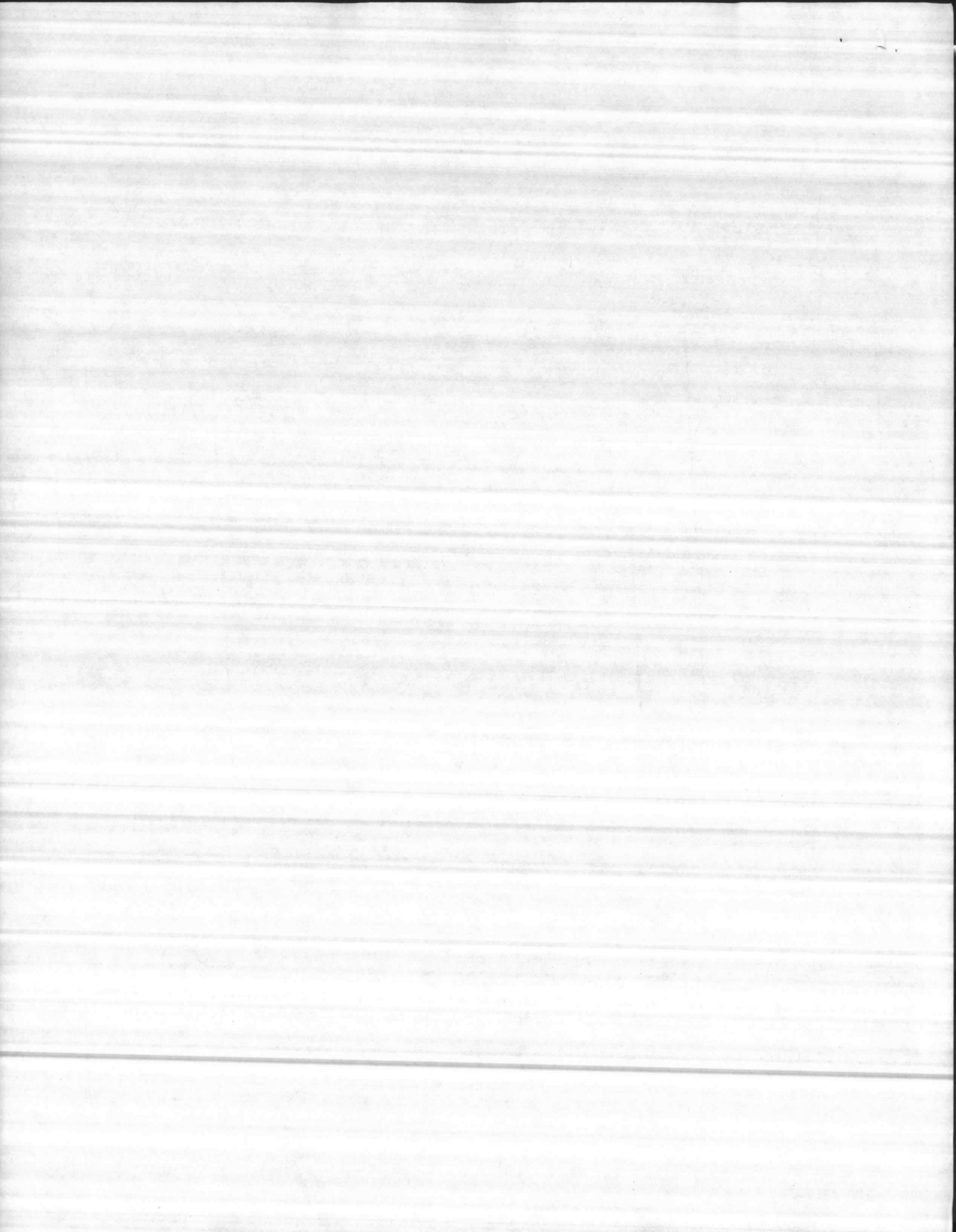
QUAN.	DOCUMENT NO.	REV. NO.	DESCRIPTION	VENDOR	CODE
1			Submersible Sump Pump	Hydr-O-Matic	A

LOCKWOOD GREENE DOCUMENTS				VENDOR DOCUMENTS		
A - INFORMATION	E - BID	K - NO CORRECTIONS NOTED				
B - REVIEW	F - CONSTRUCTION	L - MAKE CORRECTIONS NOTED				
C - APPROVAL	G - PURCHASING	M - REVISE AND RESUBMIT				
D - REVISED DWG. (SEE REVISION)	H -	N - REJECTED (SEE REMARKS)				

COPIES TO		QUAN	TRANS ONLY	CODE	COPIES TO		QUAN	TRANS ONLY	CODE
ROICC		2							
Cardinal Contracting		7							

REMARKS

PLEASE ACKNOWLEDGE RECEIPT BY IMMEDIATE RETURN OF SIGNED COPY OF THIS TRANSMITTAL
RECEIVED BY _____ DATE _____ TRANSMITTED BY Richard McKnight



CONTRACTOR'S SUBMITTAL TRANSMITTAL
 5ND LANTDIV 4-4355/3 (Rev. 8/78)

2

file

SECTION 15401
 FROM CONTRACTOR
 CARDINAL CONTRACTING CO., INC.
 TO
 LOCKWOOD-GREENE ENGRS.

CONTRACT NO. 62470-77-C-7526
 TRANSMITTAL NO. 746-1
 DATE 3-24-80
 PROJECT TITLE AND LOCATION
 NAVAL REGIONAL MEDICAL CENTER
 CAMP LEJEUNE, NORTH CAROLINA 28542

CONTRACTOR USE ONLY

*List only one specification division per form.

List only one of the following categories on each transmittal form, and indicate which is being submitted

- Contractor Approved
- OICC Approval
- Deviation/Substitution For OICC Approval

REVIEWER USE ONLY

- **ACTION CODES
 A-Approved
 D-Disapproved
 AN-Approved as noted
 RA-Receipt acknowledged.
 C-Comments
 R-Resubmit

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
746-1	12.2	Submersible Sump Pump	11	A	msj 3/28/80

CONTRACTOR'S COMMENTS

PLEASE RETURN A MINIMUM OF 6 COPIES WITH OWNERS APPROVAL.

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC
 3-25-80

DATE RECEIVED BY REVIEWER

FROM (Reviewer)

CONTRACTOR REPRESENTATIVE (Signature)
 Barney K. Shorter

TO

- Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.
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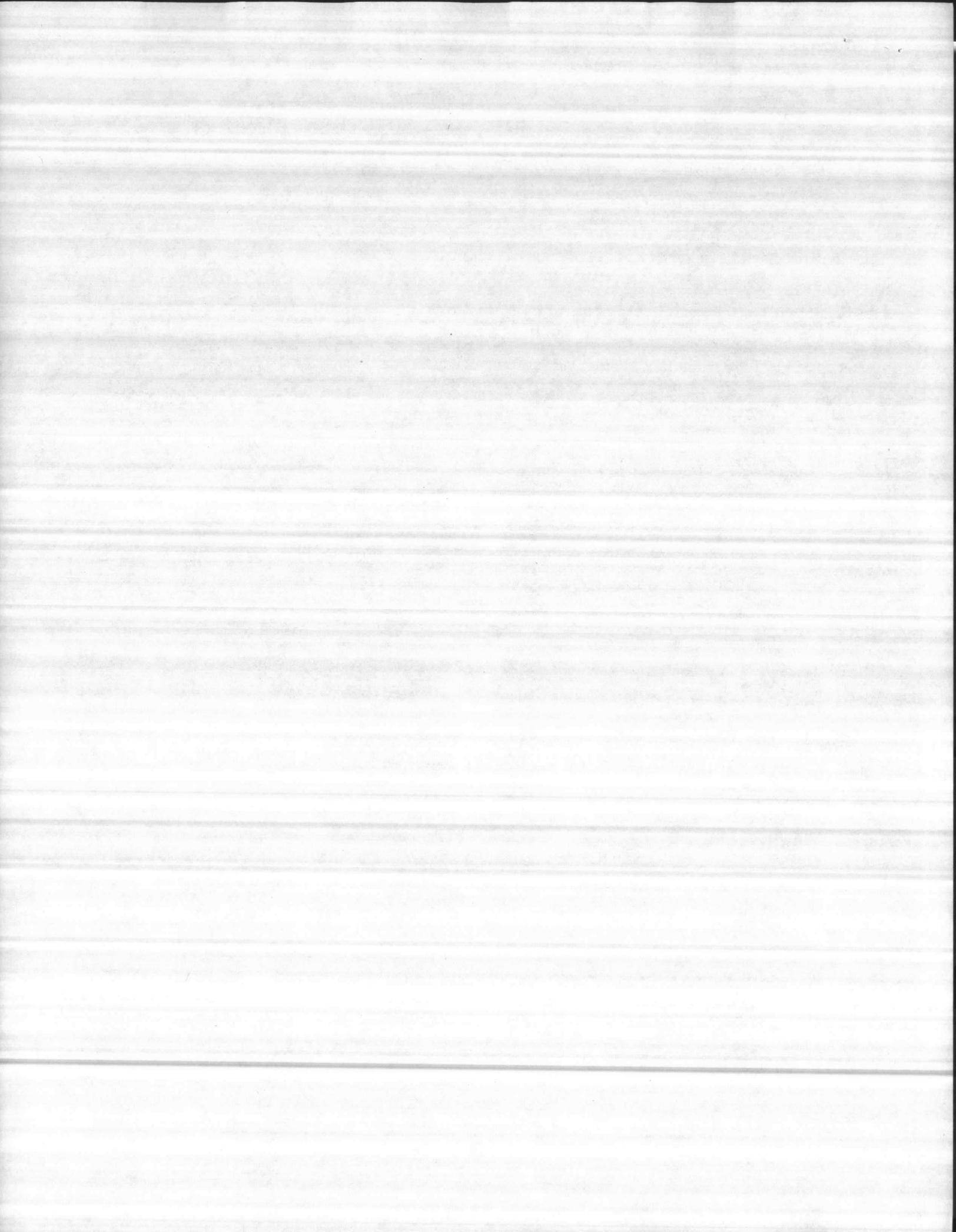
REVIEWER'S COMMENTS

File/Field
 4-19-80
 [Signature]

ES TO:
 OICC (2)
 ANTDIV (1)
 -E (1)

DATE

SIGNATURE



CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDIV 4-4355/3 (Rev. 6/76)

SECTION 15401

FROM CONTRACTOR

CARDINAL CONTRACTING CO., INC.

TO

LOCKWOOD-GREENE ENGRS.

CONTRACT NO.

N62470-77-C-7526

TRANSMITTAL NO.

746-1

DATE

1/25/80

PROJECT TITLE AND LOCATION

NAVAL REGIONAL MEDICAL CENTER
CAMP LEJEUNE, NORTH CAROLINA 28542

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OICC Approval

Deviation/Substitution For OICC Approval

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746-1	12.2	Submersible Sump Pump	11		

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COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

CONTRACTOR REPRESENTATIVE (Signature)

DATE RECEIVED BY REVIEWER

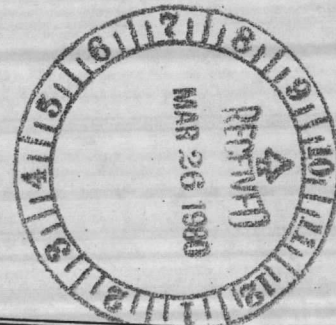
FROM (Reviewer)

TO

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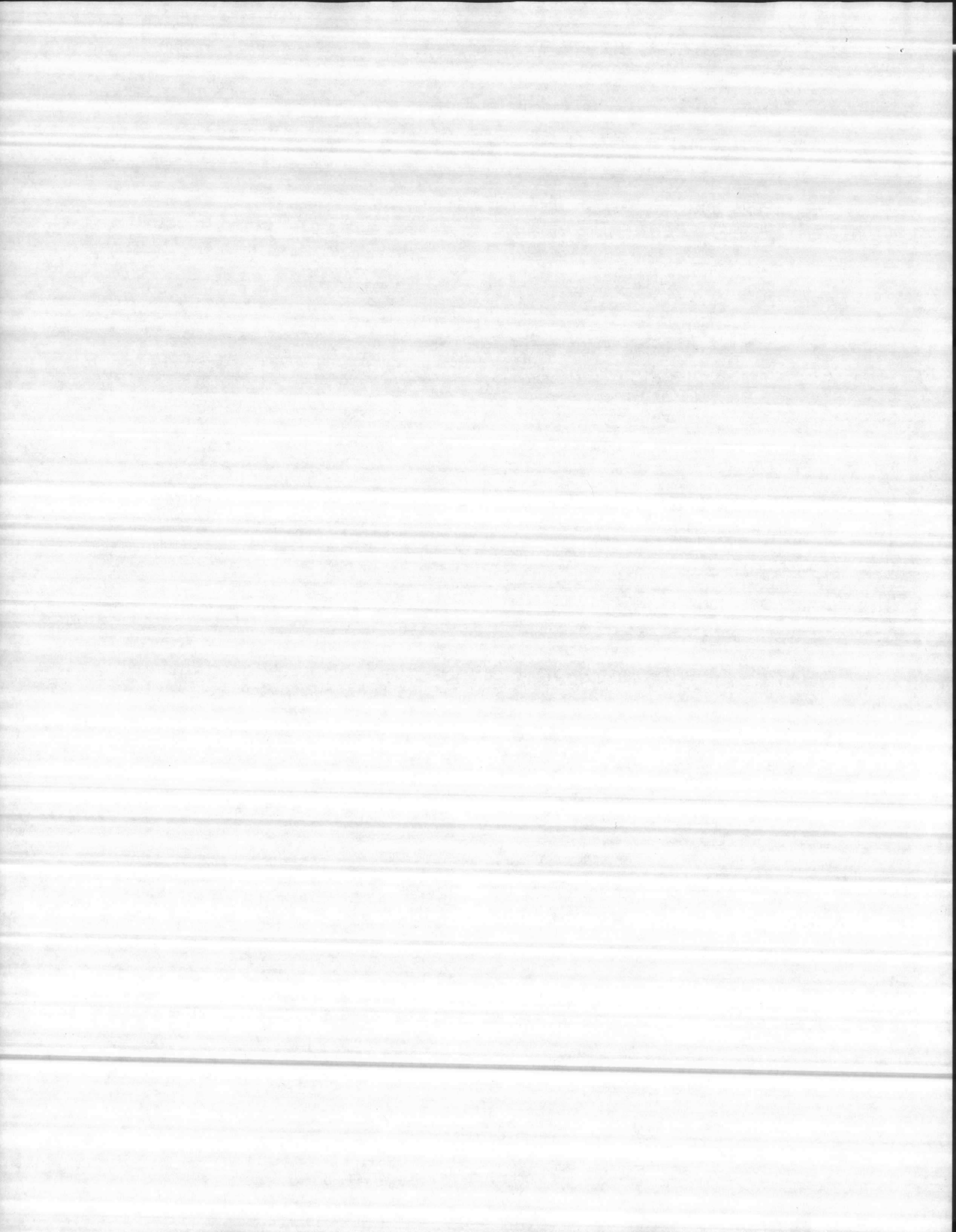
REVIEWER'S COMMENTS



COPIES TO:
ROICC (2)
LANTDIV (1)
A-E (1)

DATE

SIGNATURE



INDEX

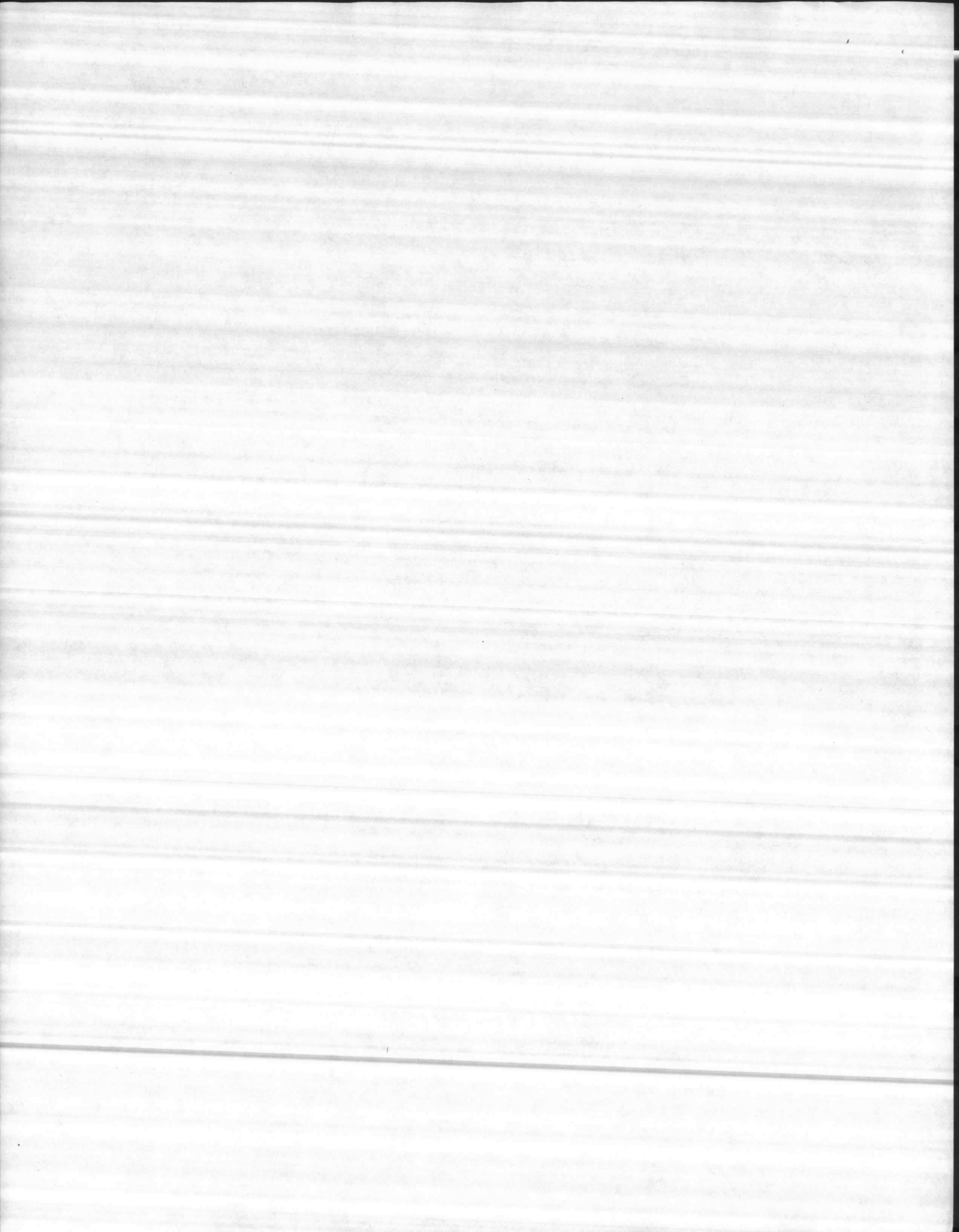
1. Hydr-O-Matic Sumps Letter Of Certification
2. Davis And McKinney, Inc. Letter Of Certification
3. Hydr-O-Matic Submerisible Sump Pump Features
4. Hydr-O-Matic Submerisible Sump Pump Specifications and Performance

"It is hereby certified that the material/equipment shown and marked in this submittal is that approved to be incorporated into Contract Number N62470-77-B-7526, is in compliance with the contract drawings and specifications, and can be installed in the allocated spaces, and is approved for use.

THE WALDINGER CORPORATION

Authorized Reviewer *EM* Date 3-21-80

Signature CQC Rep *BS* Date 3-25-80



HYDR-O-MATIC PUMPS

A Division of Wylain, Inc.

Claremont & Baney Rds
Post Office Box 327
Ashland Ohio 44805
419 289-3042
Telex 98 7432

Bud Davis
Davis and McKinney, Inc.
P.O. Box 8067
Charlotte, North Carolina 28208

March 13, 1980

Subject: Military spec #MILP 21214A

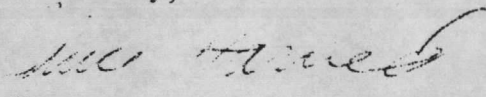
Dear Bud:

In regards to the above specification, HYDR-O-MATIC pumps will meet or exceed conditions as stated.

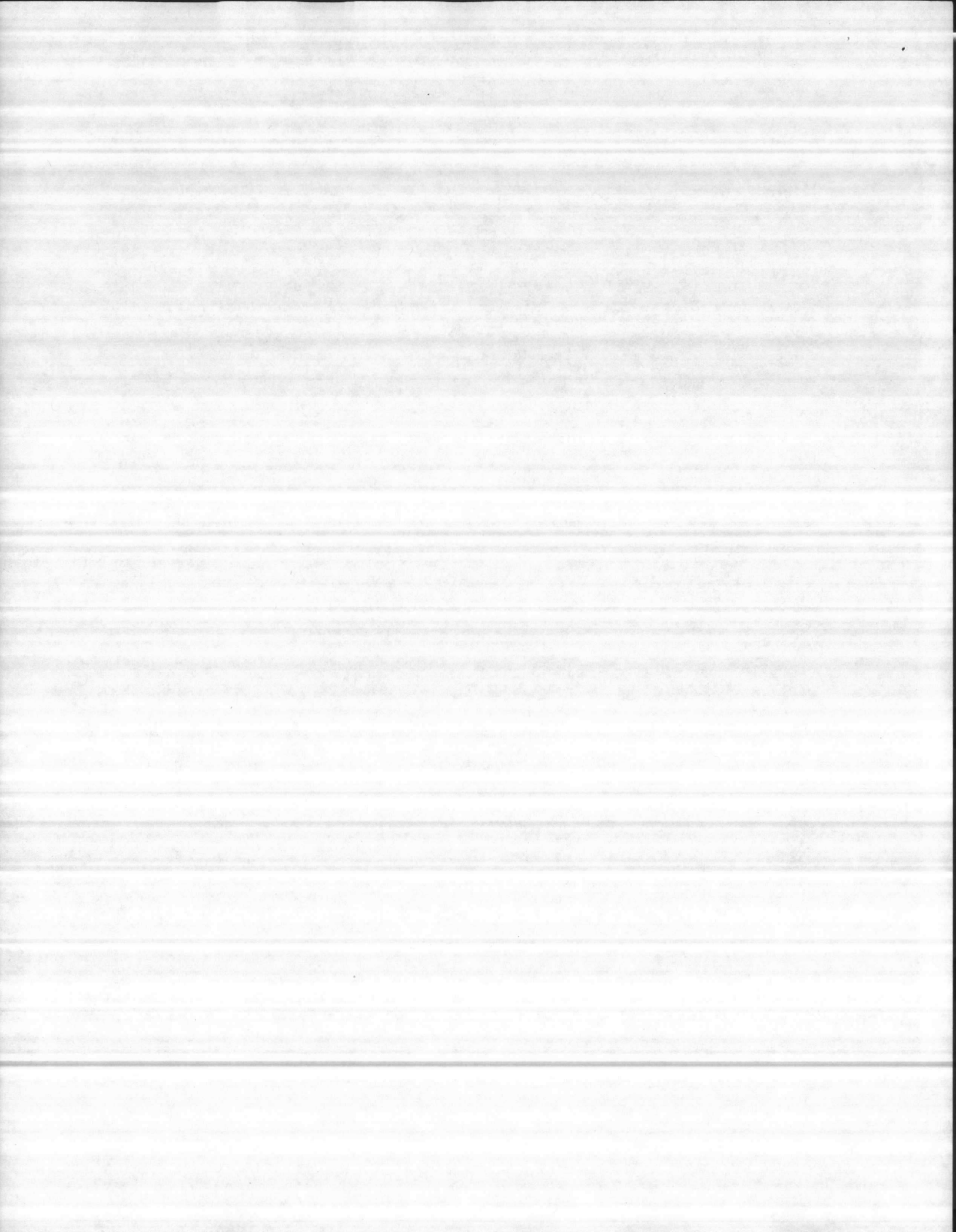
Any deviation from this specification in the future would have to be reviewed at that time.

If you need any further information or assistance, please contact me.

Sincerely,


Bruce H. Harned
Manager, Contractor Services

jf



DAVIS AND MCKINNEY, INC.

Manufacturer's Representative

P. O. Box 8067

2433 Arty Avenue

Charlotte, N. C. 28208

Phone 704-394-4196

March 17, 1980

Mr. Larry Greene
W. L. Smith Supply Co.
P.O. Box 690
Fayetteville, N. C. 28302

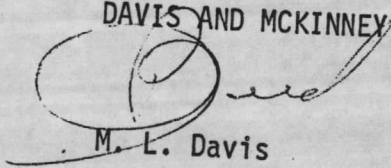
Dear Larry;

Your order AF59283 attached referred to Mil. spec 2121149.

Copy of letter from Bruce Harned indicating Hydr-0-Matic does indeed meet this specification. We appreciate the opportunity of being of service.

Yours truly,

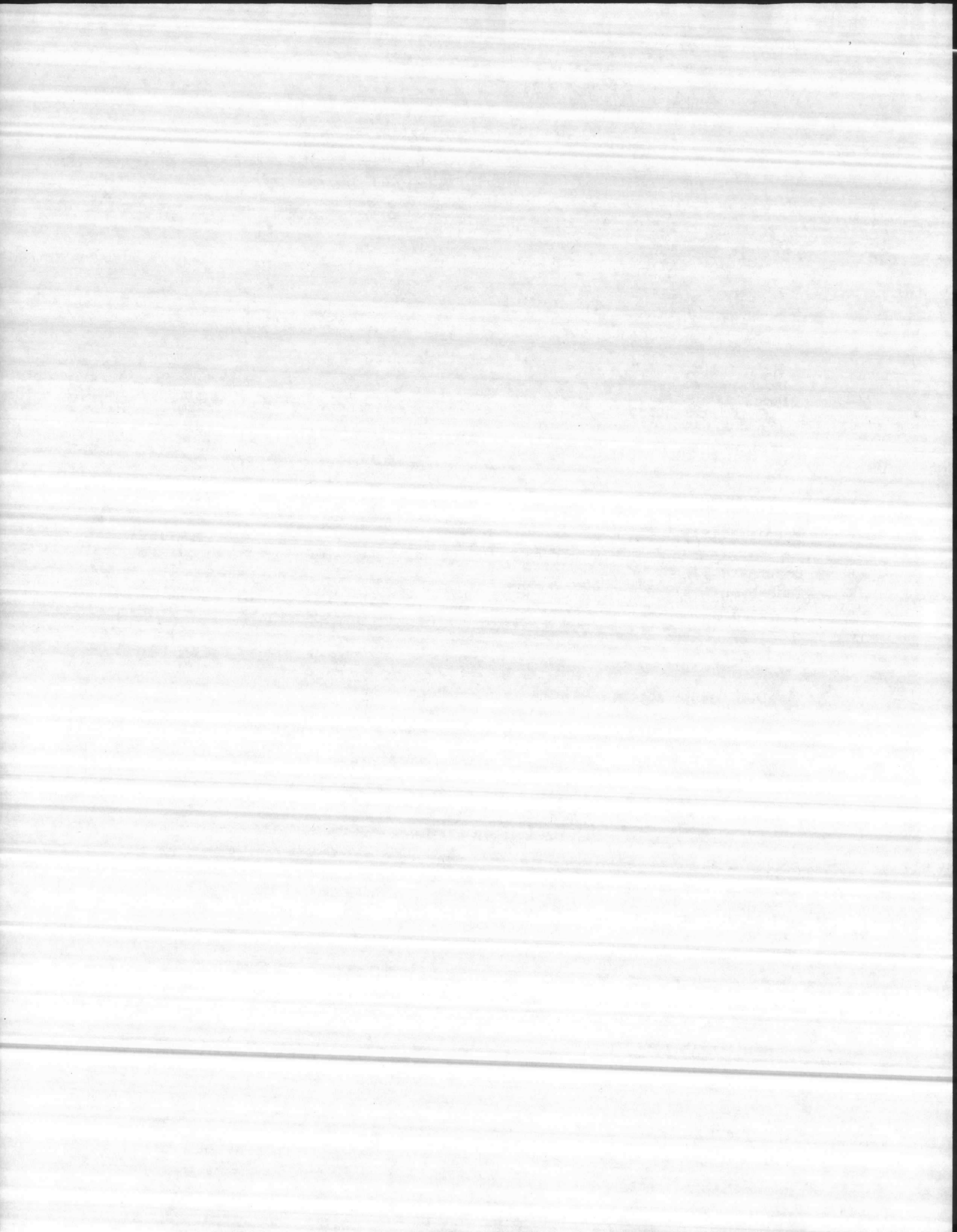
DAVIS AND MCKINNEY, INC.



M. L. Davis

MLD/1s

CC: Bob McKinney



High Performance 1/3 H. P. Submersible Sump Pumps Oil Filled Motor

By

HYDR-O-MATIC

Features

COMPLETELY SUBMERSIBLE—Pump, powerful 1/3 H. P. oil filled motor and level control switch all combined in one compact rugged unit. No external floats, tubes, rods or weights to damage.

PROVEN WATER LEVEL SWITCH—Sump water level is controlled by same type pressure switch that has been used for years for controlling water levels in many applications. Has been tested for over 300,000 cycles without failure. Switch contact points are silver.

NON CLOGGING IMPELLER—Specially designed bronze impeller allows all normal sump discharge including washing machine lint to be pumped without clogging. No suction screen to clog or clean. **REAL IMPROVEMENT IN SUMP PUMP OPERATION.**

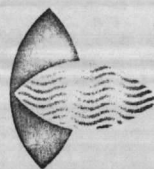
PERFORMANCE—Big 5" diameter bronze impeller pumps high capacity and high head. Better for average installations, delivers more water at the higher heads usually required to reach sewer lines. Compare our performance with others.

QUALITY MATERIALS—Only quality materials are used in the construction of HYDR-O-MATIC Submersible Sump Pumps. All exposed parts are cast bronze, cast iron, steel and stainless steel. For many years, these quality materials have proven best for long life under water. No plastics, aluminum or other substitute materials are used in HYDR-O-MATIC Pumps. HYDR-O-MATIC Submersible Pumps are furnished in all bronze or iron, bronze fitted construction.

COMPLETELY FIELD SERVICEABLE—Designed for complete field service by the dealer. Not necessary to return pump to factory or service station when repair is necessary. Motor stator winding, mechanical seal, or level control switch can be replaced in minutes without special tools. **SAVE TIME, INCONVENIENCE AND MONEY.**

PERFORMANCE TESTED—Every unit is given a complete operating test in water before shipment. Exact test specifications for capacity, head and power must be met, assuring reliable field performance.

Imperial Iron Bronze Fitted Pump
Model OSP33A -
Imperial All Bronze Pump
Model OSP33AB -



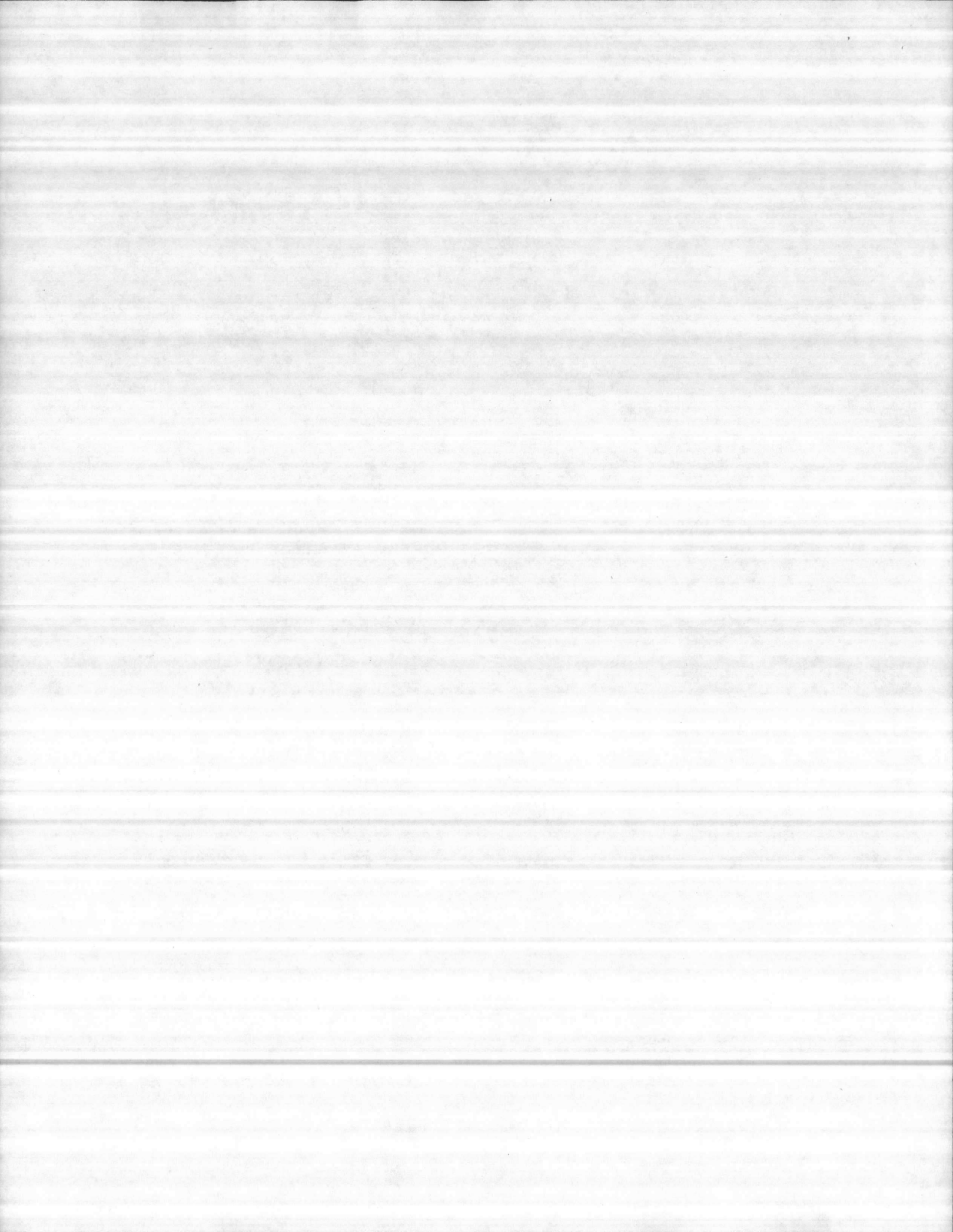
HYDR-O-MATIC
PUMP COMPANY HAYESVILLE OHIO 43124
...the people who put it all together.

FOR PUMPING
GOOD CONTROL UNIT
INDUSTRIAL CIRCULATION
BASEMENT SUMP
SEWER TANK
IN WATER COOLERS

FOR CONDITION CONDENSATE
TRANSFER TANKS
TRANSFER VALVES
ELEVATOR TRIPS

It is hereby certified that the material/equipment shown and marked in this submittal is that approved to be incorporated to Contract Number N62470-77-B-7526, is in compliance with the contract drawings and specifications, and can be installed in the allocated spaces, and is approved for use.

THE WALDINGER CORPORATION
Authorized Reviewer [Signature] Date 12-2-80
nature CQC Rep. _____ Date _____



SPECIFICATIONS AND PERFORMANCE

IMPERIAL IRON BRONZE FITTED PUMP

Model OSP33A

Shipping Weight 42 lbs.

MOTOR - Continuous duty 1/2 H. P. Single Phase 115 volts. Built-in automatic reset over-load protection. Oil filled for heat transfer and bearing lubrication.

BEARINGS - Upper and lower rotor bearings are heavy duty size 203 ball bearings, lubricated for life with oil in motor.

SHAFT - 5/8" dia. rotor and pump shaft, corrosion protected steel.

IMPELLER - Bronze non-clogging, threaded to motor shaft for perfect alignment and easy removal.

SHAFT SEAL - Mechanical shaft seal. Seal faces are ceramic and carbon, super lapped to less than 2 light bands for perfect sealing. Buna N rubber, brass and stainless steel used in seal parts.

PUMP CASE - Heavy cast iron casting houses impeller, level control switch and supports motor stator and lower ball bearing. Treated inside and outside with rust inhibitor to resist corrosion and painted with metallic paint for fine appearance and additional corrosion resistance. Discharge Pipe Size 1 1/4".

MOTOR CAP - Heavy cast iron castings houses motor stator and supports upper rotor ball bearing. Held to pump case with 4 - 5/16" - 18-8 stainless steel cap screws. Cap sealed to pump case with rubber ring providing metal to metal contact for perfect alignment. Treated inside and outside with rust inhibitor and painted with metallic paint for corrosion resistance and fine appearance.

CASE BOTTOM PLATE - Steel stamping .080 thick. Coated with baked on epoxy paint to resist corrosion. Held to case with 18-8 stainless steel screws.

SUPPORT FOOT AND BAFFLE - Cast iron with three legs for balanced support. Baffle keeps large objects from entering impeller. All normal lint and dirt passes through pump without clogging. Special baked on epoxy paint is used to prevent corrosion. Foot is held to pump case with 18-8 stainless steel screws.

LEVEL SWITCH - Diaphragm type pressure operated level switch sealed into water-tight housing gives accurate level control with no outside moving parts. Switch diaphragm is isolated by oil retained by a second diaphragm. Solids can not affect switch operation and switch will continue to operate even if exposed diaphragm is punctured. This is an exclusive HYDR-O-MATIC feature. Standard switch setting 6". Can be furnished special for level to 40".

SWITCH HOUSING CAP - Cast iron casting. Supports power cord and provides screw for ground connection. Treated with rust inhibitor and painted with metallic paint for corrosion resistance. Held to pump case with two 5/16" - 18-8 stainless steel cap screws.

POWER CORD - Vinyl plastic cord and plug U. L. approved. Heavy duty three wire type resists oil, detergents, grease, cutting and abrasion. Held to switch cap with brass packing nut. Sealed with two "O" rings. Ground wire connects to switch cap. Power cord 10 feet long. 20 foot cord available. Consult factory for price.

LIFTING HANDLE - 5/32" - 18-8 stainless steel ball with plastic handle.

SUMP SIZE - Can be installed in 12" dia. or larger sump. Depth is not important but at least 12" should be allowed above pump top.

DIMENSIONS OF PUMP - Height 10 3/4" - Width 8" - Overall width 12".

IMPERIAL ALL BRONZE PUMP

Model OSP33AB

Shipping Weight 44 lbs.

BEARINGS—Same as OSP33A.

MOTOR—Same as OSP33A.

SHAFT—Stainless Steel.

IMPELLER—Same as OSP33A.

SHAFT SEAL—Same as OSP33A.

PUMP CASE—Heavy bronze casting, 85-5-5-5 metal. Chemically cleaned for bright finish and tarnish resistance. Houses impeller, level control switch and supports motor stator and lower ball bearings.

MOTOR CAP—Heavy bronze casting, 85-5-5-5 metal. Chemically cleaned for bright finish and tarnish resistance. Houses motor stator and supports upper ball bearing. Held to pump case with 4-5/16" - 18-8 stainless steel cap screws. Cap sealed to pump case with rubber ring providing metal to metal contact for perfect alignment.

CASE BOTTOM PLATE—Brass plate stamping .065 thick. Held to case with 18-8 stainless steel screws.

SUPPORT FOOT AND BAFFLE—Bronze casting with 3 legs for balanced support. Same features as given for OSP33A.

POWER CORD—Same as OSP33A.

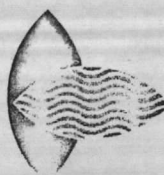
LIFTING HANDLE—Same as for OSP33A.

SUMP SIZE—Same as for OSP33A.

DIMENSIONS OF PUMP—Same as for OSP33A.

PERFORMANCE TABLE ALL MODELS

Total Head In feet	5	10	15	20	22	24
Capacity Gallons per hour	3600	3200	2600	1800	1300	600

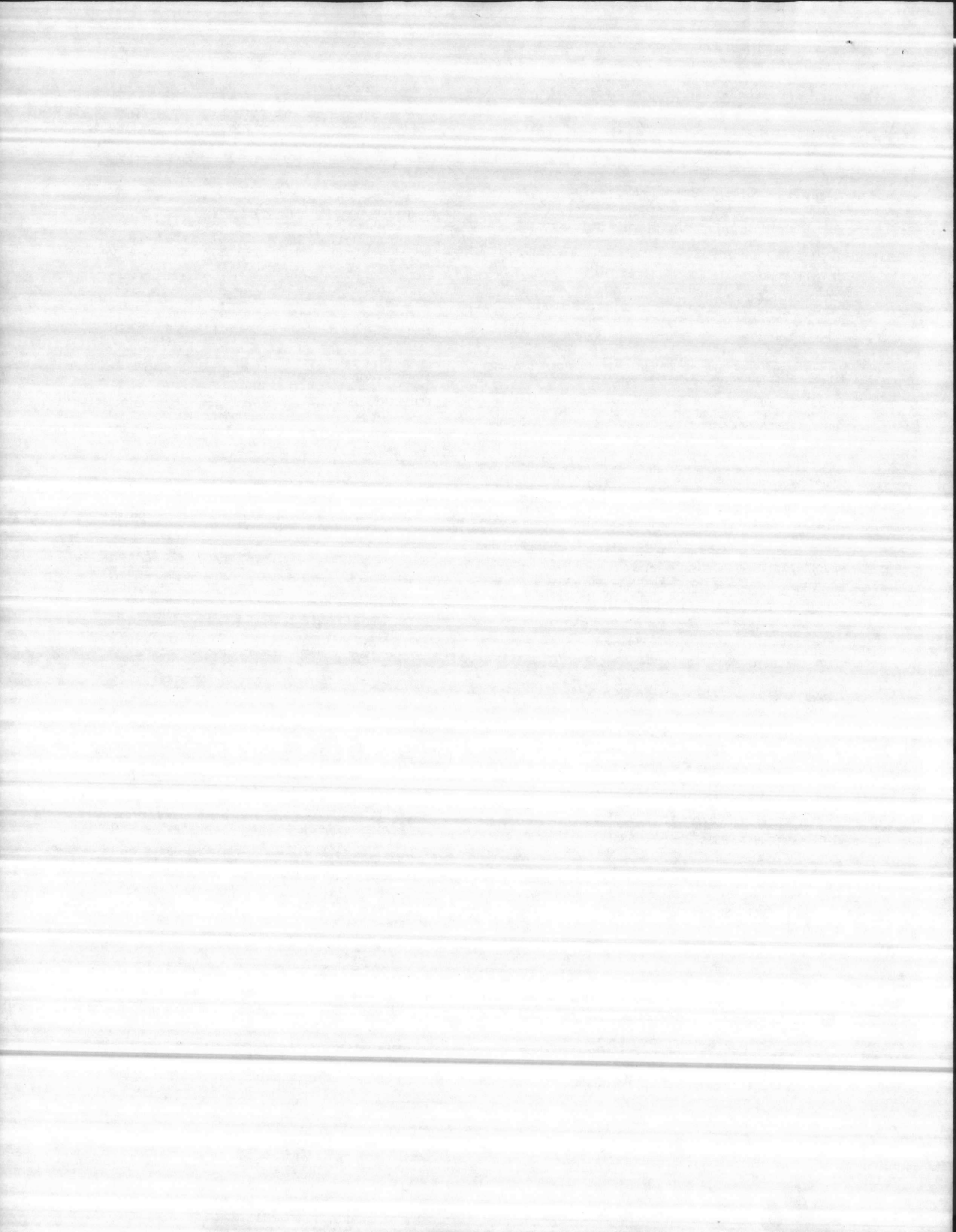


HYDR-O-MATIC
PUMP COMPANY

HAYESVILLE OHIO 44638

... the people who put it all together





CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDIV 4-4355/3 (Rev. 6/76)

SECTION 15401

File 12/17/81

CONTRACT NO. N62470-77-B-7525	TRANSMITTAL NO. 746-2	DATE 10-16-81
----------------------------------	--------------------------	------------------

FROM CONTRACTOR
CARDINAL CONTRACTING CO., INC.
TO
LOCKWOOD-GREENE ENGRS.

PROJECT TITLE AND LOCATION
NAVAL REGIONAL MEDICAL CENTER
FILE CAMP LESTUNE, NORTH CAROLINA 28542
Lockwood Greene Engineers Inc.

RECEIVED
NOV 9 1981
REC. TO
ACK. Deviation/Substitution For OICC Approval

REVIEWER USE ONLY
**ACTION CODES
A-Approved
D-Disapproved
AN-Approved as noted
RA-Receipt acknowledged.
C-Comments
R-Resubmit

CONTRACTOR USE ONLY
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- Contractor Approved
 OICC Approval

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO.	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES
	Sump Pump Sch. Dwg. P7-2	LOADING DOCK SUMP PUMP -	
	§ 12.2	Spec Paragraph -	

ACTION CODES	REVIEWER'S INITIALS CODE AND DATE
A	RT 403 12/1/81

RECEIVED
NOV 20 1981

	FOR	INT	DATE
DC			12-14
DD			12/14
JR			12-14
AY			
JJ			

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

DATE RECEIVED BY REVIEWER: 11-3-81

FROM (Reviewer): LANTDIV

CONTRACTOR REPRESENTATIVE (Signature): *Wm. J. ...*

TO: CARDINAL CONTR. CO.

- Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.
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REVIEWER'S COMMENTS

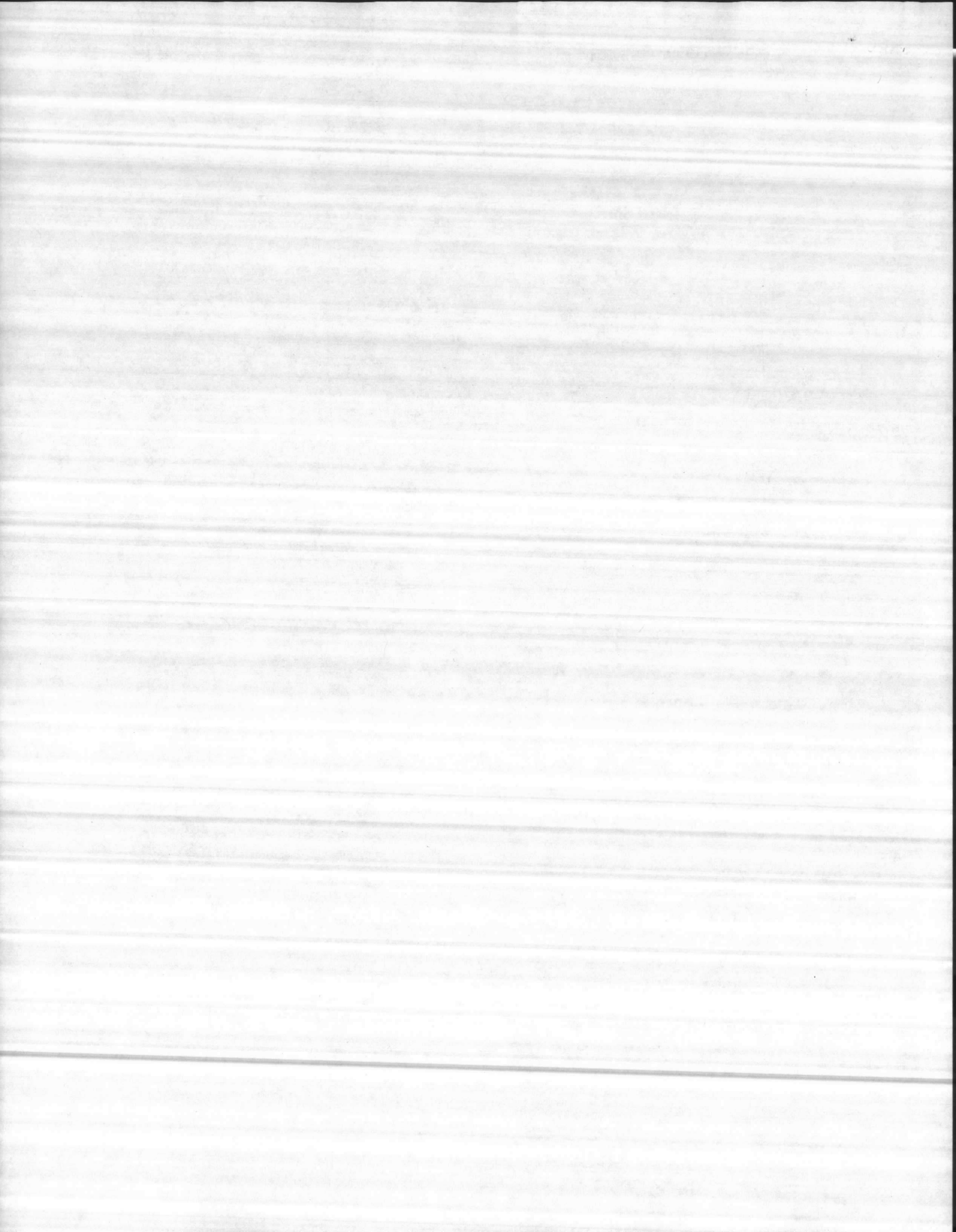


COPIES TO: ROICC (2), LANTDIV (1), A-E (1)

DATE: 2 Dec 81

SIGNATURE: *J. P. ...*

6316



CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDIV 4-4355/3 (Rev. 6/76)

SECTION 15401

FROM CONTRACTOR
CARDINAL CONTRACTING CO., INC.
 TO
LOCKWOOD-GREENE ENGRS.

CONTRACT NO. **N62470-77-B-7526**
 TRANSMITTAL NO. **746-2**
 DATE **10-16-81**
 PROJECT TITLE AND LOCATION
NAVAL REGIONAL MEDICAL CENTER
CAMP LEJEUNE, NORTH CAROLINA 28542

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					FOR	INIT	DATE
	Sump Pump Sch. Dwg. P7-2	LOADING DOCK SUMP PUMP	10				
	<i>\$12.2 Spec. Sect.</i>						

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC
 DATE RECEIVED BY REVIEWER **11-3-81** FROM (Reviewer) _____ TO _____
 CONTRACTOR REPRESENTATIVE (Signature) *[Signature]*

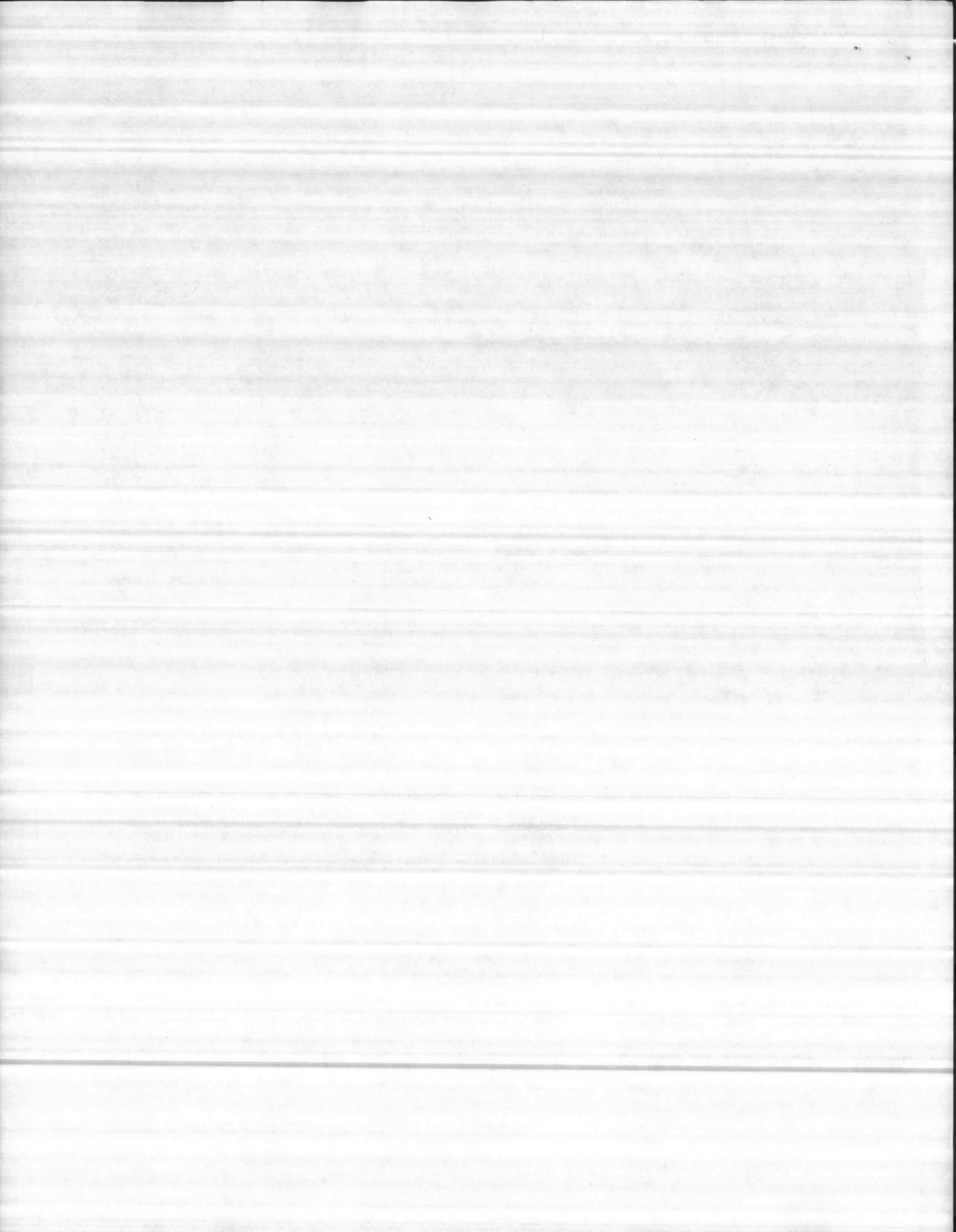
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COPIES TO:
 ROICC (2)
 LANTDIV (1)
 A-E (1)

DATE _____ SIGNATURE _____



CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDIV 4-4355/3 (Rev. 6/76)

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CARDINAL CONTRACTING CO., INC.

TO

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CONTRACT NO.

N62470-77-B-7526

TRANSMITTAL NO.

746-2

DATE

10-16-81

PROJECT TITLE AND LOCATION

NAVAL REGIONAL MEDICAL CENTER

CAMP LEJEUNE, NORTH CAROLINA 28542

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REVIEWER USE ONLY

**ACTION CODES

- A-Approved
- D-Disapproved
- AN-Approved as noted
- RA-Receipt acknowledged.
- C-Comments
- R-Resubmit

Contractor Approved

OICC Approval

Deviation/Substitution For OICC Approval

ITEM NO	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO.	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES	REVIEWER'S INITIALS CODE AND DATE
	Sump Pump Sch. Dwg. P7-2	LOADING DOCK SUMP PUMP	10	A	RT 403 12/1/81

CONTRACTOR'S COMMENTS

6316

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

CONTRACTOR REPRESENTATIVE (Signature)

DATE RECEIVED BY REVIEWER

FROM (Reviewer)

TO

Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.

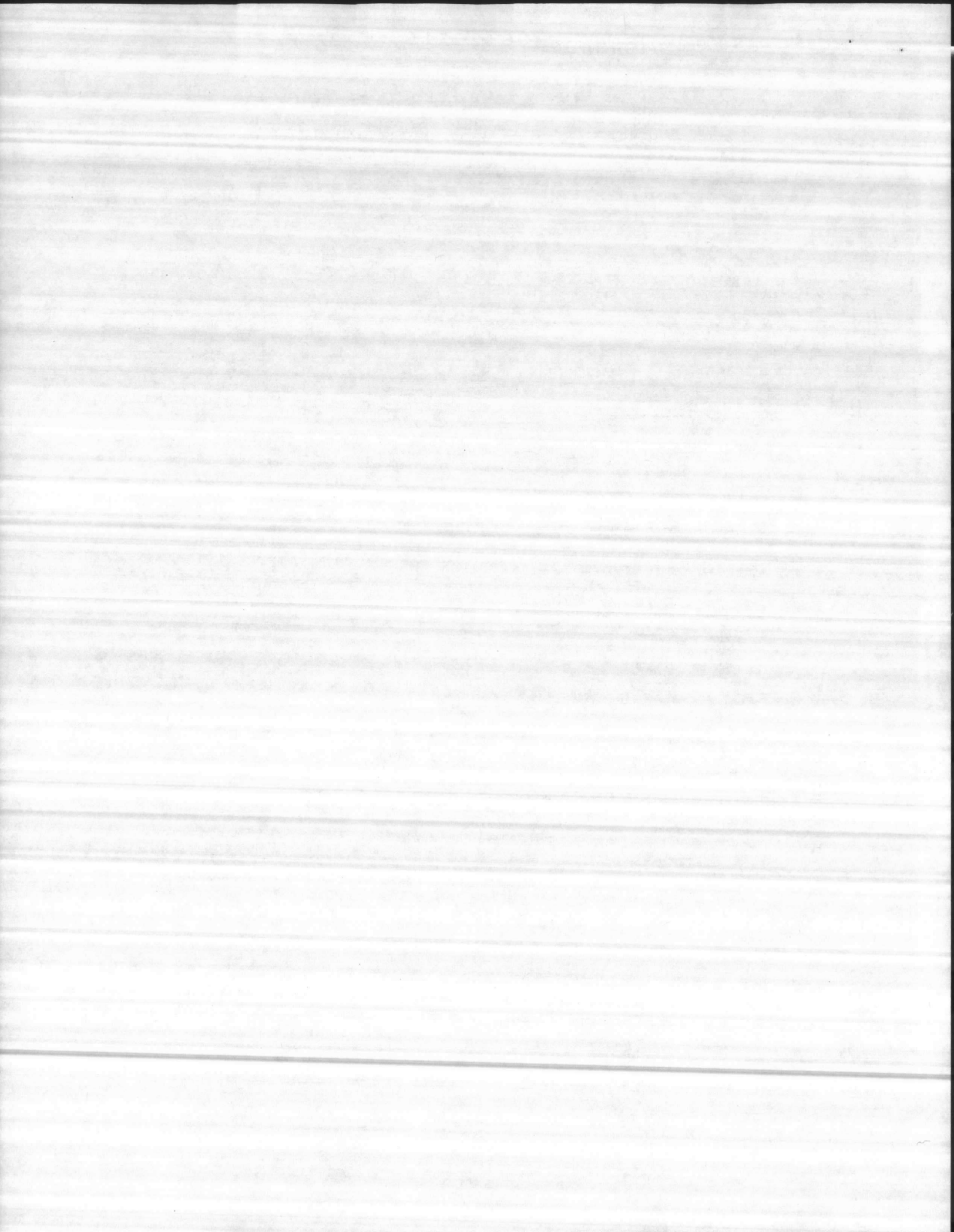
Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on ONE COPY of the transmittal form.

REVIEWER'S COMMENTS

COPIES TO:
ROICC (2)
LANTDIV (1)
A-E (1)

DATE

SIGNATURE



LOADING DOCK SUMP PUMP SUBMITTAL

DWG. P7-2

TABLE OF CONTENTS

Letter Of Deviation:

Astm A-48 Class 30 Cast Iron Impeller
In Lieu Of Bronze

PAGE 1

Manufacturers Catalog Data

PAGE 2

Pump Curve

PAGE 3

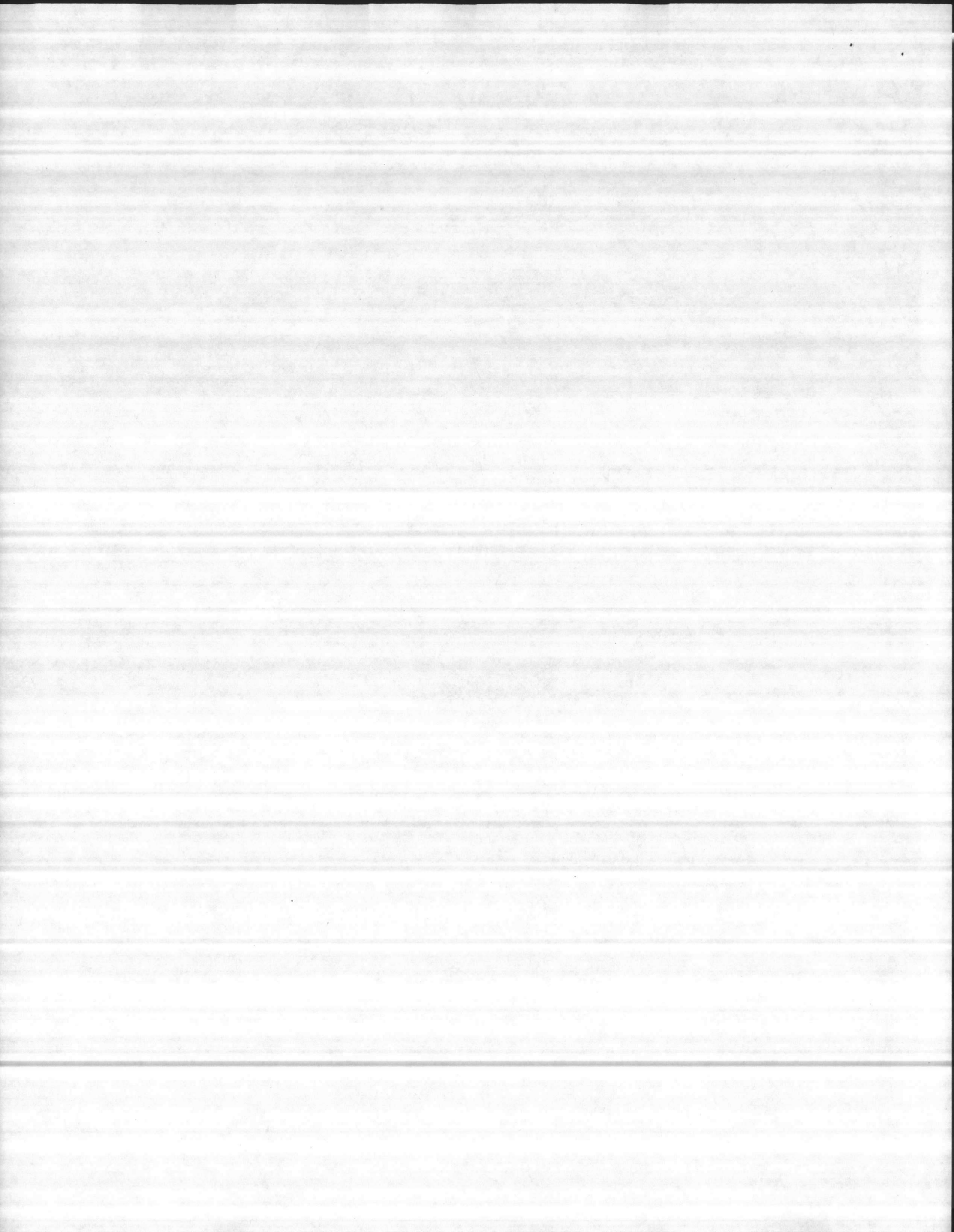
"It is hereby certified that the material/equipment shown and marked in this submittal is that approved to be incorporated into Contract Number NS0470-77-2-7526, is in compliance with the contract drawings and specifications, and can be installed in the allocated spaces, and is approved for use.

THE WALDINGER CORPORATION

Authorized Reviewer SS Date 10-16-81

Signature CQC Rep WH Date 11-3-81

6316





October 5, 1981

LETTER OF DEVIATION

W. L. SMITH SUPPLY COMPANY
125 North Drake Street
Fayetteville, North Carolina 28301

Attention: Mr. Larry Green

Dear Mr. Green:

In response to your inquiry, the 40SW Series Toran pumps are constructed with ASTM A48 Class 30 cast iron Impeller and bronze Wear Ring and Impeller Bushing. This type of construction is listed as suitable for use in fresh water and sewage by the Hydraulic Institute standards for Centrifugal, Rotary And Reciprocating Pumps, Thirteenth Edition, Table 11 (Materials of Construction for Pumping Various Liquids).

If we can be of any further assistance, please feel free to call.

Very truly yours,

TRANSAMERICA DELAVAL, INC.
TAIT PUMP DIVISION

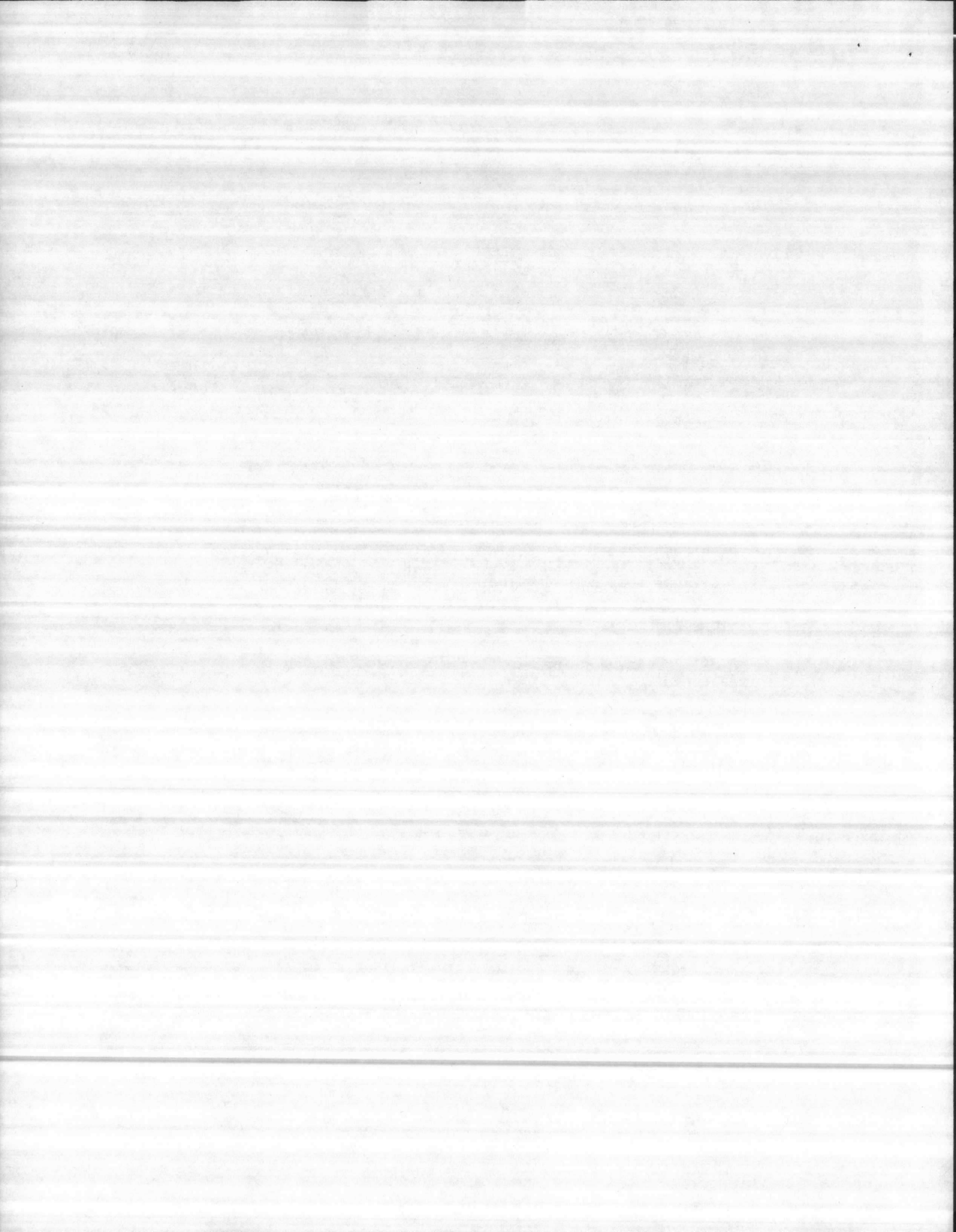
Leslie L. Jones
Leslie L. Jones
Project Engineer

6316

LLJ/nmp

cc: Hank Stratton

CERTIFIED
DATE 10/5/81
BY Leslie L. Jones

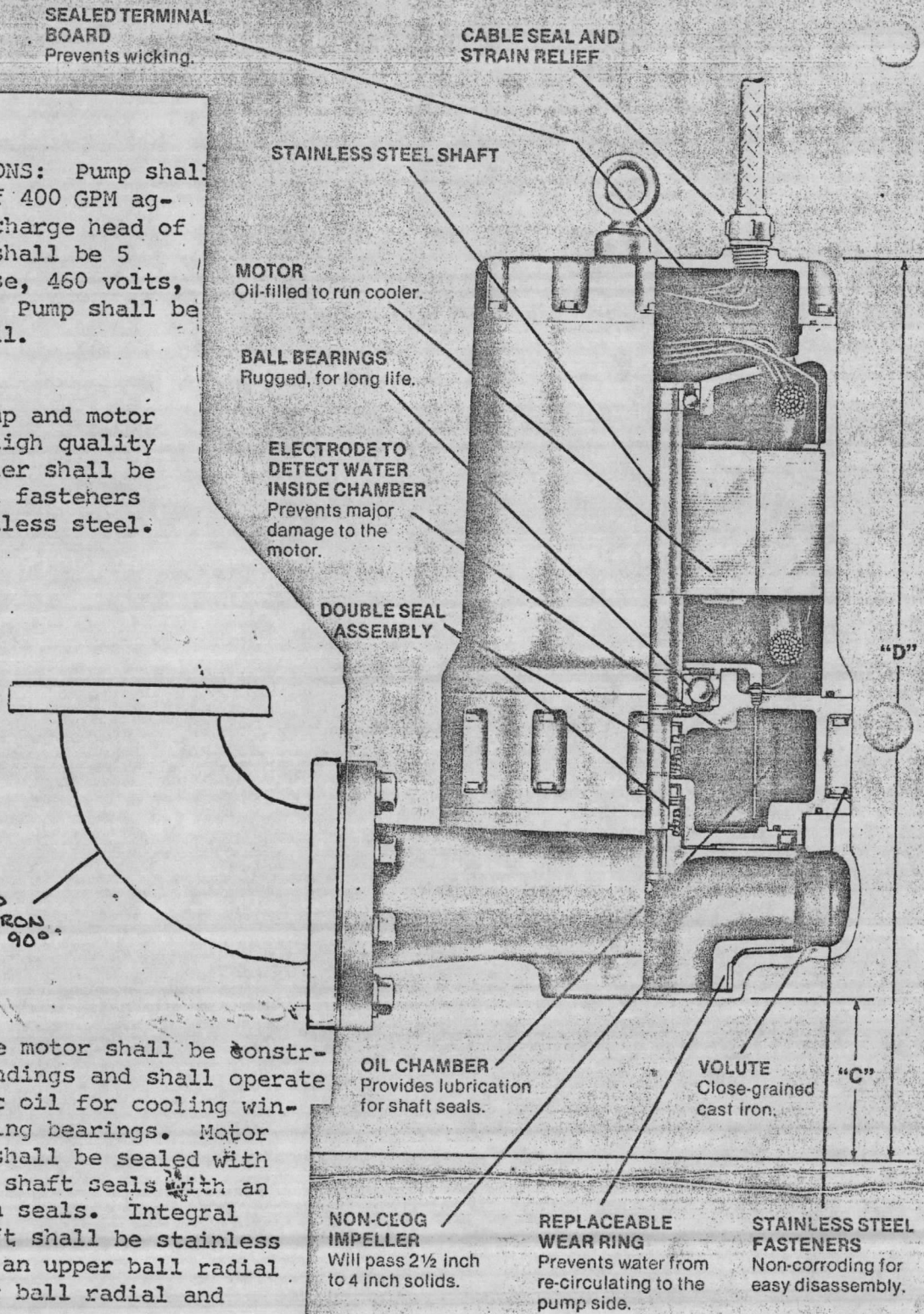


construction & specifications

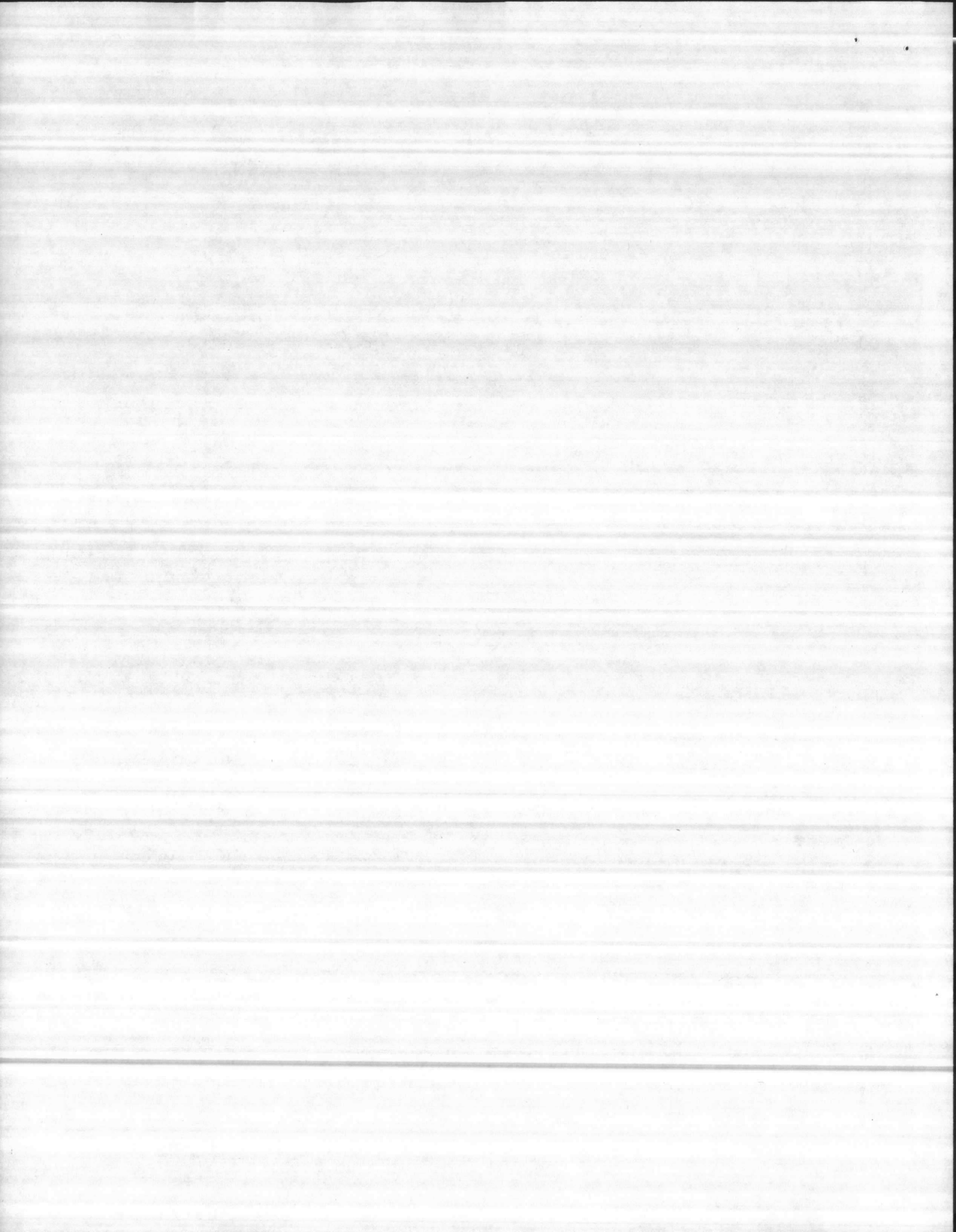
OPERATING CONDITIONS: Pump shall have a capacity of 400 GPM against a total discharge head of 20' feet. Motor shall be 5 horsepower, 3 phase, 460 volts, 60 hz., 1750 rpm. Pump shall be Toran Model 40SW-11.

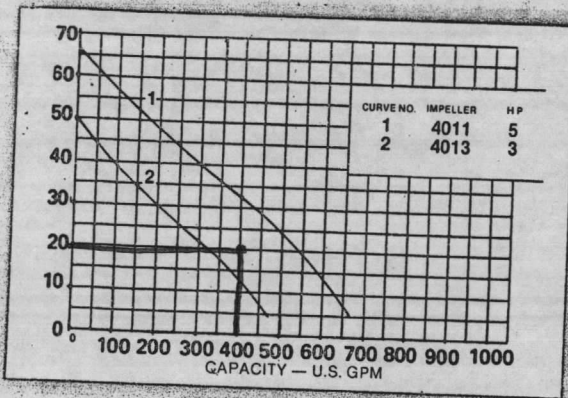
CONSTRUCTION: Pump and motor housing shall be high quality cast iron. Impeller shall be ductile iron. All fasteners shall be 304 stainless steel.

MOTOR: Submersible motor shall be constructed with open windings and shall operate in clean dielectaic oil for cooling windings and lubricating bearings. Motor shaft and housing shall be sealed with two (2) mechanical shaft seals with an oil chamber between seals. Integral motor and pump shaft shall be stainless steel supported by an upper ball radial bearing and a lower ball radial and thrust bearing.



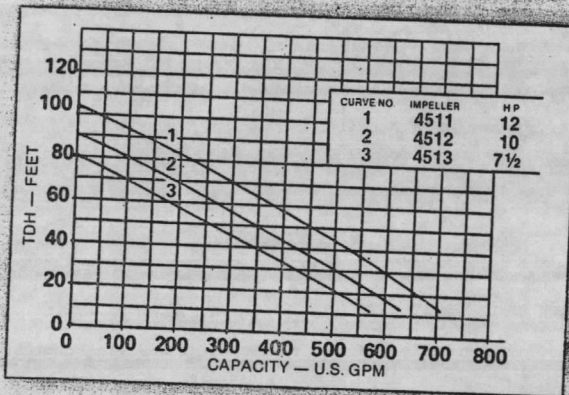
6316





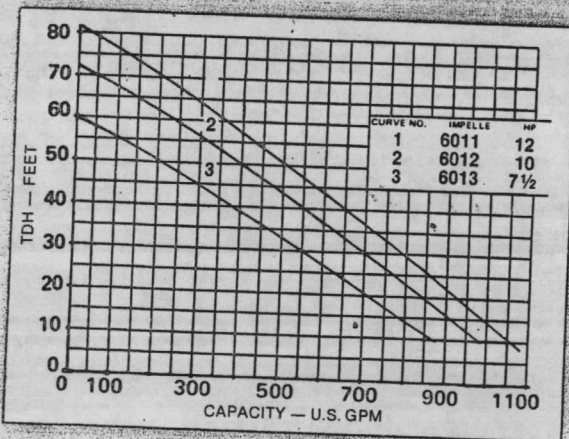
**TORAN SUBMERSIBLE PUMP
Model 40SW**

Pump Model Number	Curve Number	Horse Power		Motor RPM
		1-Phase Opt.-01	3-Phase Opt.-03	
40SW-11	1	—	5	1750
40SW-09	2	3	3	1750



**TORAN SUBMERSIBLE PUMP
Model 40SW High Head**

Pump Model Number	Curve Number	Horsepower	Motor RPM
40SW-14	1	12	1750
40SW-13	2	10	1750
40SW-12	3	7 1/2	1750



**TORAN SUBMERSIBLE PUMP
Model 60SW**

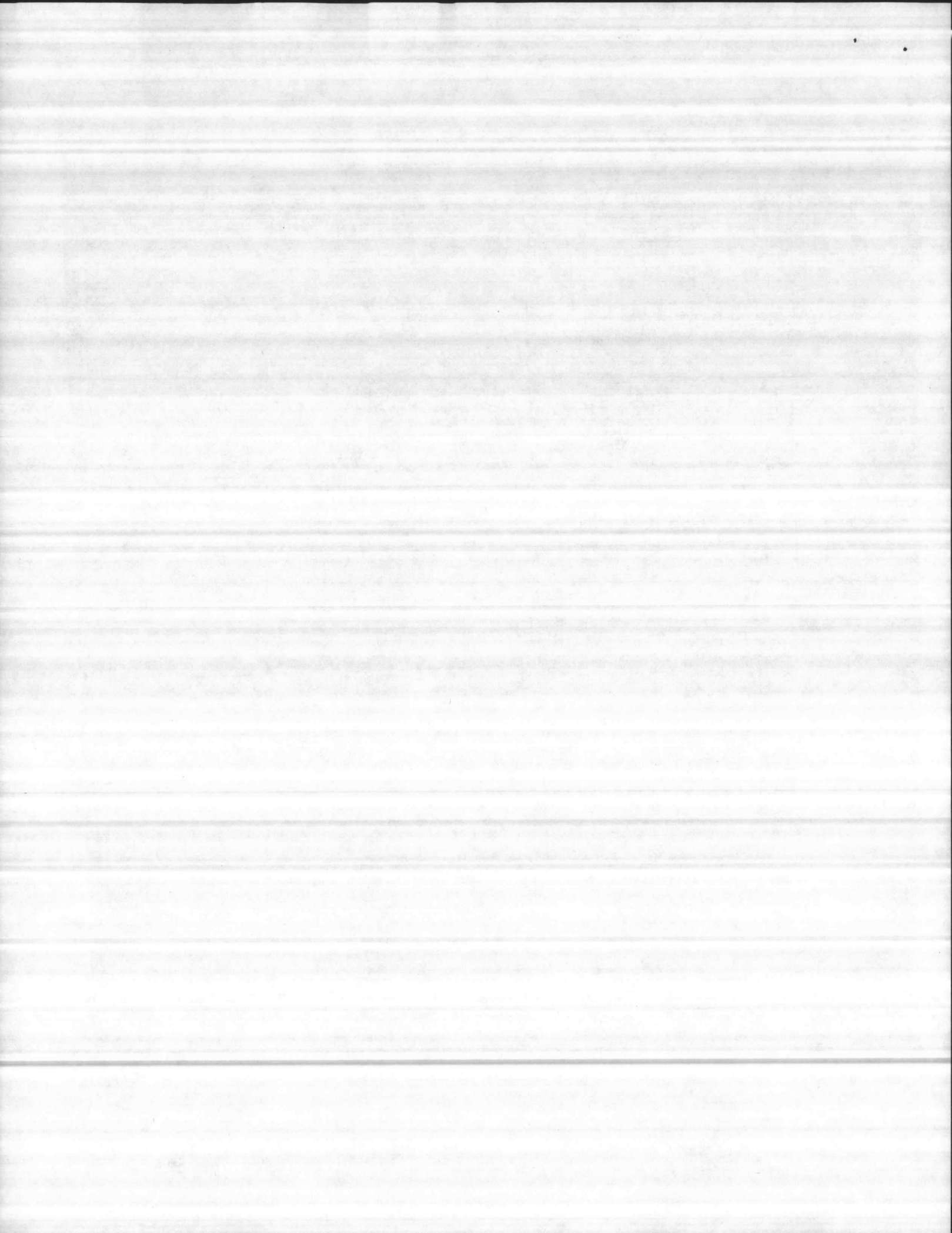
Pump Model Number	Curve Number	Horsepower	Motor RPM
60SW-14	1	12	1750
60SW-13	2	10	1750
60SW-12	3	7 1/2	1750

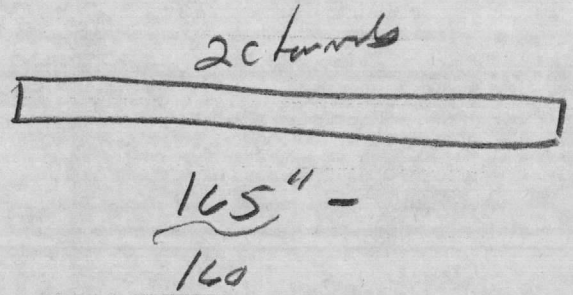
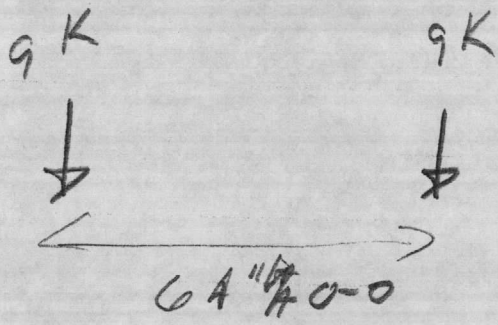
6316

CONSTRUCTION:
PUMP AND HOUSING: Cast Iron
SHAFT: Stainless Steel
FASTENERS: Stainless Steel
LIFT-OUT SEAL RING: Neoprene
POWER CABLE: Neoprene Covered

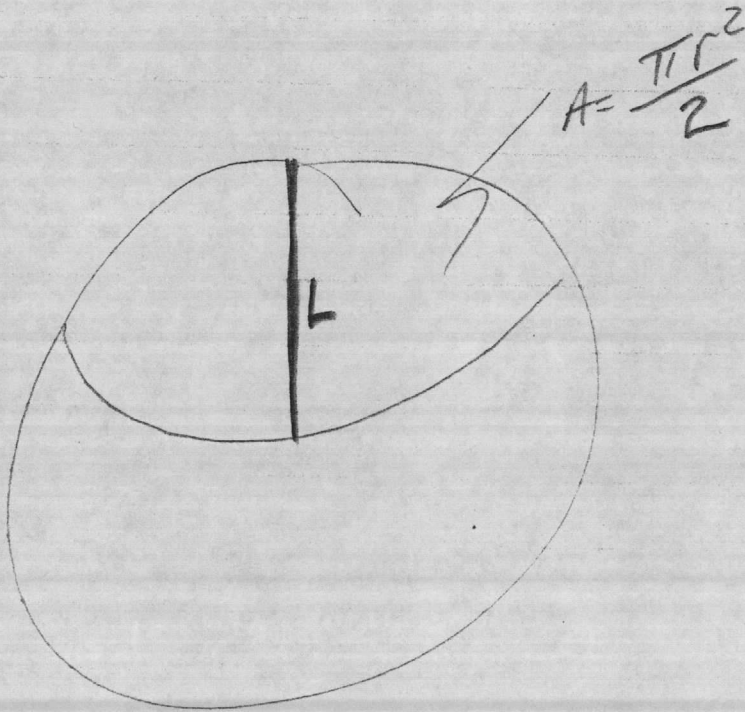
Carbon to ceramic shaft seals are standard with tungsten carbide seals available at extra cost. A replaceable inner-wear ring protects the outer seal and isolates it from the waste water being pumped. The inner seal runs in the oil reservoir.

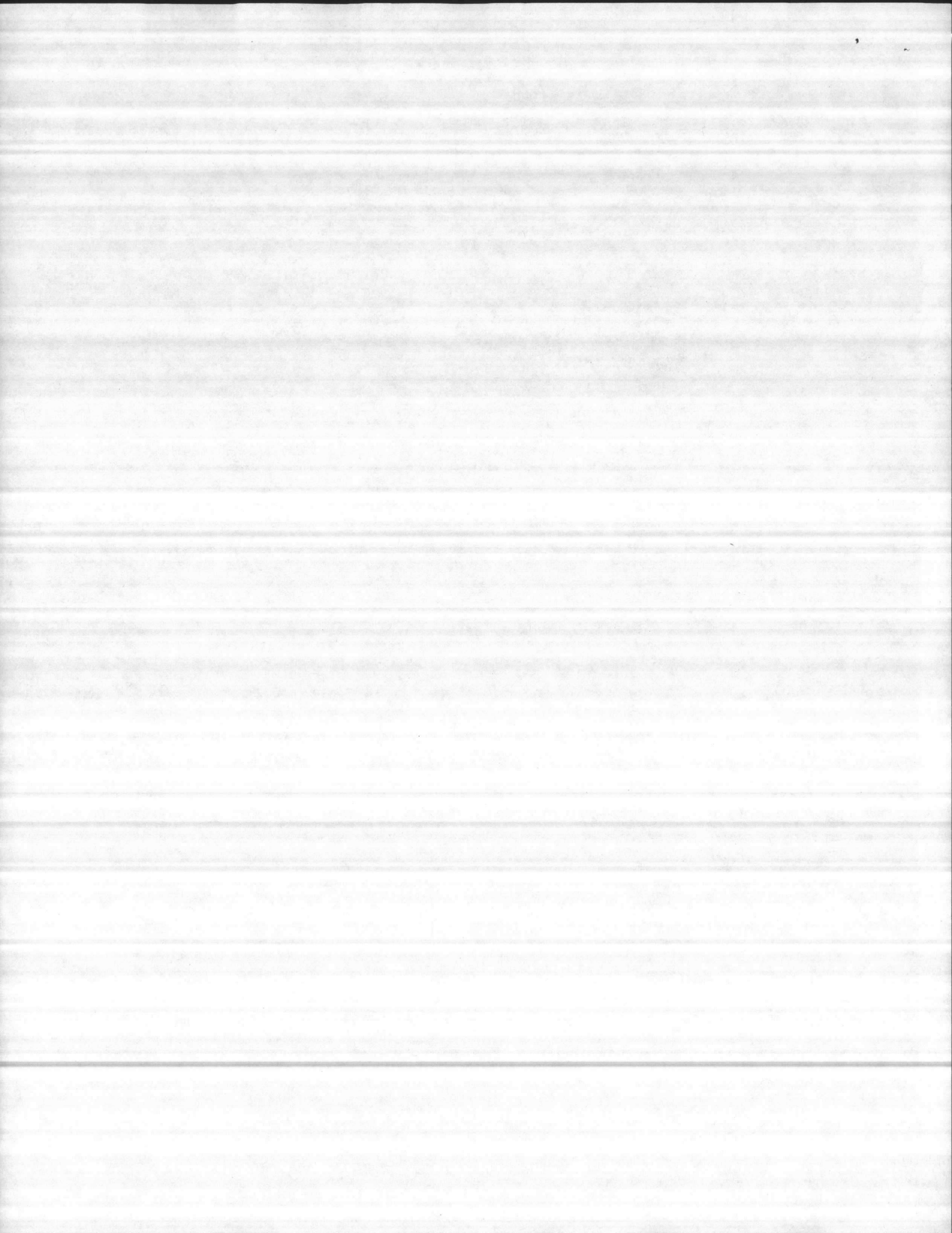
Model No.	Discharge Size	Solids Dia.	Weight Pump Only	Weight Lift Out Only	Dim. "A"	Dim. "B"	Dim "C"	Dim. "D"
40SW	4"	3"	250 lb.	145 lb.	14"	7 3/4"	3 3/4"	30 3/4"
40SW-HH	4"	2 1/2"	325 lb.	145 lb.	14"	7 3/4"	3 3/4"	32 3/4"
60SW-HH	6"	4"	350 lb.	175 lb.	16-3/8"	9 1/2"	4 3/4"	35 1/2"





690# PLF





Set 1540-1
745-A

DRAWING AND SPECIFICATION TRANSMITTAL
LOCKWOOD GREENE ENGINEERS, INC.
SPARTANBURG, SOUTH CAROLINA 29304
P.O. BOX 491 (803)582-2351

July 27/81
ACC
RDC
CS

TO Naval Facilities
Engineering Command-Bldg. N26
Atlantic Division
Norfolk, Va. 23511

DATE Dec. 19, 1980
JOB NO. 77239.16
JOB NAME N.R.M.C.

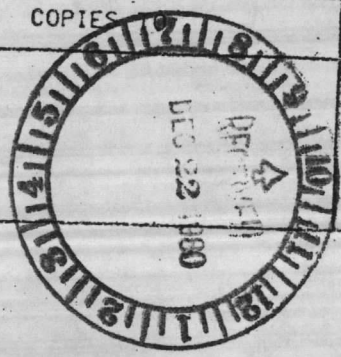
TRANSMITTAL NO. 4139
SHEET 1 OF 1
ORDER NO.

ATTN: Mr. John Grubbs - Code 5

Cont. # N-62470-77-C-7526

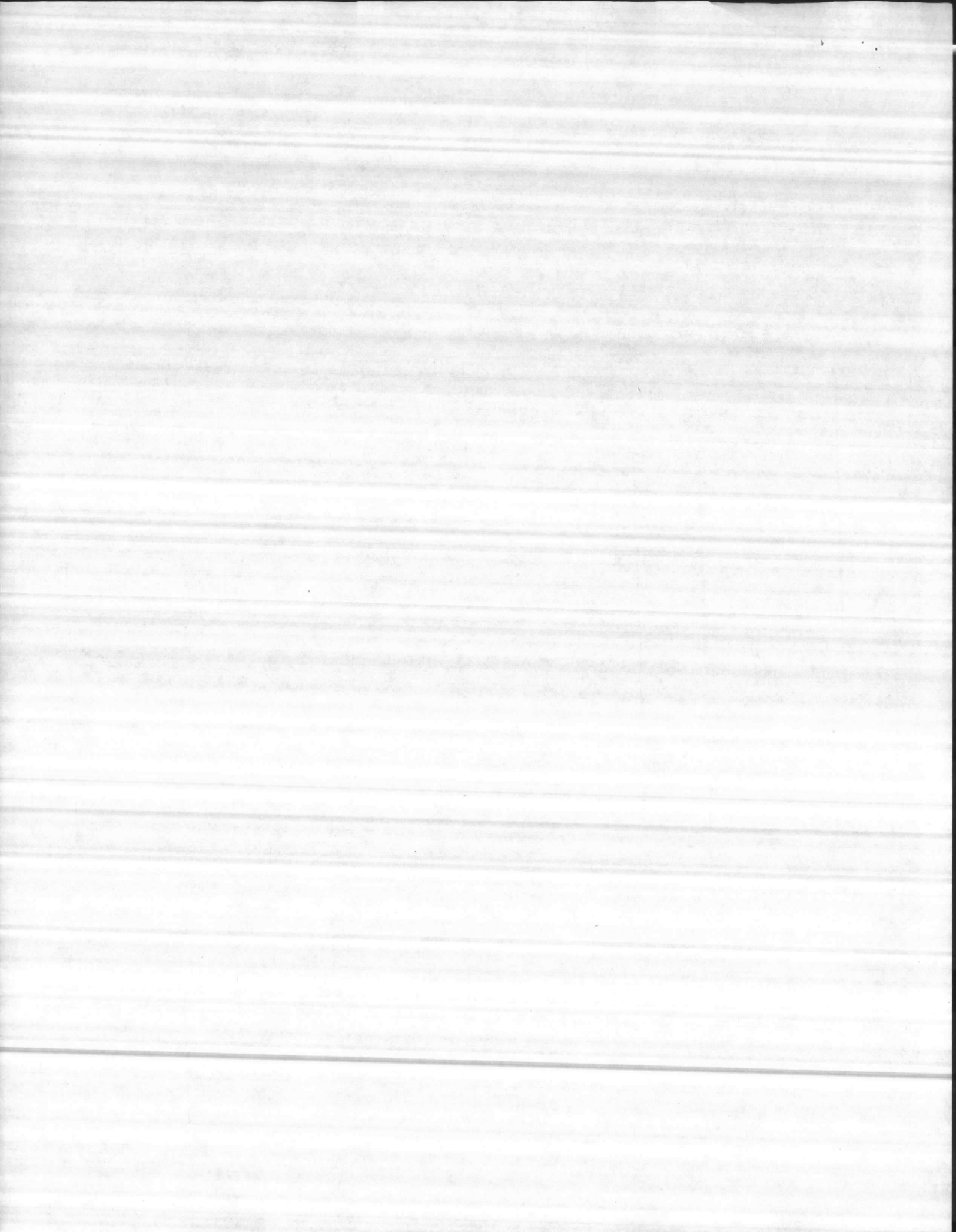
WE ARE SENDING YOU THE FOLLOWING DATA XX HEREWITH _____ UNDER SEPARATE COVER

QUAN.	DOCUMENT NO.	REV. NO.	DESCRIPTION	VENDOR	CODE
1	Set		Hot Water Heaters	The Waldinger Corp.	RA RA JG
CODE FOR					
LOCKWOOD GREENE DOCUMENTS			VENDOR DOCUMENTS		
A - INFORMATION B - REVIEW C - APPROVAL D - REVISED DWG. (SEE REVISION)			E - BID F - CONSTRUCTION G - PURCHASING H -		
			K - NO CORRECTIONS NOTED L - MAKE CORRECTIONS NOTED M - REVISE AND RESUBMIT N - REJECTED (SEE REMARKS)		
COPIES TO		QUAN	TRANS ONLY	CODE	COPIES
ROICC		2			
Cardinal Contracting Co.		6			



REMARKS

PLEASE ACKNOWLEDGE RECEIPT BY IMMEDIATE RETURN OF SIGNED COPY OF THIS TRANSMITTAL



CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDIV 4-4355/3 (Rev. 6/76)

CONTRACT NO. N62470-77-C-7526	TRANSMITTAL NO. 745-A	DATE 11/21/80
----------------------------------	--------------------------	------------------

SECTION 15401

FROM CONTRACTOR
CARDINAL CONTRACTING CO., INC.

TO
LOCKWOOD-GREENE ENGRS.

PROJECT TITLE AND LOCATION
NAVAL REGIONAL MEDICAL CENTER
CAMP LEJEUNE, NORTH CAROLINA

CONTRACTOR USE ONLY **REVIEWER USE ONLY**

*List only one specification division per form.

List only one of the following categories on each transmittal form, and indicate which is being submitted

Contractor Approved OICC Approval Deviation/Substitution For OICC Approval

****ACTION CODES**

A-Approved
D-Disapproved
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RA-Receipt acknowledged.
C-Comments
R-Resubmit

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
745-A		Hot Water Heaters	11 10	A	msj 12/18/80

CONTRACTOR'S COMMENTS

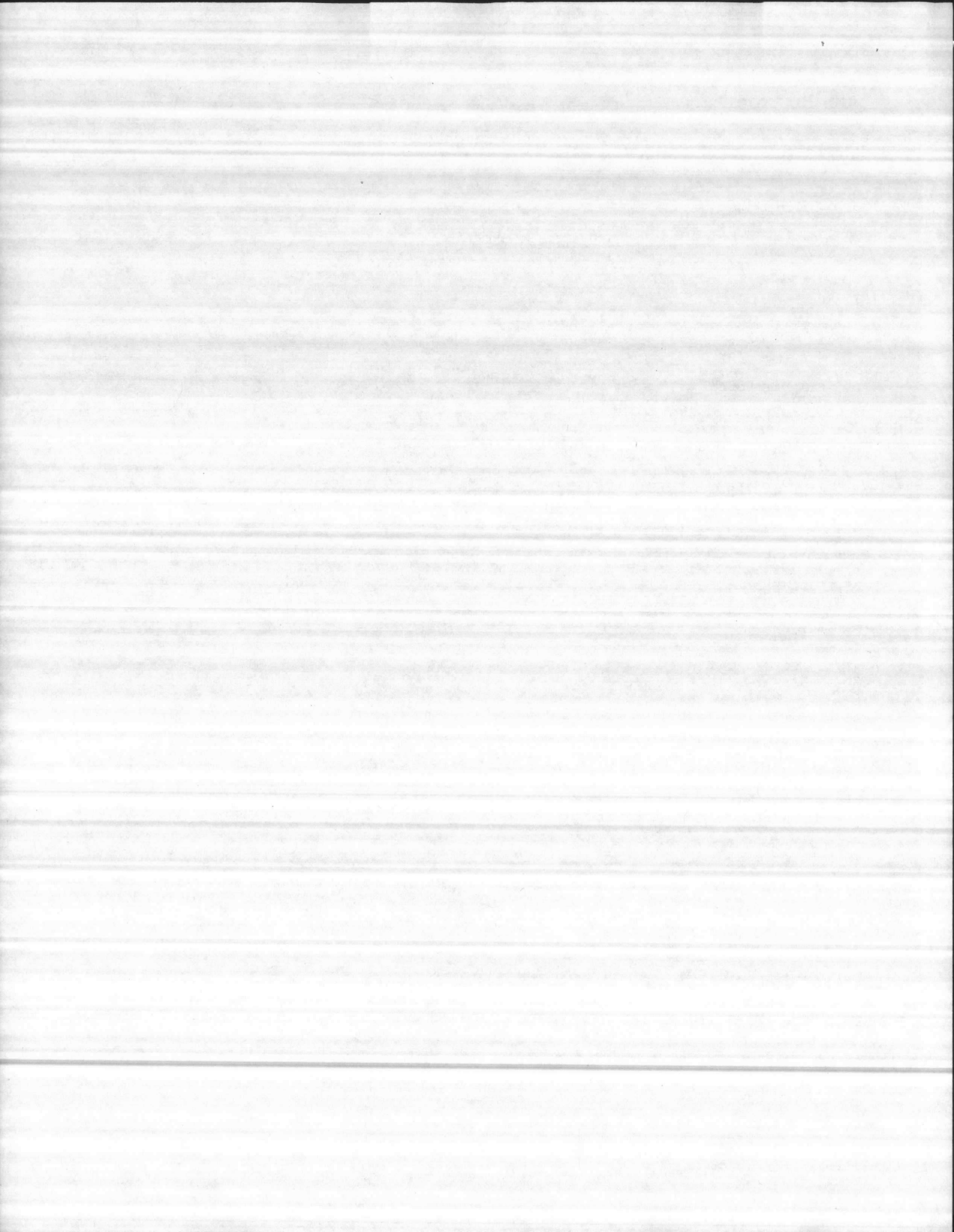
PLEASE RETURN A MINIMUM OF 6 COPIES WITH OWNERS APPROVAL

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC 12-11-80		CONTRACTOR REPRESENTATIVE (Signature) W.M.J. Haymaker	
DATE RECEIVED BY REVIEWER	FROM (Reviewer)	TO	

- Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.
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REVIEWER'S COMMENTS

COPIES TO: ROICC (2) LANTDIV (1) A-E (1)	DATE	SIGNATURE
---	------	-----------



CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDIV 4-4355/3 (Rev. 6/76)

SECTION 15401

CONTRACT NO. N62470-77-C-7526	TRANSMITTAL NO. 745-A	DATE 11/21/80
----------------------------------	---------------------------------	------------------

FROM CONTRACTOR
CARDINAL CONTRACTING CO., INC.

TO
LOCKWOOD-GREENE ENGRS.

PROJECT TITLE AND LOCATION
**NAVAL REGIONAL MEDICAL CENTER
CAMP LEJEUNE, NORTH CAROLINA**

*P
etc
[Signature]*

CONTRACTOR USE ONLY

REVIEWER USE ONLY

**List only one specification division per form.*

****ACTION CODES**

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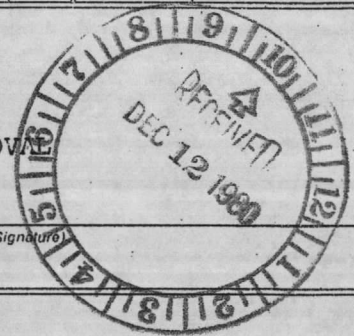
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745-A		Hot Water Heaters	11		

CONTRACTOR'S COMMENTS

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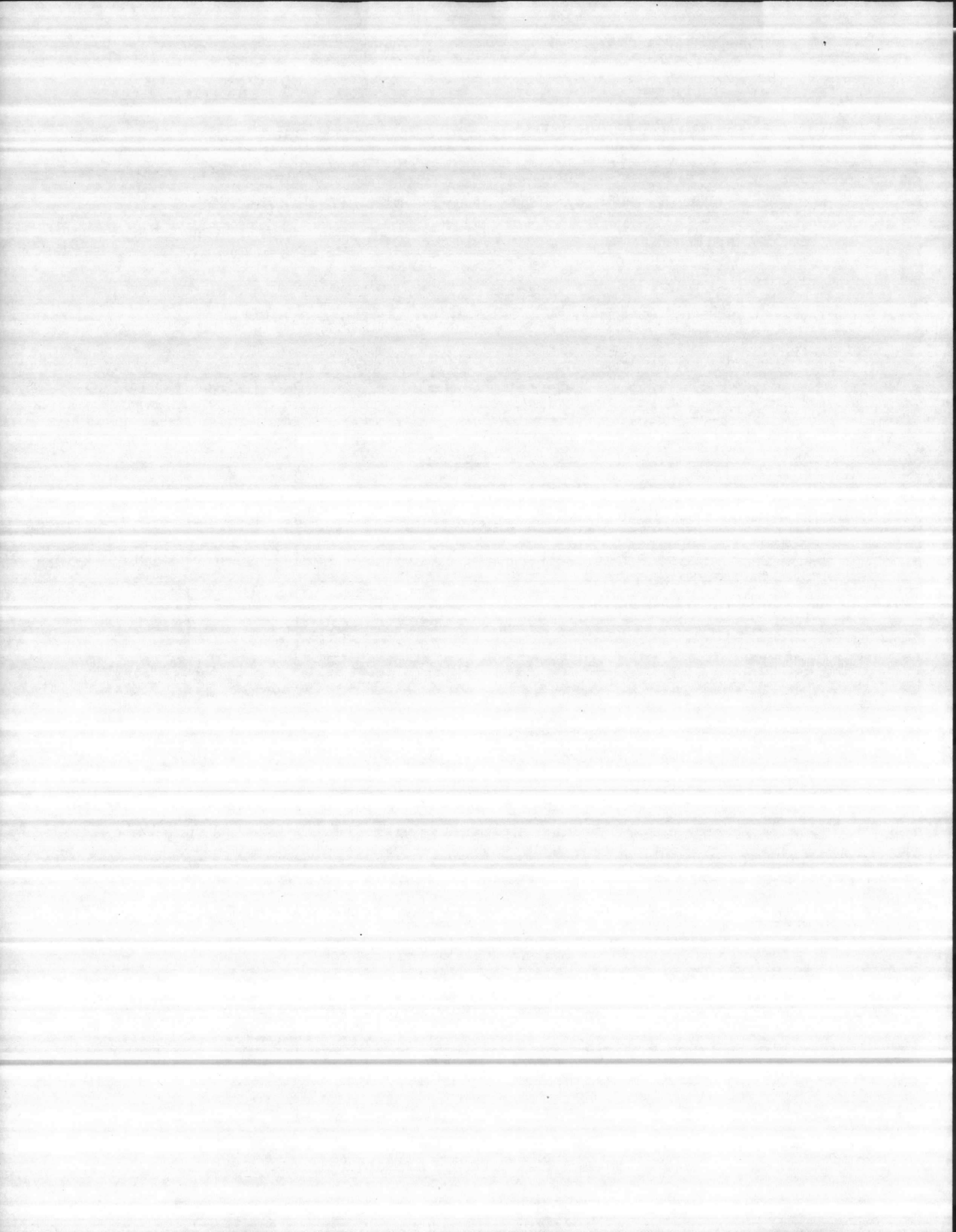
COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC CONTRACTOR REPRESENTATIVE (Signature)

DATE RECEIVED BY REVIEWER FROM (Reviewer) TO

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REVIEWER'S COMMENTS

COPIES TO: ROICC (2) LANTDIV (1) A-E (1)	DATE	SIGNATURE
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CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDIV 4-4355/3 (Rev. 6/76)

SECTION 15401

CONTRACT NO. N62470-77-C-7526	TRANSMITTAL NO.	DATE 11/21/80
----------------------------------	-----------------	------------------

FROM CONTRACTOR
CARDINAL CONTRACTING CO., INC.

TO
LOCKWOOD-GREENE ENGRS.

PROJECT TITLE AND LOCATION
NAVAL REGIONAL MEDICAL CENTER
CAMP LEJEUNE, NORTH CAROLINA

CONTRACTOR USE ONLY

*List only one specification division per form.

List only one of the following categories on each transmittal form and indicate which is being submitted

Contractor Approved

OICC Approval

RECEIVED
DEC 18 1980

Lockwood Greene Engineers, Inc.

REVIEWER USE ONLY

ACTION CODES
 A-Approved
 D-Disapproved
 AN-Approved as noted
 RA-Receipt acknowledged.
 C-Comments
 R-Resubmit

Revision/Substitution
 ACK For OICC Approval

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
745-A		Hot Water Heaters	11		

CONTRACTOR'S COMMENTS

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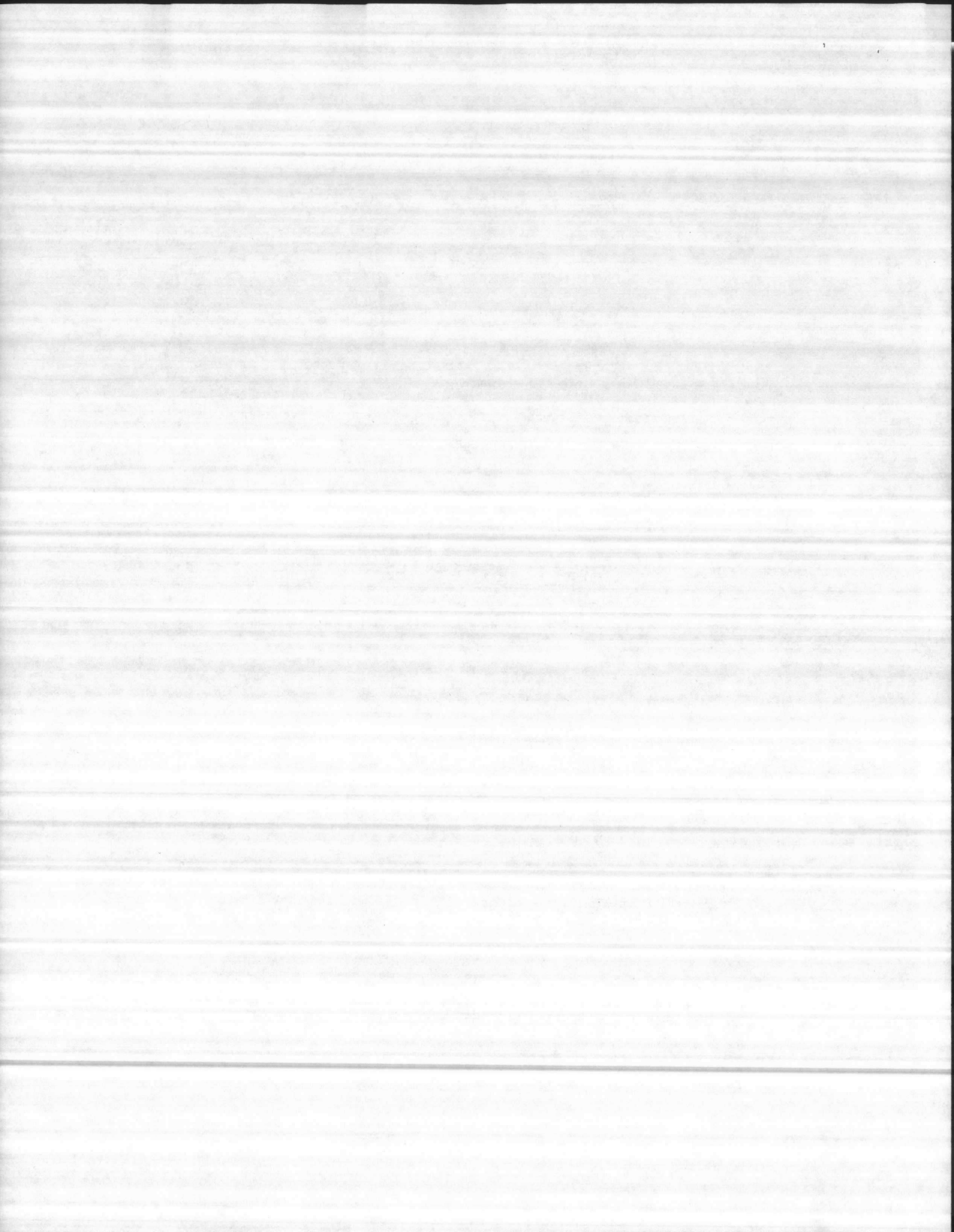
COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC _____ CONTRACTOR REPRESENTATIVE (Signature) _____

DATE RECEIVED BY REVIEWER _____ FROM (Reviewer) _____ TO _____

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REVIEWER'S COMMENTS _____

COPIES TO: ROICC (2) LANTDIV (1) A-E (1)	DATE	SIGNATURE
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THE WALDINGER CORPORATION

INDEX

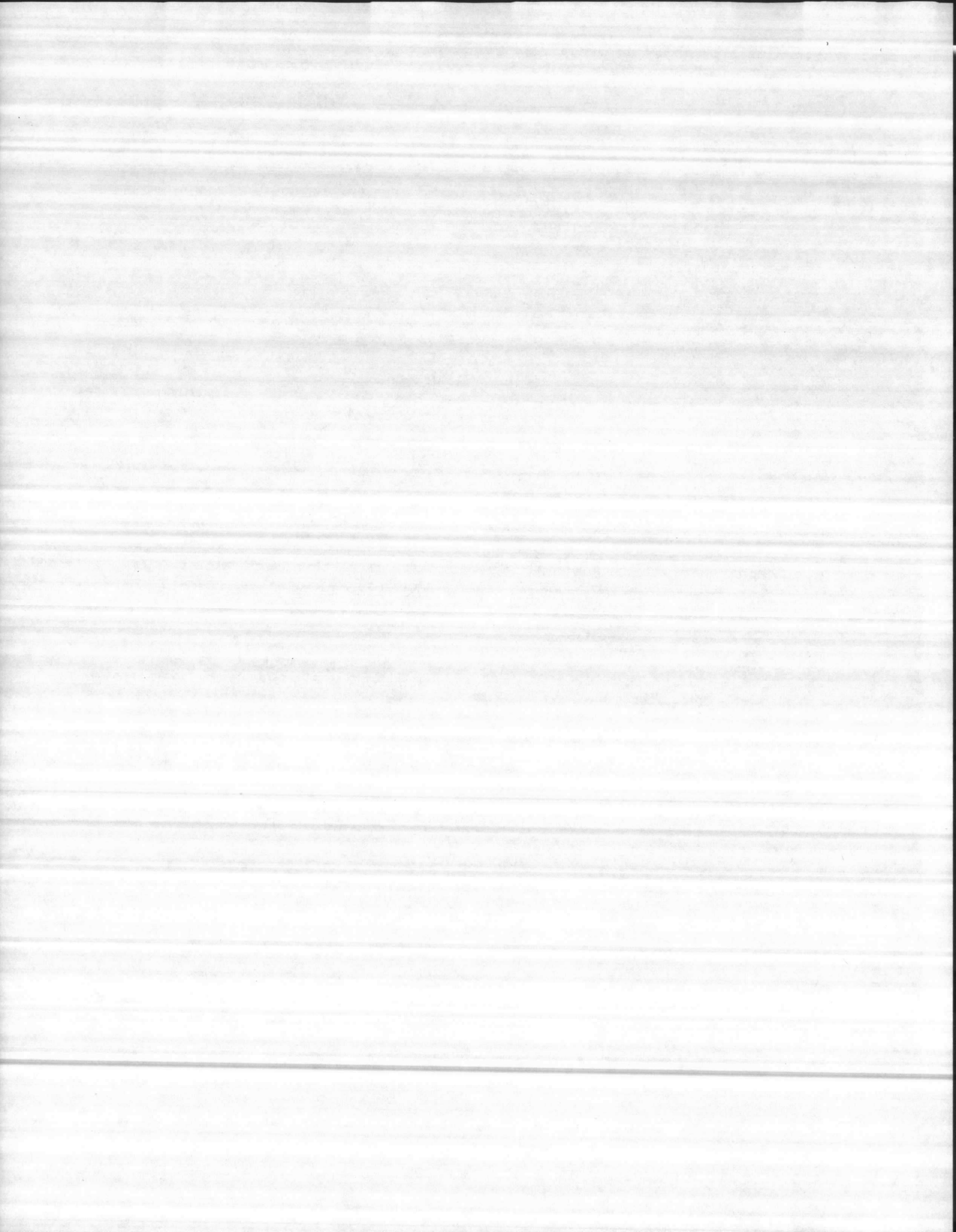
1. Ace Buehler Inc. Letter Of Certification
2. Hydronic Energy Inc. Letter
3. Ace Buehler Inc. Dwg. No. 1-45012-1 WH-1
4. Ace Unit Specifications and Accessories For WH-1
5. Ace Buehler Inc. Dwg. No. 2-45012-1 WH-2 & WH-3
6. Ace Unit Specifications and Accessories For WH-2 & WH-3

"It is hereby certified that the material/equipment shown and marked in this submittal is that approved to be incorporated into Contract Number N62470-77-5-7526, is in compliance with the contract drawings and specifications, and can be installed in the allocated spaces, and is approved for use.

THE WALDINGER CORPORATION

Authorized Reviewer *[Signature]* Date 12-6-80

Signature CQC Rep *WAH* Date 12-11-80



ACE BUEHLER

November 10, 1980

The Waldinger Corp.
P. O. Box 8363
Camp Le Jeune, N. C. 28542

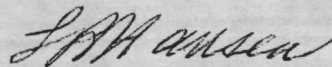
Attn: R. J. Welch

Re: Your P.O. #IM-2145-144
Our #45012

Gentlemen:

This will certify that the three vessels ordered on subject purchase order will comply with MIL-T-12295 except that specification refers to "Style B", which is vertical. These vessels will be horizontal.

Very truly yours,



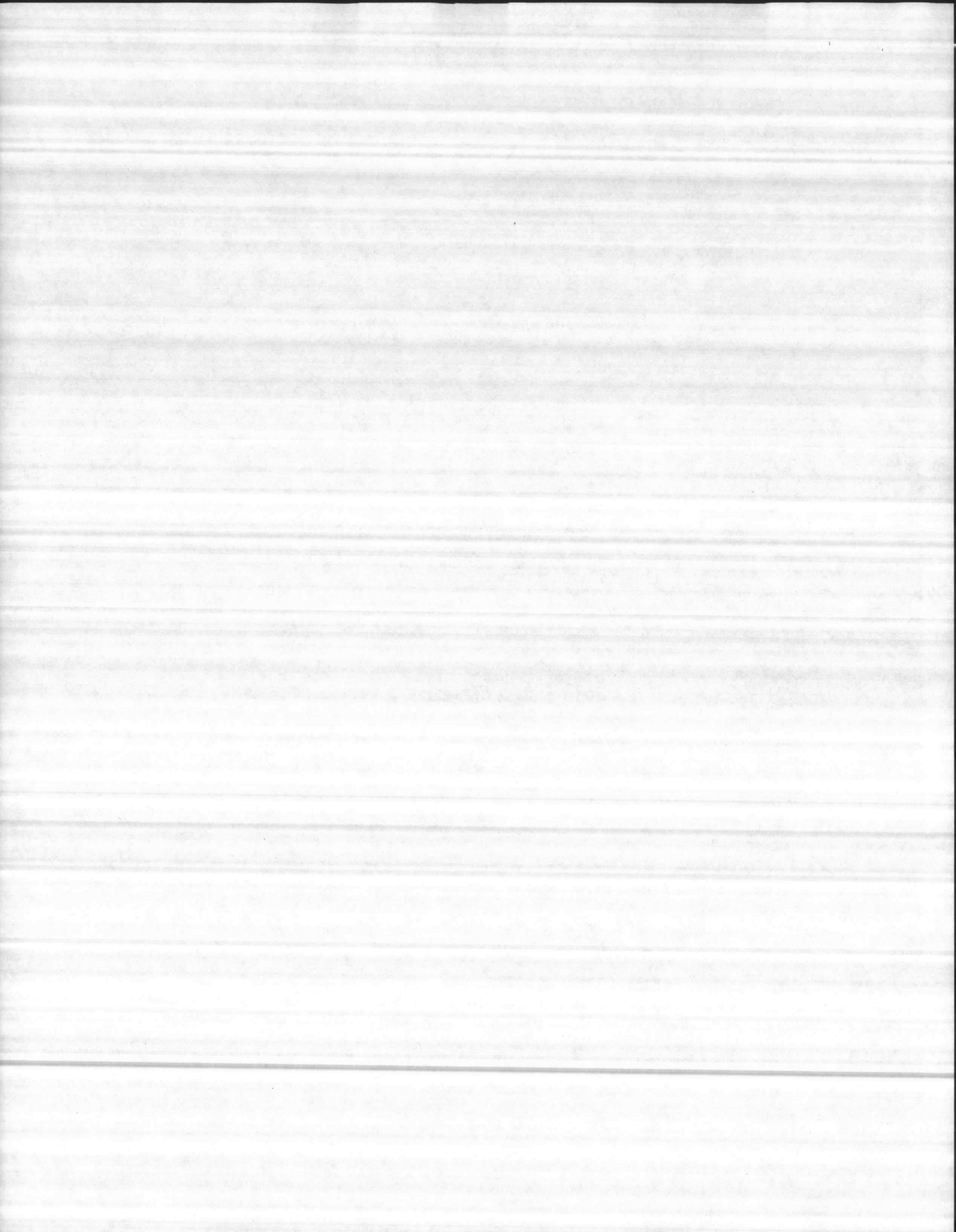
L. R. Hansen
Sales Manager

LRH:bst

cc: Hydronic Energy, Inc.
P. O. Box 3779
Des Moines, Iowa 50322

ACE BUEHLER Inc.

"QUALITY, VALUE AND SERVICE SINCE 1919"





Hydronic Energy, Inc.

serving Iowa
Hydronic Energy, Inc.
P. O. Box 3779
Des Moines, Iowa 50322
(515) 276-4935

serving Nebraska
Hydronic Energy, Inc. of Nebraska
P. O. Box 6108
Omaha, Nebraska 68106
(402) 556-9700

November 4, 1980

Project: U. S. Naval Regional Medical Center
New Construction - Brewster Blvd.
Camp LeJeune, North Carolina

Architect &
Engineer: Six Associates Joint Venture

Contractor: The Waldinger Corporation

Manufacturer: Ace Buehler, Inc.

We are pleased to submit the following listed equipment for approval:

(Water Heater WH-1)

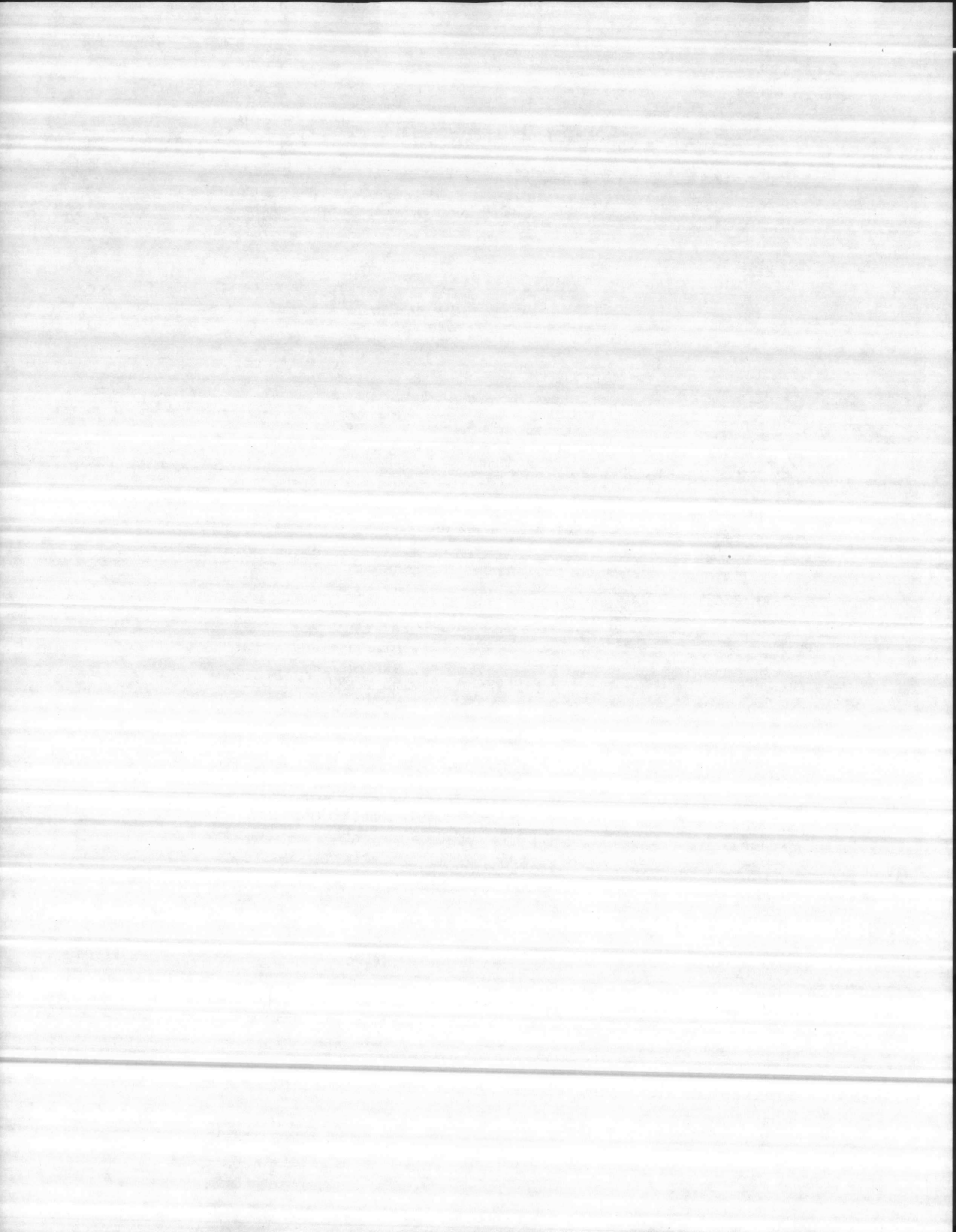
- 1 - Ace Buehler Model PHG30-5.5G2.448 packaged hot water generator, ASME Code for 85 PSI shell side and 150 PSI tubeside, 30" dia. x 84" O.A.L., 240 gallon storage capacity, glasslined w/magnesium anodes, bronze tubes, bronze tube sheet, stainless steel couplings, 1/2" self contained valve package with pump, trap, relief valve, vacuum breaker, and accessories as noted on drawings. Unit is skid mounted, insulated and jacketed.

(Water Heater WH-2 & WH-3)

- 2 - Ace Buehler Model PHG60-9.5A-2.472 packaged hot water generator, ASME Code for 85 PSI shell side and 150 PSI tube side, 60" dia. x 147" O.A.L., 160 gallon storage capacity, cement lined, bronze tubes, bronze tube sheet, stainless steel couplings, 1/2" self contained valve package with pump, trap, relief valve, vacuum breaker, and accessories as noted on drawings. Unit is skid mounted, insulated, and jacketed.

Submitted By:

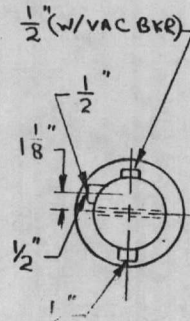
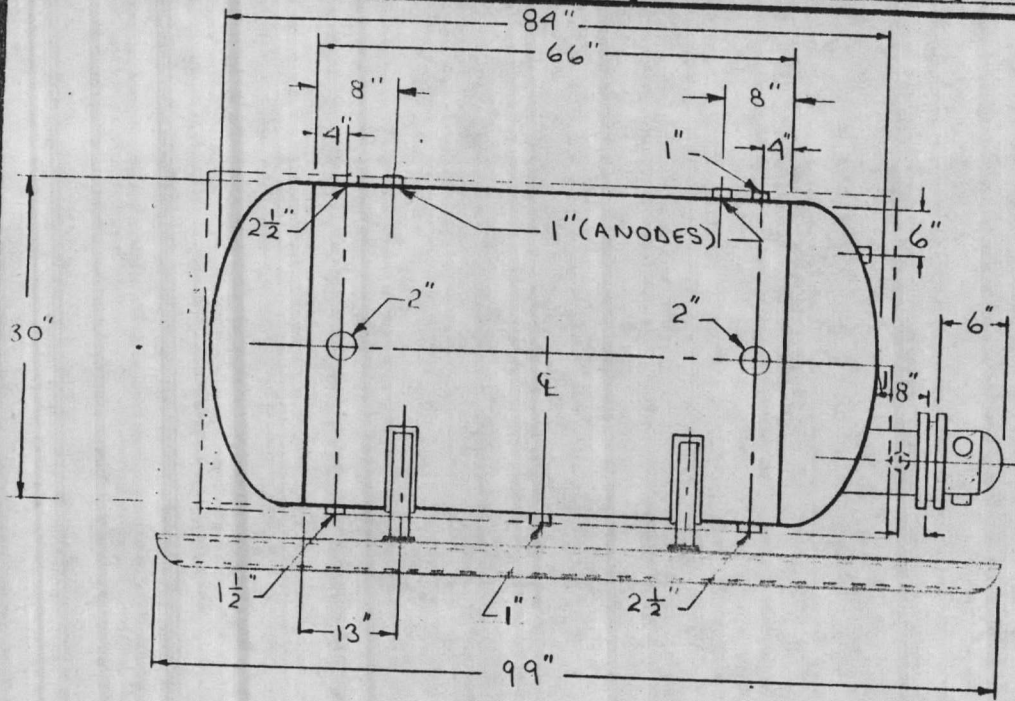
Richard A. Hinz
Manufacturers' Representative
ACE BUEHLER, INC.



CUST. HYDRONIC ENERGY INC

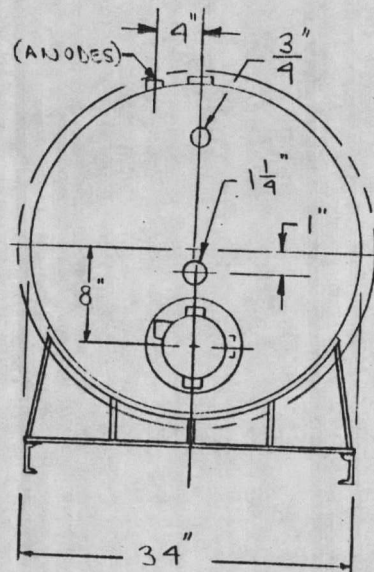
JOB. WALDINGER CORP.

DWG. No. 1-45012-1



NOTES:

1. ALL FTG'S WILL BE STAINLESS STEEL H.C.P.L.G.S.
2. VESSEL TO BE FABRICATED PER MIL SPEC 12295D
3. PROVIDE (2)-1" x 30" LG ANODES



COIL	
MODEL SW 2.448	PASSES 2
HIG. SURF. 6.25φ	4" 48" L
MEDIUM IN SHELL	
240 GPH	#/H
60 °F 140 °F	PSI.
PD. VEL	
MEDIUM IN TUBES	
GP	177 #/H
°F	60 PSI.
PD. VEL	
TUBES	
4-3/4" 649C	T.R.75
TUBE SHEET	
1/16" x 6 1/16" O.D.	SB171CDA614
CHANNEL	
SA234WPB	4" φ SHELL
HEAD	FLANGE A915 .189 SA530ERW
4" STD WT WELDCAP	
FL. A915 BOLTS 12 1/4" x 3 LG SA359BD	
NOZZLE 4" φ x .188" SA530ERW	
PAD AS REQ'D	

SHELL		HEAD	
COURSES	SE CR	CR	KR
TK. .148"	TK. .188		
SA- 414G	SA- 285C		
C.L.	CIRC.		
X-RAY	X-RAY		
EFF.	EFF.		

OTHER OPENINGS.		Q
INSP. OPENING(S) 2-2"		T
TEST PRESSURE 128 SHELL / 225 TUBES		Y. 1

NAT'L BD.	
MAXIMUM ALLOWABLE WORKING PRESSURE	
SHELL 85 PSI.	390 °F
TUBES 150 PSI.	390 °F
GAL. CAP.	240
SERIAL.	
MODEL.	PHG30-5.5G2.448
SH. THK.	HD. THK.
REMARKS.	

NS
AT
MA
EM
PP
LI
AN
TG
E



YR. BUILT
19



ACE BUEHLER INC.
321 W. KATELLA AV. ORANGE, CA.
(213) 268-1967
(714) 538-8805 TX. 67-8492

INT. FINISH GLASS

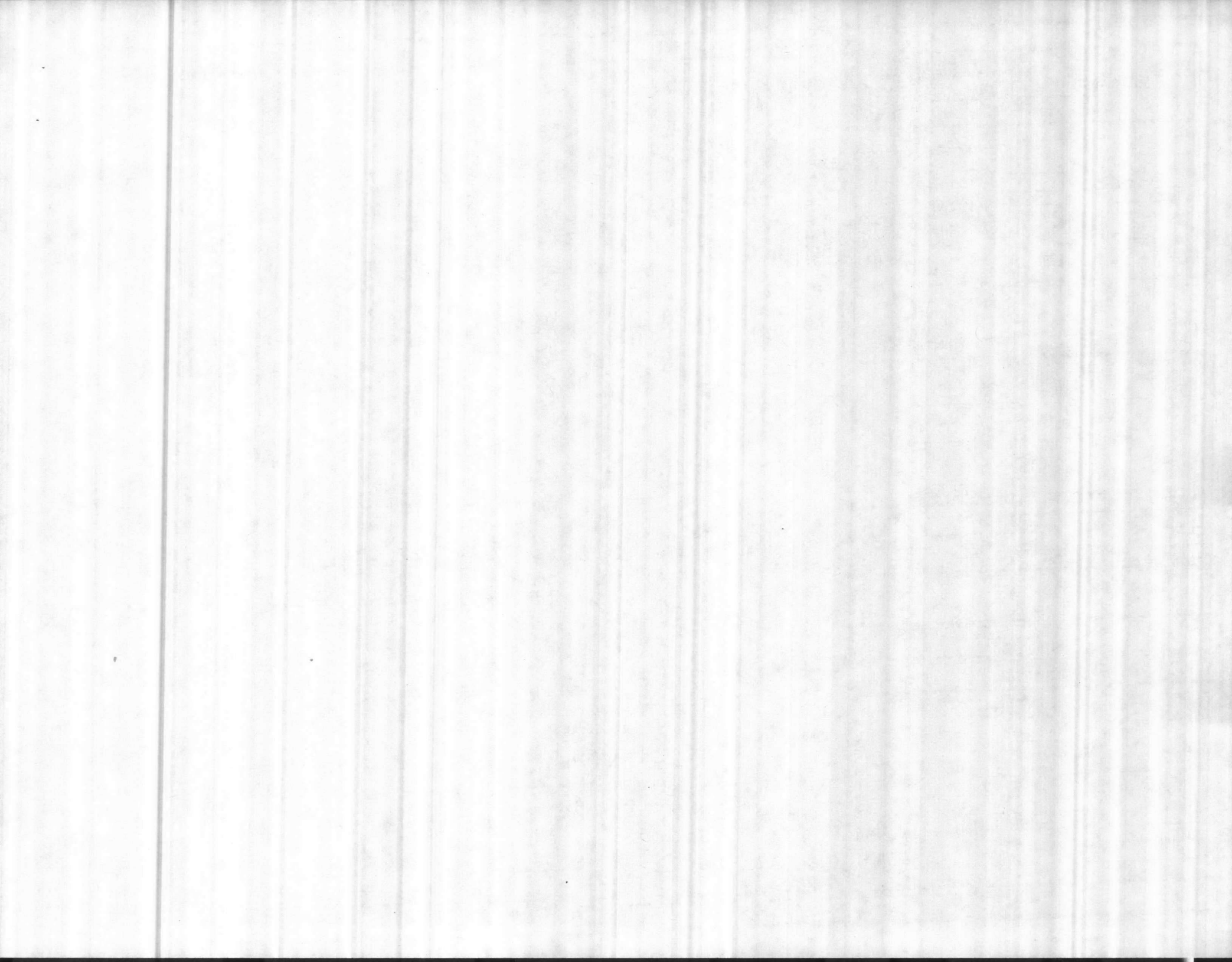
EXT. FINISH PRIMER

ASME SEC VIII DIV I

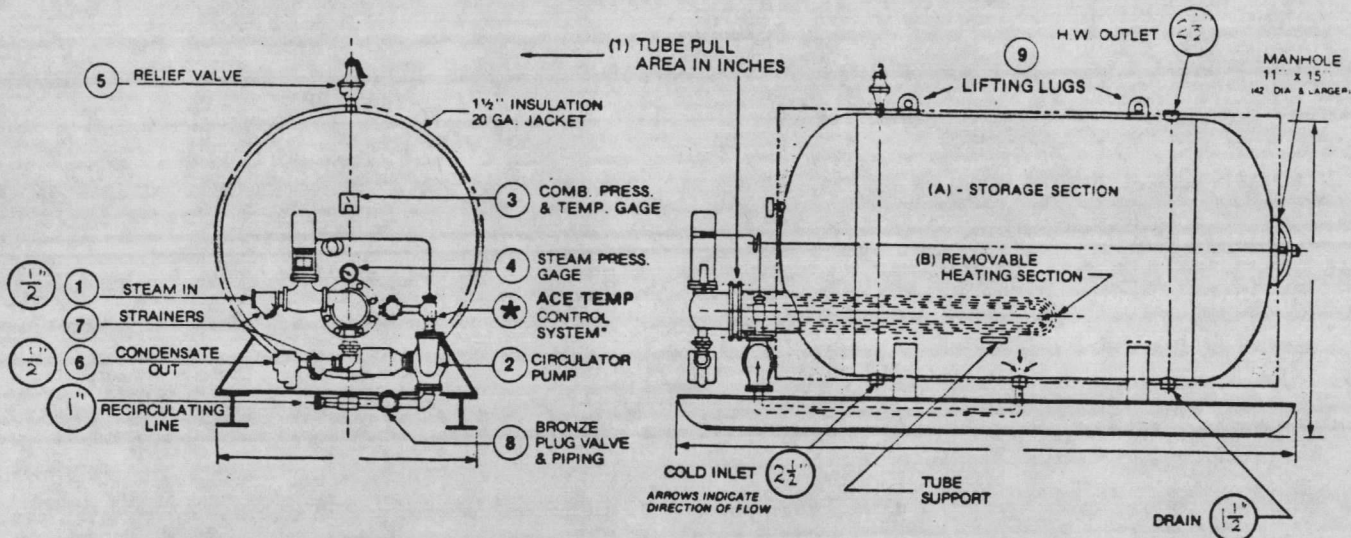
DW. RF 10/3/80

CK

AP



SUBMITTAL SECTION 320, STEAM TO WATER, SELF OPERATING—HORIZONTAL



WH-1

***ACE TEMP CONTROL SYSTEM**

AUTOMATIC RAPID TEMPERATURE RESPONSE

ACE TEMP control system will accurately vary the flow of steam to the heating coil in proportion to the variation in flow and temperature of the domestic water demands. ACE TEMP control system provides rapid response by locating control bulk in circulating line, thereby eliminating delays due to lengthy bleed lines. ACE TEMP control system senses blended water temperature for instant smooth opening and closing of steam control valve, also eliminates excessive cycling of steam valve that can occur when short bursts of cold water are flushed over an immersed sensor bulb.

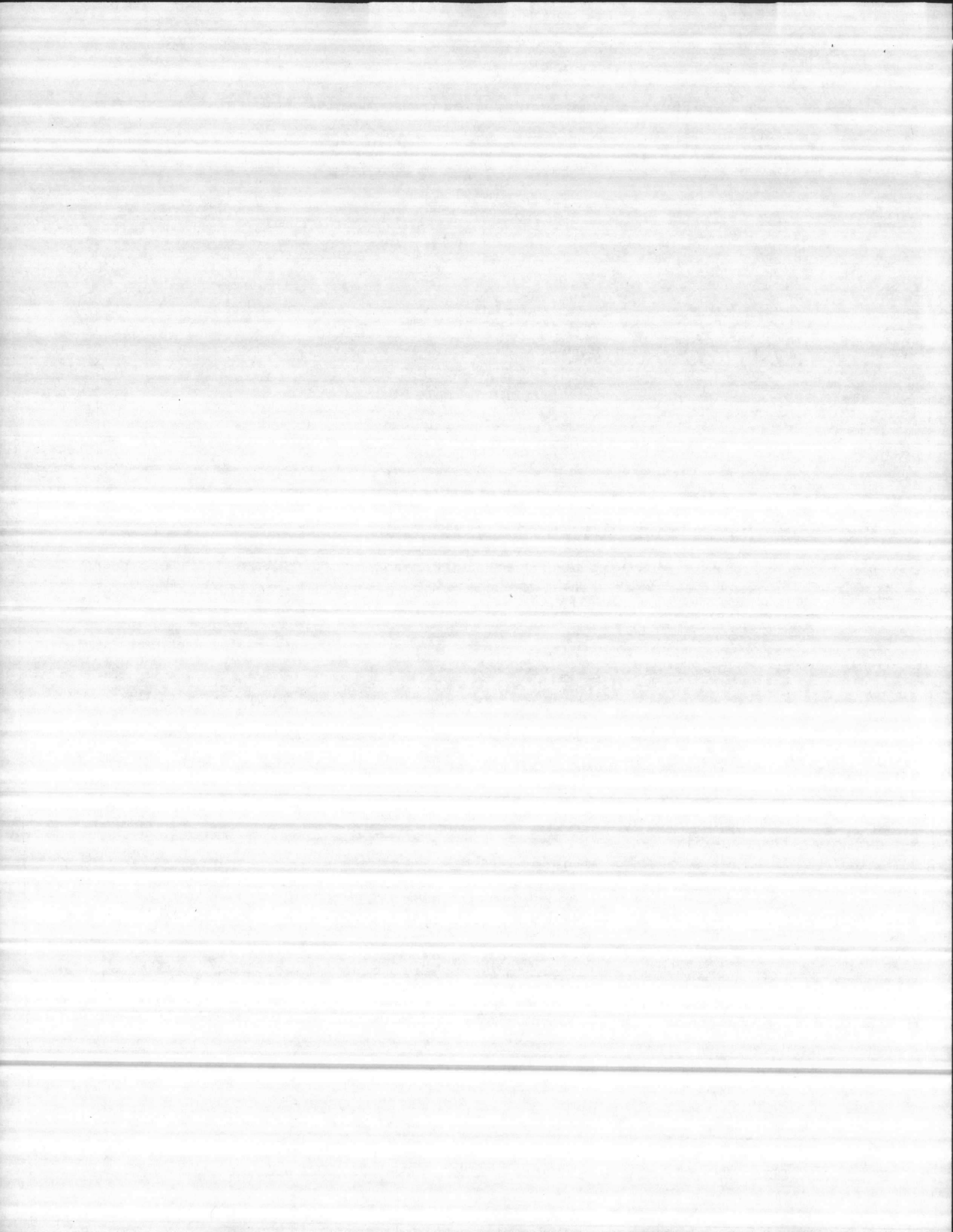
UNIT SPECIFICATION

ACE MODEL NO. PHG 30-5.5 G 2.448 (1) Last two digits of Coil Model # (B) = Dimension.
 (A) STORAGE SECTION MODEL NO. HS30-5.5 Capacity 240 Gal., Tank Lining GLASS
 (B) HEATING SECTION: COIL MODEL NO. SW2-448 RECOVERY 240 GPH From 60 °F to 140 °F
 Steam 276 Lbs./Hrs. at 83 PSIG Heating Surface 6.25 Sq. Ft. No. Passes 2
4 tubes 3/4" O.D. 0.049 gage. Material series SB75. BRONZE tube sheet. Bonnet, fabricated steel.
 (C) MANUFACTURED IN ACCORDANCE WITH SECTION VIII, ASME PRESSURE VESSEL CODE
 SHELL 85 PSI at 390 Deg. F TUBES 150 PSI at 390 Deg. F

ACCESSORIES STD. TRIM

① CONTROL VALVE TRERICE 91000 AES ① RELIEF VALVE WATTS 174A Size 3/4"
 SELF- OPERATING Type 1/2" Trim STAINLESS ST'L w/1/8" ORIFICE
 Design Pressure 125 Body Construction UNION ENDS ① STEAM TRAP ARMSTRONG # 881 Size 1/2"
 ② CIRCULATING PUMP MFT'R BELL & GOSSETT ① STRAINER ARMSTRONG AISC Size 1/2"
 Capacity 25 GPM. at 3 FT TDH ① PIPING MATERIAL, COPPER ST'D
 Size 1" Material ALL BRONZE ① LIFTING LUGS ST'D
 ① COMB. P & T GAGE U.S. GAGE PT-108 1/2 LGM-3 1/2 OPTIONAL ITEMS
 STORAGE SECTION ① VACUUM BREAKER VB-51-BR-T-S-V
 ① STEAM PRESSURE GAGE 0-200PSI

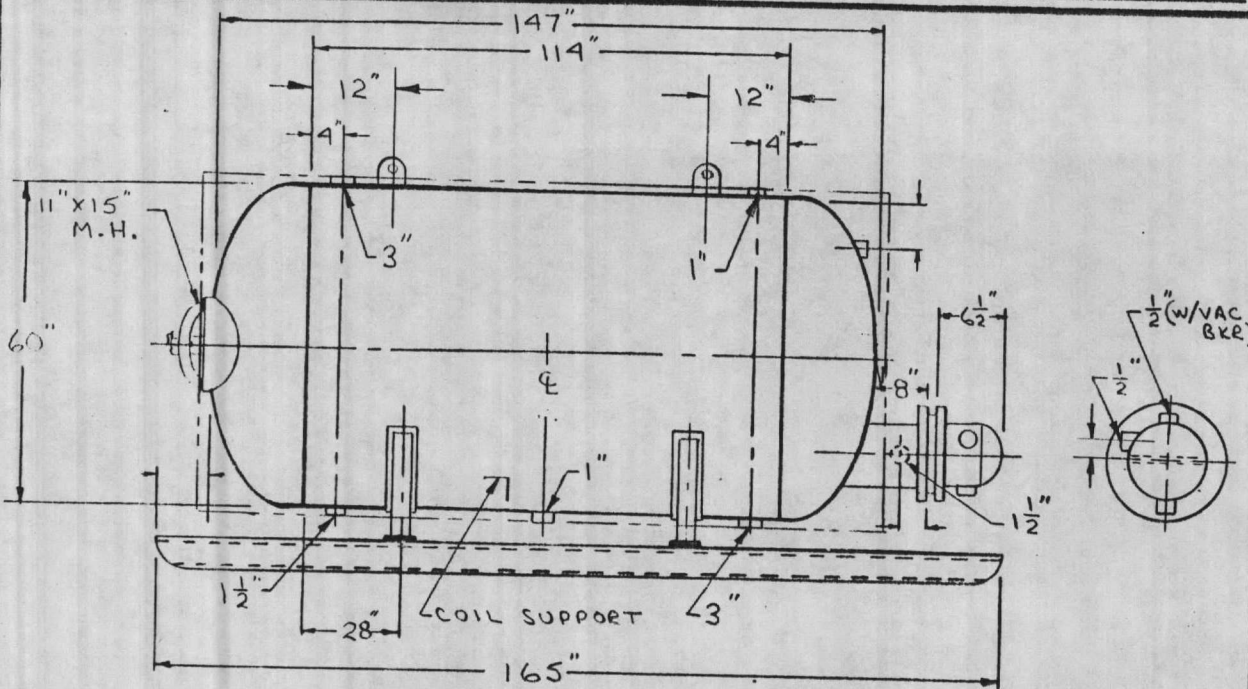
1-45012-2 HYDRONIC ENERGY, INC



CUST. HYDRONIC ENERGY, INC

JOB. WALDINGER CORP

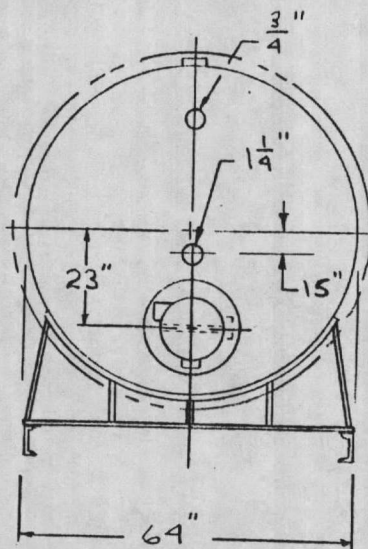
DWG. No. 2-45012-1



NOTES:

1. ALL FTG'S WILL BE STAINLESS STEEL H. CALG'S W/3/8" INTERNAL PROJECTION.
2. VESSEL TO BE FABRICATED PER MIL SPEC 12295 D.

WH-2
WH-3



COIL	
MODEL SW2-472	PASSES 2
HTG. SURF. 9.39 ft ²	9" 72" L
MEDIUM IN SHELL	
1150 GP	#/H
60 °F 110 °F	PSI.
PD. VEL	
MEDIUM IN TUBES	
°F	°F
20. VEL	535 #/H
	70 PSI.
TUBES	
1 3/4" 6.99C	
TUBE SHEET	
1/16" x 6 1/16" O.D.	SR171CDA614
CHANNEL	
SA234WPB	4" d SHELL
HEAD 1" RT'D WELD CAP	FLANGE A415 x 188 SA538 ERW
FL. A415 BOLTS 12-1/4" x 3" LG SA354BD	
NOZZLE 4" φ x 188" SA538 ERW	
PAD AS REQ'D	

SHELL	HEAD
COURSES	CR 46 KR 8
TK. .250	TK. .281
SA- 455	SA- 455
C.L.	CIRC.
X-RAY	X-RAY
EFF.	EFF.

OTHER OPENINGS. _____

INSP. OPENING(S) 11" x 15" M.H.

TEST PRESSURE 128 SHELL / 225 TUBES

O
T
Y. 2

NS
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E

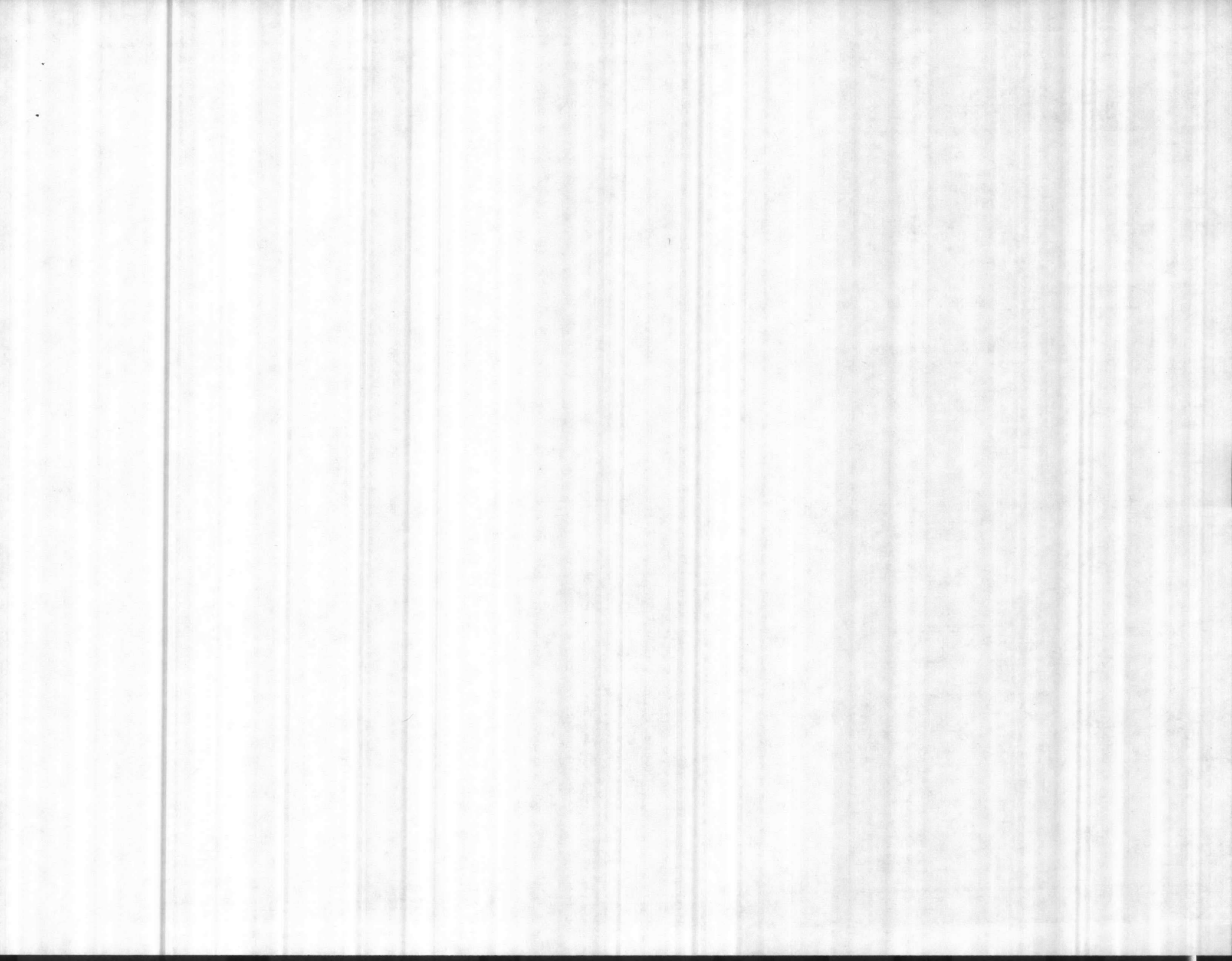
NAT'L BD.
MAXIMUM ALLOWABLE WORKING PRESSURE

SHELL 85	PSI. 390 °F
TUBES 150	PSI. 390 °F
GAL. CAP.	1600
SERIAL.	
MODEL. PHG60-9.5A-2.472	
SH. THK.	HD. THK.
REMARKS.	

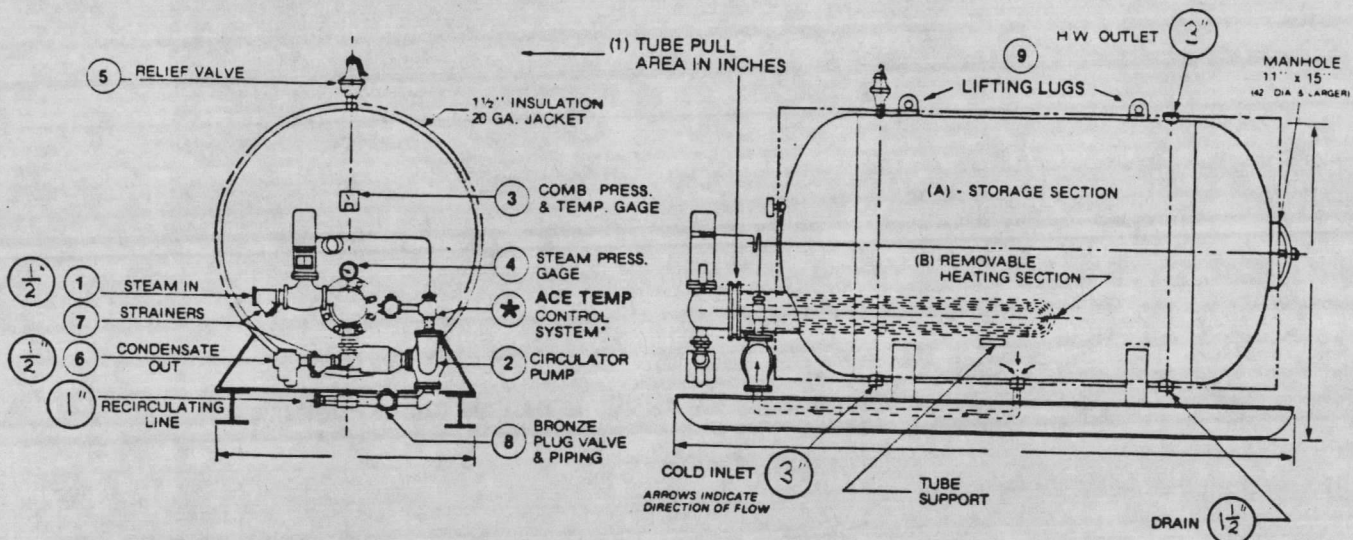
U
YR. BUILT 19 _____

ACE BUEHLER INC.
321 W. KATELLA AV. ORANGE, CA.
(213) 268-1967
(714) 538-8805 TX. 67-8482

INT. FINISH. CEMENT EXT. FINISH. PRIMER ASME SEC VIII DIV I DW. _____ CK _____ AP _____



SUBMITTAL SECTION 320, STEAM TO WATER, SELF OPERATING—HORIZONTAL



WH-2
WH-3

***ACE TEMP CONTROL SYSTEM**
AUTOMATIC RAPID TEMPERATURE RESPONSE

ACE TEMP control system will accurately vary the flow of steam to the heating coil in proportion to the variation in flow and temperature of the domestic water demands. ACE TEMP control system provides rapid response by locating control bulk in circulating line, thereby eliminating delays due to lengthy bleed lines. ACE TEMP control system senses blended water temperature for instant smooth opening and closing of steam control valve, also eliminates excessive cycling of steam valve that can occur when short bursts of cold water are flushed over an immersed sensor bulb.

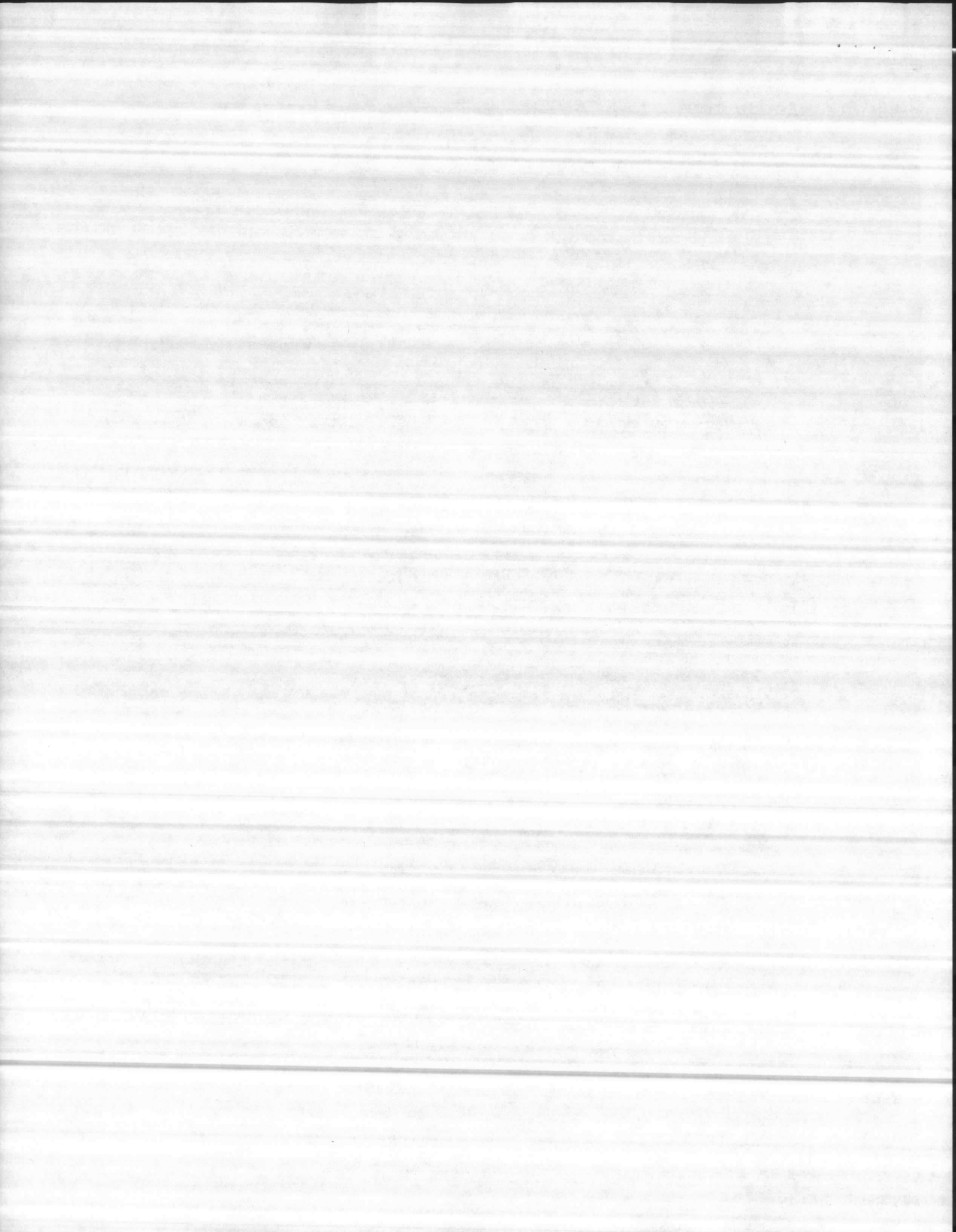
UNIT SPECIFICATION

ACE MODEL NO. PHG 60-9.5A2.472 (1) Last two digits of Coil Model # (B) = Dimension.
 (A) STORAGE SECTION MODEL NO. HS 60-9 Capacity 1600 Gal., Tank Lining CEMENT
 (B) HEATING SECTION: COIL MODEL NO. SW 2-472 RECOVERY 1150 GPH From 60 °F to 110 °F
 Steam 535 Lbs./Hrs. at 70 PSIG Heating Surface 9.39 Sq. Ft. No. Passes 2
4 tubes 3/4" O.D. 0.049 gage. Material series SB75. BRONZE tube sheet. Bonnet, fabricated steel.
 (C) MANUFACTURED IN ACCORDANCE WITH SECTION VIII, ASME PRESSURE VESSEL CODE
 SHELL 85 PSI at 390 Deg. F TUBES 150 PSI at 390 Deg. F

ACCESSORIES STD. TRIM

① CONTROL VALVE TRERICE # 91000 AES SELF-OPERATING Type <u>1/2"</u> Trim <u>STAINLESS ST'L</u> Design Pressure <u>125</u> PSI Body Construction <u>UNION ENDS</u>	① RELIEF VALVE <u>WATTS 174A</u> Size <u>3/4"</u> W/3/16" ORIFICE
② CIRCULATING PUMP MFT'R <u>BELL & GOSSETT</u> Capacity <u>25</u> GPM. at <u>3'</u> TDH Size <u>1"</u> Material <u>ALL BRONZE</u>	① STEAM TRAP <u>ARMSTRONG # 882</u> Size <u>1/2"</u>
③ COMB. P & T GAGE <u>U.S. GAGE # PT-1033 1/2 LRM 3 1/2"</u> STORAGE SECTION 2 1/2" DIA. 0-200 PSI	① STRAINER <u>ARMSTRONG AISC</u> Size <u>1/2"</u>
	① PIPING MATERIAL, <u>COPPER</u> <u>ST'D</u>
	① LIFTING LUGS <u>ST'D</u>
	OPTIONAL ITEMS _____
	<u>VACUUM BKR VBB-51-BR-T-S-V</u>

2-45012-2 HYDRONIC END



CONTRACTOR'S SUBMITTAL TRANSMITTAL
SECTION 10101

5ND LANTDIV 4-4355/3 (Rev. 6/76)

CONTRACT NO. 77-C-7526 TRANSMITTAL NO. 749 A DATE May 22, 1981

FROM CONTRACTOR, CONTRACTING CO., INC.

PROJECT TITLE AND LOCATION: MEDICAL CENTER

TO LOCKWOOD-GREENE ENGRS.

CAMP LEJUENE, NORTH CAROLINA 28542

CONTRACTOR USE ONLY

List only one specification division per form.

List only one of the following categories on each transmittal form, and indicate which is being submitted

- Contractor Approved
- OICC Approval
- Deviation/Substitution For OICC Approval

REVIEWER USE ONLY

****ACTION CODES**

- A-Approved
- D-Disapproved
- AN-Approved as noted
- RA-Receipt acknowledged.
- C-Comments
- R-Resubmit

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES	REVIEWER'S INITIALS CODE AND DATE
749	A	Continental Water Deionizer - letter on brochure number - As noted approval.	10	AN	RWT 403 6/18/81

FOR	INIT	DATE
	AC	7-9
	B	7/10

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

CONTRACTOR REPRESENTATIVE (Signature)

DATE RECEIVED BY REVIEWER: 12 JUNE 81 FROM (Reviewer): LANTDIV TO: CARDINAL CORP

- Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.
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REVIEWER'S COMMENTS

APPROVED AS NOTED. PUMP REQUIRED TO BE 40 GPM @ 50 PSIG W/ 460/3/10 MOTOR.

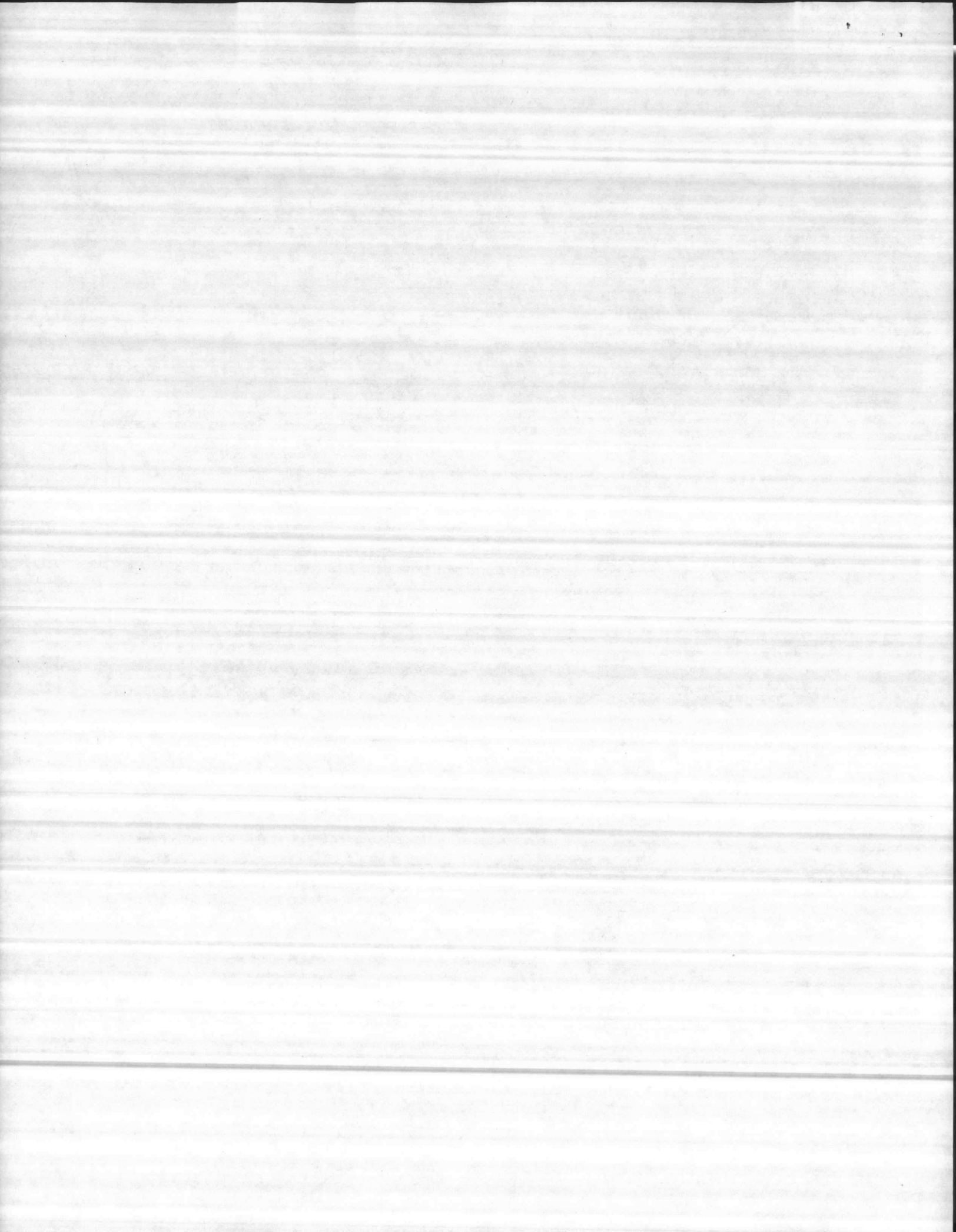


DATE: 22 June 81

SIGNATURE

[Signature]

1393



SECTION ¹⁵⁴⁰¹
~~15101~~

CONTRACT NO.
N62470-77-C-7526

TRANSMITTAL NO.
749-A

DATE
May 22, 1981

FROM CONTRACTOR
CARDINAL CONTRACTING CO., INC.
TO
LOCKWOOD-GREENE ENGRS.

PROJECT TITLE AND LOCATION
**NAVAL REGIONAL MEDICAL CENTER
CAMP LEJUENE, NORTH CAROLINA 28542**

CONTRACTOR USE ONLY

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ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES
749-A		Continental Water Systems - letter on Deionizer - AS noted approval.	10

	FOR	INIT	DATE
<input checked="" type="checkbox"/>	RDC	RDC	5-29
<input checked="" type="checkbox"/>	egj	egj	
<input checked="" type="checkbox"/>	jl	jl	6-19
<input checked="" type="checkbox"/>	ke	e	
<input checked="" type="checkbox"/>	x		

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

CONTRACTOR REPRESENTATIVE (Signature)

DATE RECEIVED BY REVIEWER

FROM (Reviewer)

TO

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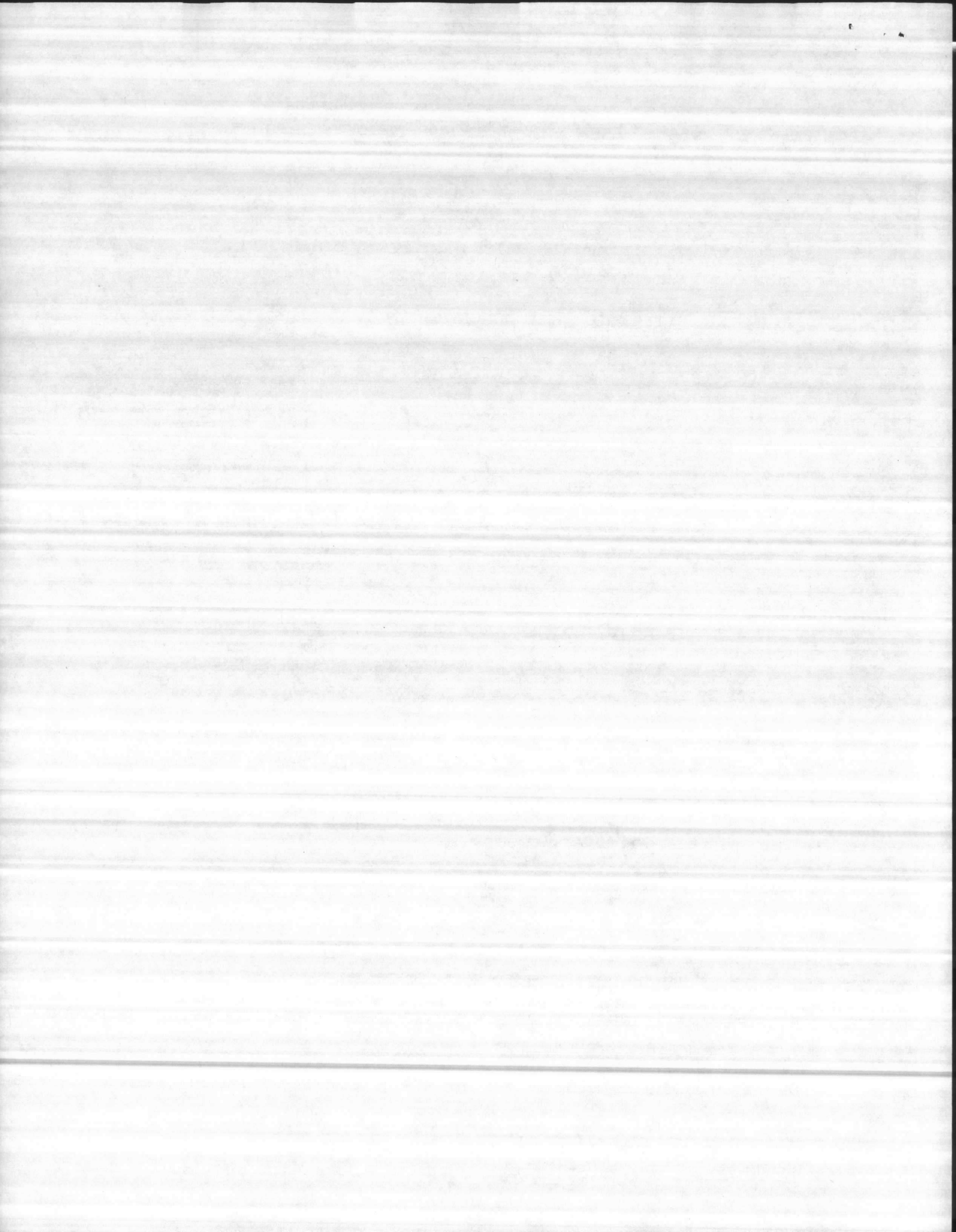
REVIEWER'S COMMENTS



COPIES TO:
ROICC (2)
LANTDIV (1)
A-E (1)

DATE

SIGNATURE



SECTION ¹⁵⁴⁰¹ ~~15101~~

CONTRACT NO. N62470-77-C-7526 TRANSMITTAL NO. DATE May 22, 1981

FROM CONTRACTOR
CARDINAL CONTRACTING CO., INC.
 TO
LOCKWOOD-GREENE ENGRS.

PROJECT TITLE AND LOCATION
NAVAL REGIONAL MEDICAL CENTER
CAMP LEJUENE, NORTH CAROLINA 28542

CONTRACTOR USE ONLY

REVIEWER USE ONLY

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ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO.	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	REVIEWER USE ONLY	
				ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
749-A		Continental Water Systems - letter on Deionizer - As noted approval.	10		

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

CONTRACTOR REPRESENTATIVE (Signature)

DATE RECEIVED BY REVIEWER

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TO

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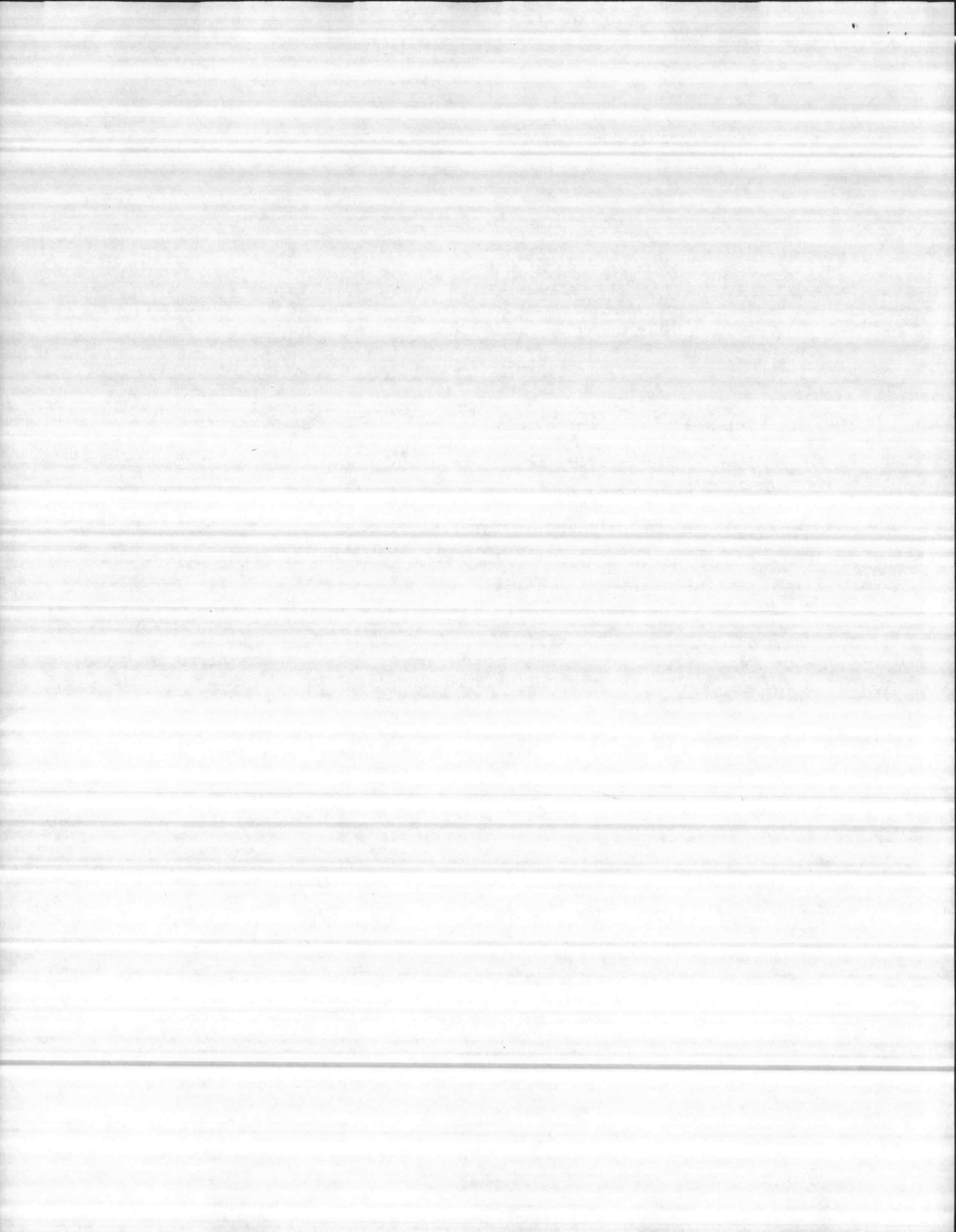
REVIEWER'S COMMENTS

COPIES TO:
 ROICC (2)
 LANTDIV (1)
 A-E (1)

DATE

SIGNATURE

1393





Continental Water Systems

7 April 1981

Mr. R. J. Welch, Project Manager
Waldinger Corporation
PO Box 8363
Camp LeJeune, NC 28542

RE: Your Purchase Order IM-2145-011
For the Naval Regional Medical Center
Camp LeJeune, NC
Specification Section 15401 Para 8-8.4.2 and
Drawings M1-3, M1-4, M7-9

Dear Mr. Welch:

Per your request, I am submitting this letter to clarify the comments sheet by Mr. Michael Jones, US Navy, in regards to the noted exceptions in our letter to you dated 13 December 1979.

- (1) Continental will supply Bell and Gossett #7 pressure reducing valves set at 45 PSI on inlet water to deionizers as per sketch.
- (2) We understand the purity meter submitted is acceptable.
- (3) Continental's 12,000 grain capacity deionizer is accepted in lieu of the 12,500 grain specified as this is Continental's manufactured standard size.
- (4) The specifications of the deionized water pump do not indicate requirement of 40 GPM. *40 gpm, 50 psig pump req'd* The pump submitted will provide 3.0 GPM @ 45 PSI to 10.0 GPM @ 20 PSI per pump curve for Type C pump. This pump is designed and engineered for recirculation loops of deionized water systems and is not available in 460 volts/3 phase.
- (5) The level control system submitted will not limit the deionized water flow to 5.0 GPM. However, flow controls of 5.0 GPM will be installed in-line in the manifold piping to the deionizers.

I hope that I have answered your request satisfactorily. We consider it a privilege to work with you on your purified water needs. Should you have further questions, please call me in Durham at 919-477-2161.

Sincerely,

MILLIPORE/CONTINENTAL WATER SYSTEMS CORP.

Donald R Cook/nlw

Donald R. Cook
Applications Specialist

drc:nlw

Continental Water Systems Corporation, Subsidiary of Millipore Corporation.
P.O. Box 15235, Durham, NC, U.S.A. 27704 • Telephone (919) 477-2161

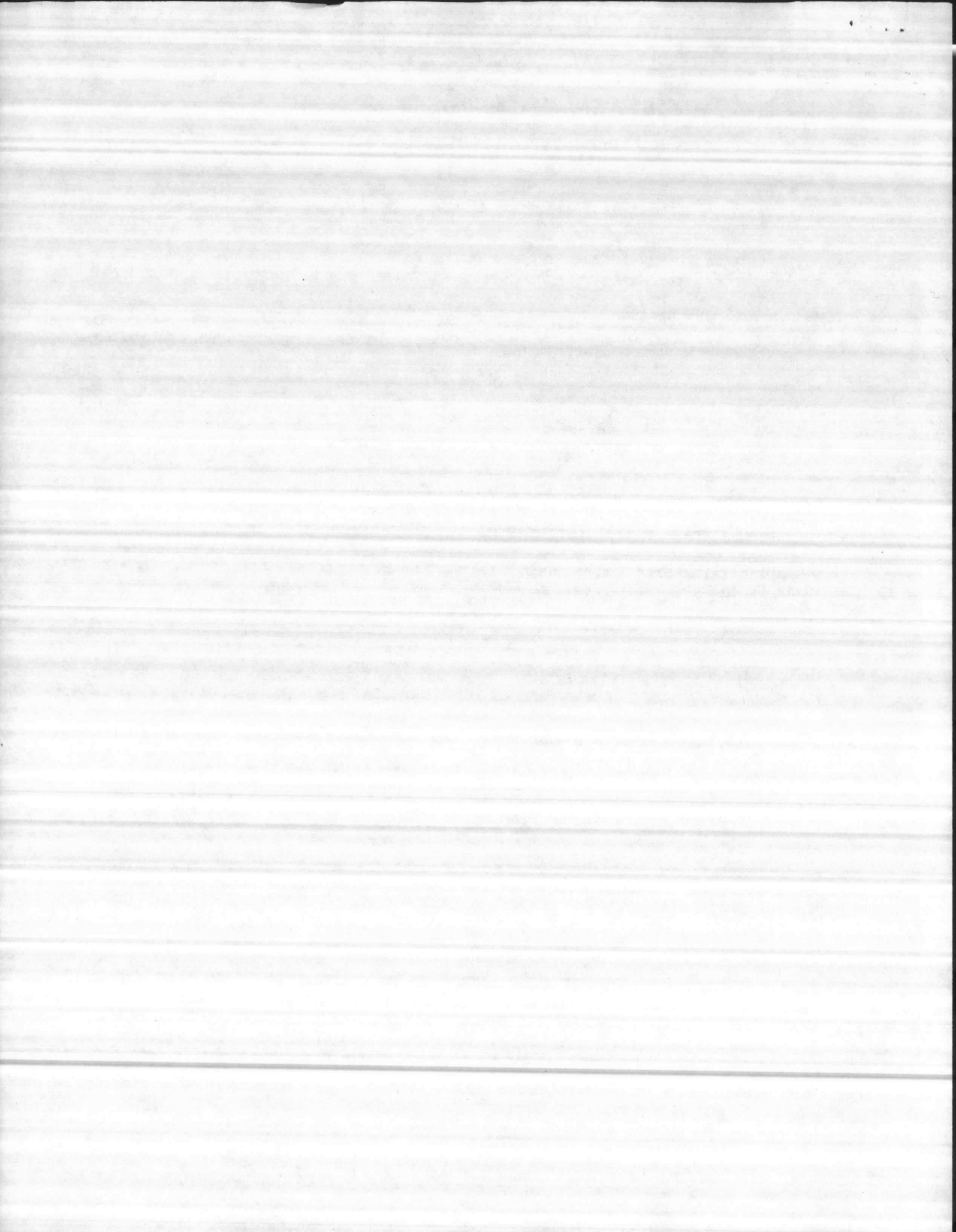
COPY TO SHEET METAL
FRANK BLAKE
HONEYWELL
M&H ELECTRIC
STARR DAVIS
R. F. L.
A & O
TWC #

THE WELDING CORPORATION

Reviewer *CV* Date *5/22/81*

Approved Rep *WH* Date *5/28/81*

1393



Sheet 15401
751

DRAWING AND SPECIFICATION TRANSMITTAL
LOCKWOOD GREENE ENGINEERS, INC.

SPARTANBURG, SOUTH CAROLINA 29304
P.O. BOX 491 (803)532-2351

file
11/17/81

TO Naval Facilities
Engineering Command-Bldg. N26
Atlantic Division
Norfolk, Va. 23511

DATE 10/21/81
JOB NO. 77239.16
JOB NAME N.R.M.C.

TRANSMITTAL NO. 6049
SHEET 1 OF 1
ORDER NO.

ATTN: Mr. John Grubbs - Code 5

Cont. # N-62470-77-C-7526

WE ARE SENDING YOU THE FOLLOWING DATA XX HEREWITH UNDER SEPARATE COVER

QUAN.	DOCUMENT NO.	REV. NO.	DESCRIPTION	VENDOR	CODE
1	SET		Pipe & Fitting Certification	The Waldinger Corporation	A

	FOR	INIT	DATE
RDC		<i>ADC</i>	10-23
RJD		<i>AD</i>	10/24
JR			
AX			
JJ			

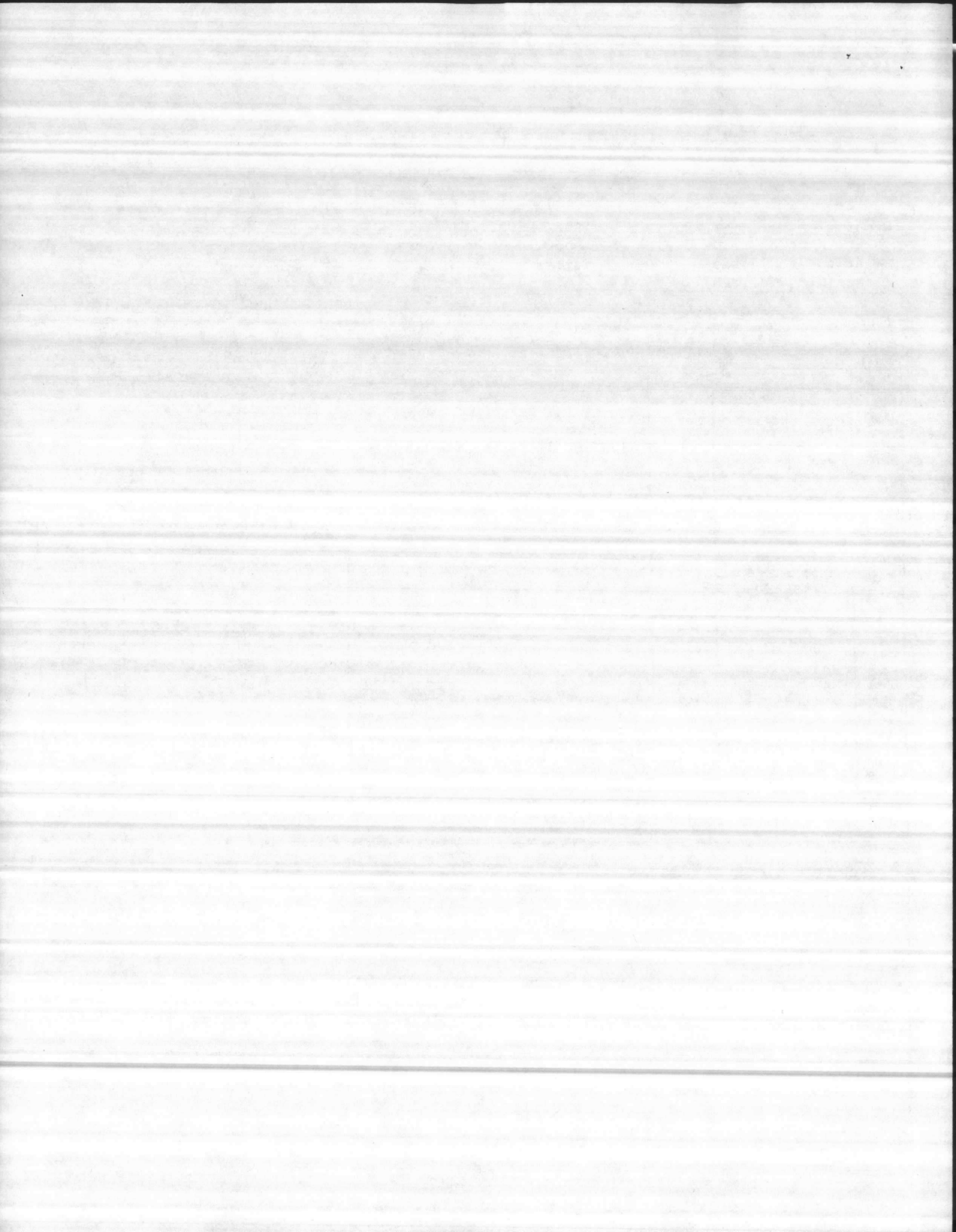
LOCKWOOD GREENE DOCUMENTS		VENDOR DOCUMENTS	
A - INFORMATION	E - BID	K - NO CORRECTIONS NOTED	
B - REVIEW	F - CONSTRUCTION	L - MAKE CORRECTIONS NOTED	
C - APPROVAL	G - PURCHASING	M - REVISE AND RESUBMIT	
D - REVISED DWG. (SEE REVISION)	H -	N - REJECTED (SEE REMARKS)	

COPIES TO	QUAN	TRANS ONLY	CODE	COPIES TO	QUAN	TRANS ONLY	CODE
ROICC	2						
Cardinal Contracting	5						



REMARKS

PLEASE ACKNOWLEDGE RECEIPT BY IMMEDIATE RETURN OF COPY OF THIS TRANSMITTAL



CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDIV 4-4355/3 (Rev. 6/76)

2

FROM CONTRACTOR

CARDINAL CONTRACTING CO., INC.

TO

LOCKWOOD-GREENE ENGRS.

CONTRACT NO.

N62470-77-B-7526

TRANSMITTAL NO.

751

DATE

10-15-81

PROJECT TITLE AND LOCATION

NAVAL REGIONAL MEDICAL CENTER

CAMP LEJEUNE, NORTH CAROLINA 28542

CONTRACTOR USE ONLY

*List only one specification division per form.

List only one of the following categories on each transmittal form, and indicate which is being submitted

Contractor Approved

OICC Approval

Deviation/Substitution
For OICC Approval

REVIEWER USE ONLY

**ACTION CODES

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- C-Comments
- R-Resubmit

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
751	15401	PIPE AND FITTING CERTIFICATION	10	A	

CONTRACTOR'S COMMENTS

CQCR Action: A-

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

10-16-81

CONTRACTOR REPRESENTATIVE (Signature)

Wm. J. Haymaker

DATE RECEIVED BY REVIEWER

FROM (Reviewer)

TO

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REVIEWER'S COMMENTS

COPIES TO:
ROICC (2)
LANTDIV (1)
A-E (1)

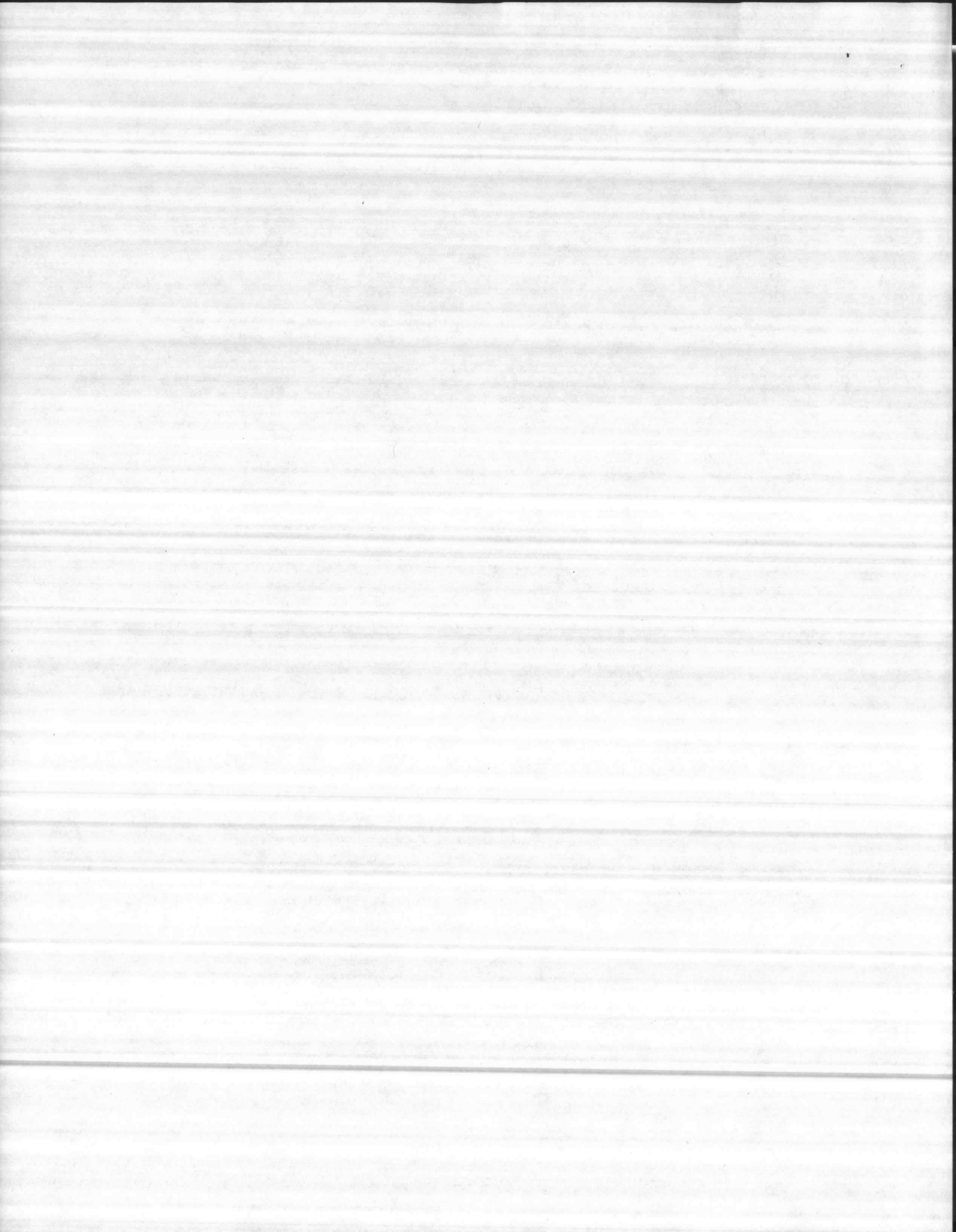
DATE

10-20-81

SIGNATURE

Charles A. Kozey

6049



CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDIV 4-4355/3 (Rev. 6/76)

CONTRACT NO. N62470-77-B-7526	TRANSMITTAL NO. 751	DATE 10-15-81
----------------------------------	-------------------------------	------------------

FROM CONTRACTOR
CARDINAL CONTRACTING CO., INC.
TO
LOCKWOOD-GREENE ENGRS.

PROJECT TITLE AND LOCATION
**NAVAL REGIONAL MEDICAL CENTER
CAMP LEJEUNE, NORTH CAROLINA 28542**

CONTRACTOR USE ONLY	REVIEWER USE ONLY
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ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
751	15401	PIPE AND FITTING CERTIFICATION	10		

	FOR	INIT	DATE
RDC			10-19
RIO			10/20
JR			10-19
3			

CONTRACTOR'S COMMENTS

CQCR Action: A

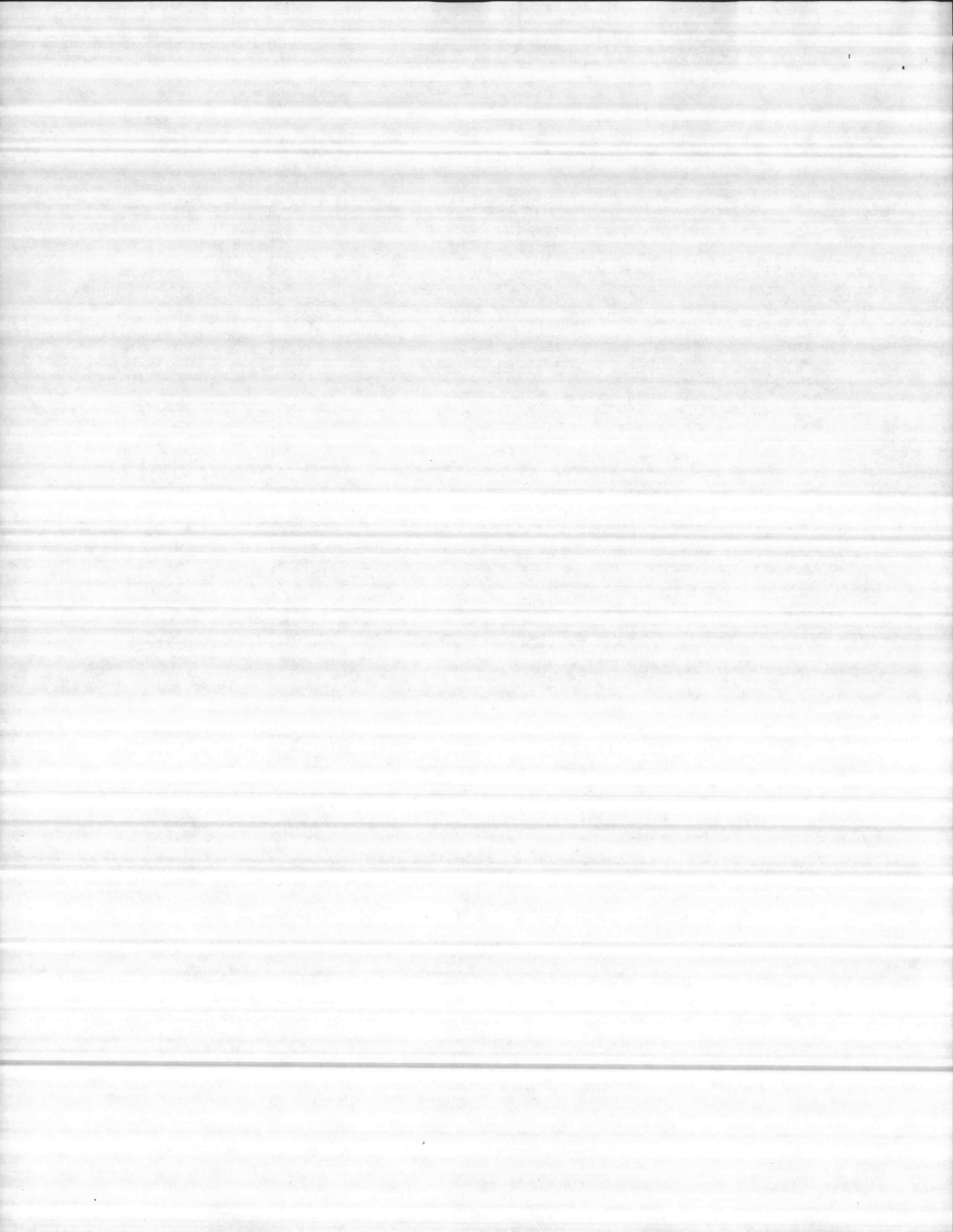
COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC 10-16-81	CONTRACTOR REPRESENTATIVE (Signature) <i>W.M.J. Haymaker</i>
DATE RECEIVED BY REVIEWER	FROM (Reviewer) TO

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REVIEWER'S COMMENTS



COPIES TO: ROICC (2) LANTDIV (1) A-E (1)	DATE	SIGNATURE
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CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDIV 4-4355/3 (Rev. 6/76)

CONTRACT NO. N62470-77-B-7526	TRANSMITTAL NO. 751	DATE 10-15-81
----------------------------------	-------------------------------	------------------

FROM CONTRACTOR
CARDINAL CONTRACTING CO., INC.

TO
LOCKWOOD-GREENE ENGRS.

PROJECT TITLE AND LOCATION
**NAVAL REGIONAL MEDICAL CENTER
CAMP LEJEUNE, NORTH CAROLINA 28542**

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---	--

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
751	15401	PIPE AND FITTING CERTIFICATION	10		

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

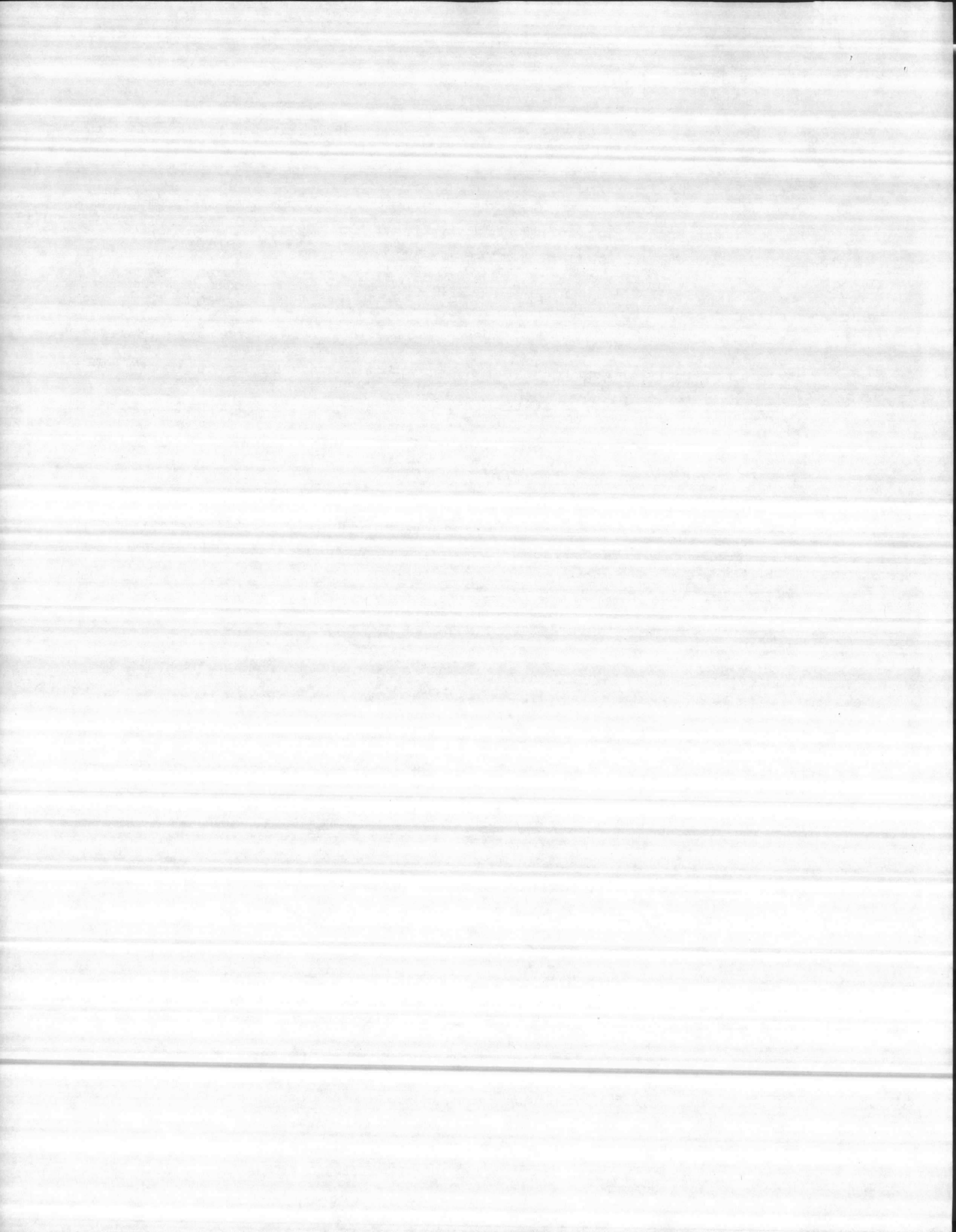
CONTRACTOR REPRESENTATIVE (Signature)

DATE RECEIVED BY REVIEWER	FROM (Reviewer)	TO
---------------------------	-----------------	----

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COPIES TO: ROICC (2) LANTDIV (1) A-E (1)	DATE	SIGNATURE
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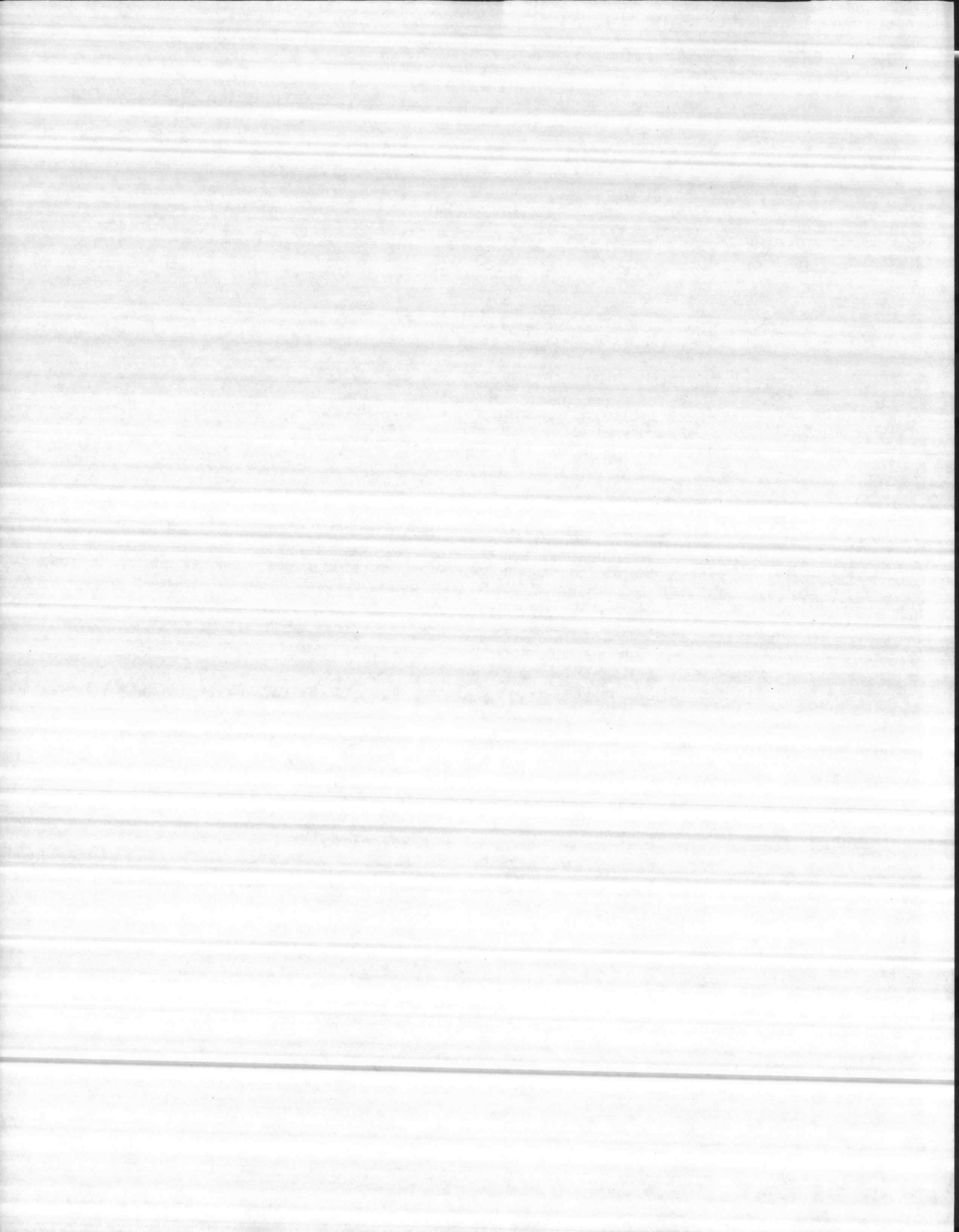
THE WALDINGER CORPORATION

PIPE AND FITTING CERTIFICATION SUBMITTAL

SECTION 15401

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Fitting certification	
Domestic Water piping	PAGE 7
Fitting certification	
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Pipe certification	
Service water piping	PAGE 9



PIPE AND FITTING CERTIFICATION SUBMITTAL (CONT'D)

SECTION 15401

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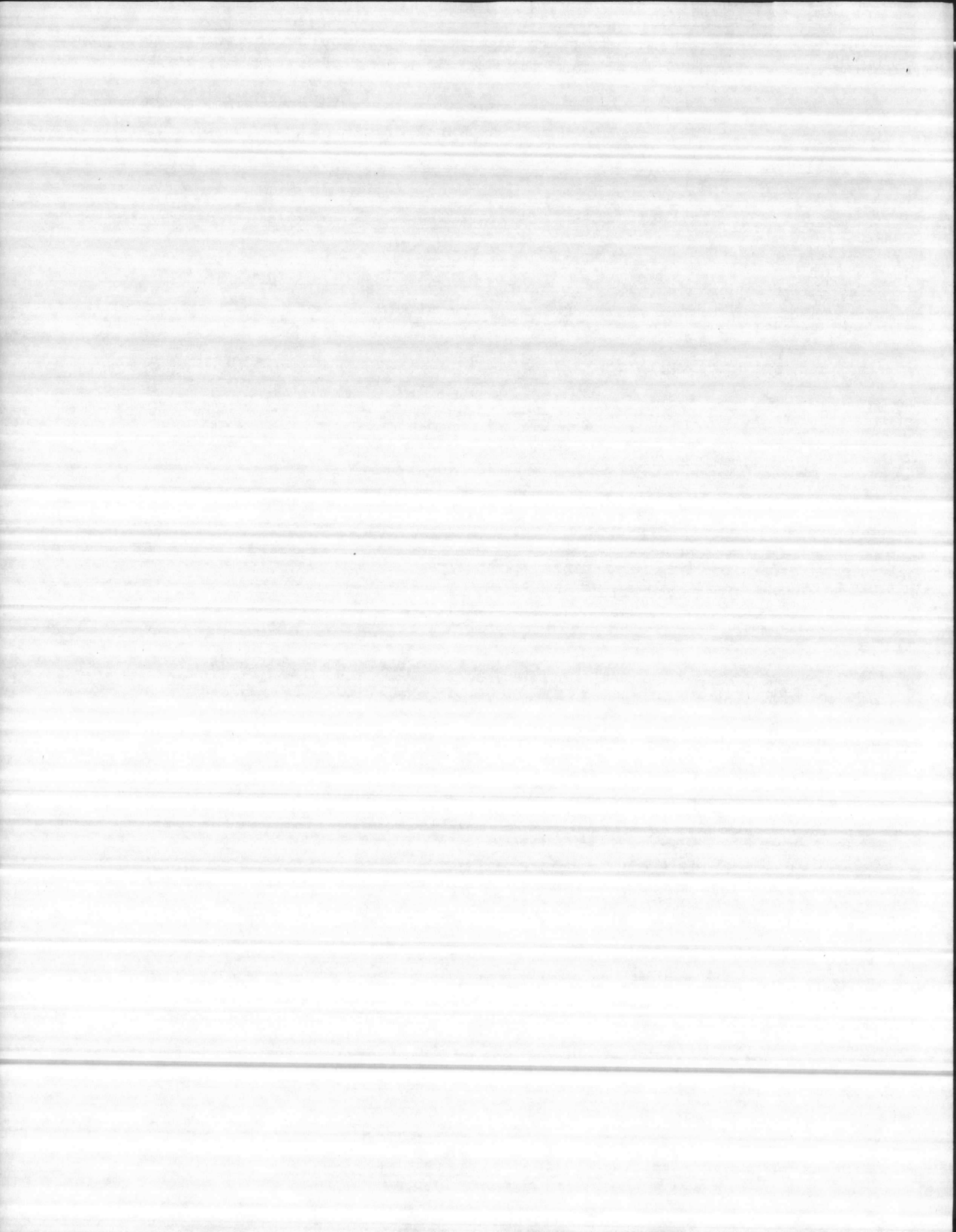
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Pipe and fitting certification	
Deionized water piping	PAGE 11

"It is hereby certified that the material/equipment shown and marked in this submittal is that approved to be incorporated into Contract Number N62470-77-D-7500, is in compliance with the contract drawings and specifications, and can be installed in the allocated spaces, and is approved for use.

THE WALDINGER CORPORATION

Authorized Reviewer SS Date 10-15-81

Signature CQC Rep _____ Date _____



P. O. Box 2027
Tyler, Texas 75710, Tel: 214/882-5511

SECTION 15401
PARA. 4.1

Tyler Pipe



Subsidiary of
Tyler Corporation

I CERTIFY THAT THE PRODUCTS MANUFACTURED BY TYLER PIPE INDUSTRIES, TYLER, TEXAS, WHICH ARE CAST IRON NO-HUB PIPE AND NO-HUB FITTINGS, MEET CAST IRON SOIL PIPE INSTITUTE STANDARDS 301-72; FEDERAL SPECIFICATIONS WW-P-401E.

TYLER PIPE INDUSTRIES

BY James B. Horan
JAMES B. HORAN
VICE PRESIDENT

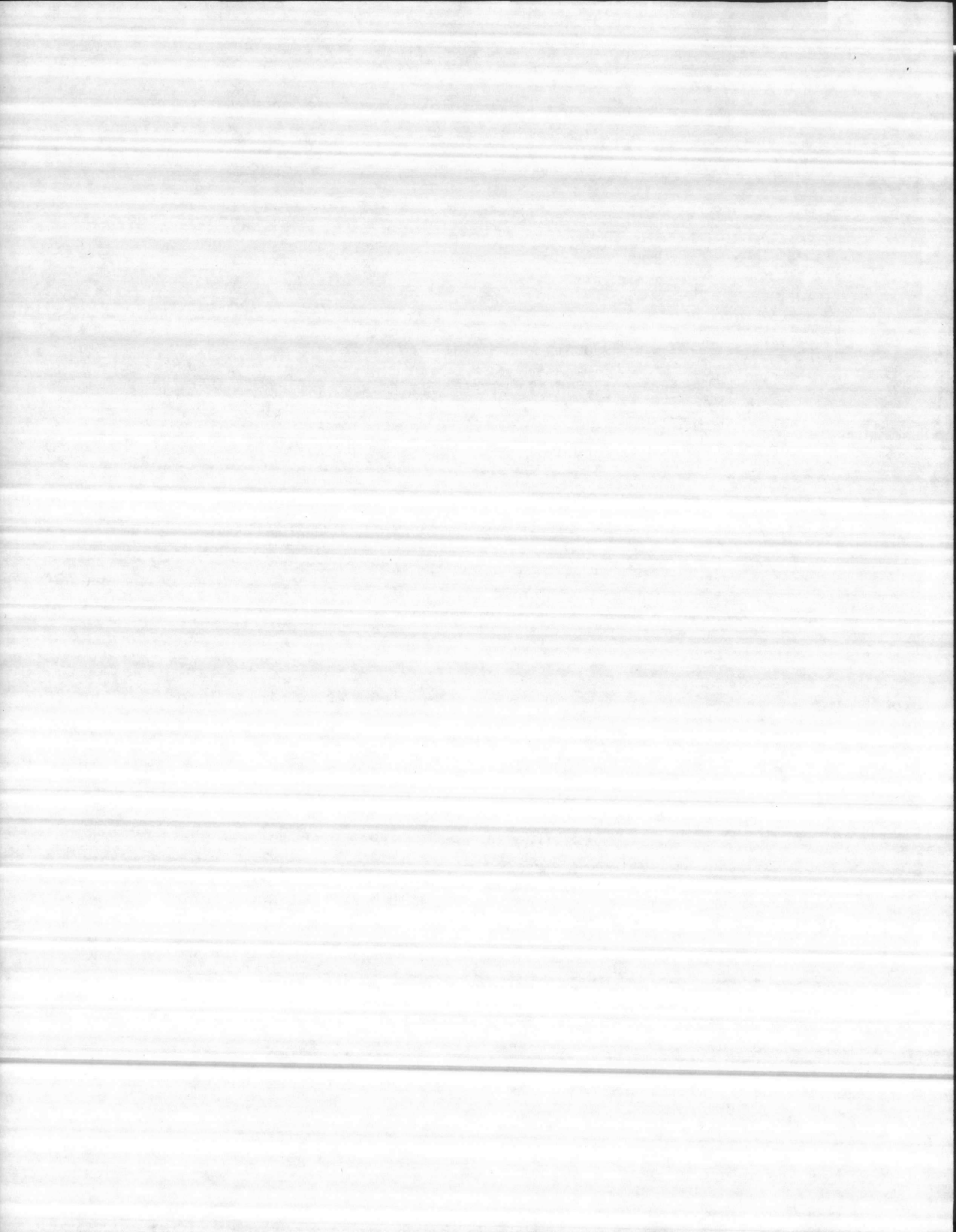
SUBSCRIBED AND SWORN TO BEFORE ME THIS THE 24th DAY OF August, 1979

Clarence Fitz
NOTARY PUBLIC
SMITH COUNTY, TEXAS

REF: Naval Hospital
Camp Le Jeune, NC

6049

DRG 1



P. O. Box 2027
Tyler, Texas 75701, Tel: 214/882-5511

SECTION 15401
PARA. 4.1



Tyler Pipe
Subsidiary of
Tyler Corporation

I CERTIFY THAT THE NO-HUB COUPLINGS SOLD BY TYLER PIPE INDUSTRIES, TYLER,
TEXAS, MEET CAST IRON SOIL PIPE INSTITUTE STANDARDS 301-72.

TYLER PIPE INDUSTRIES

BY James B. Horan
JAMES B. HORAN
VICE PRESIDENT

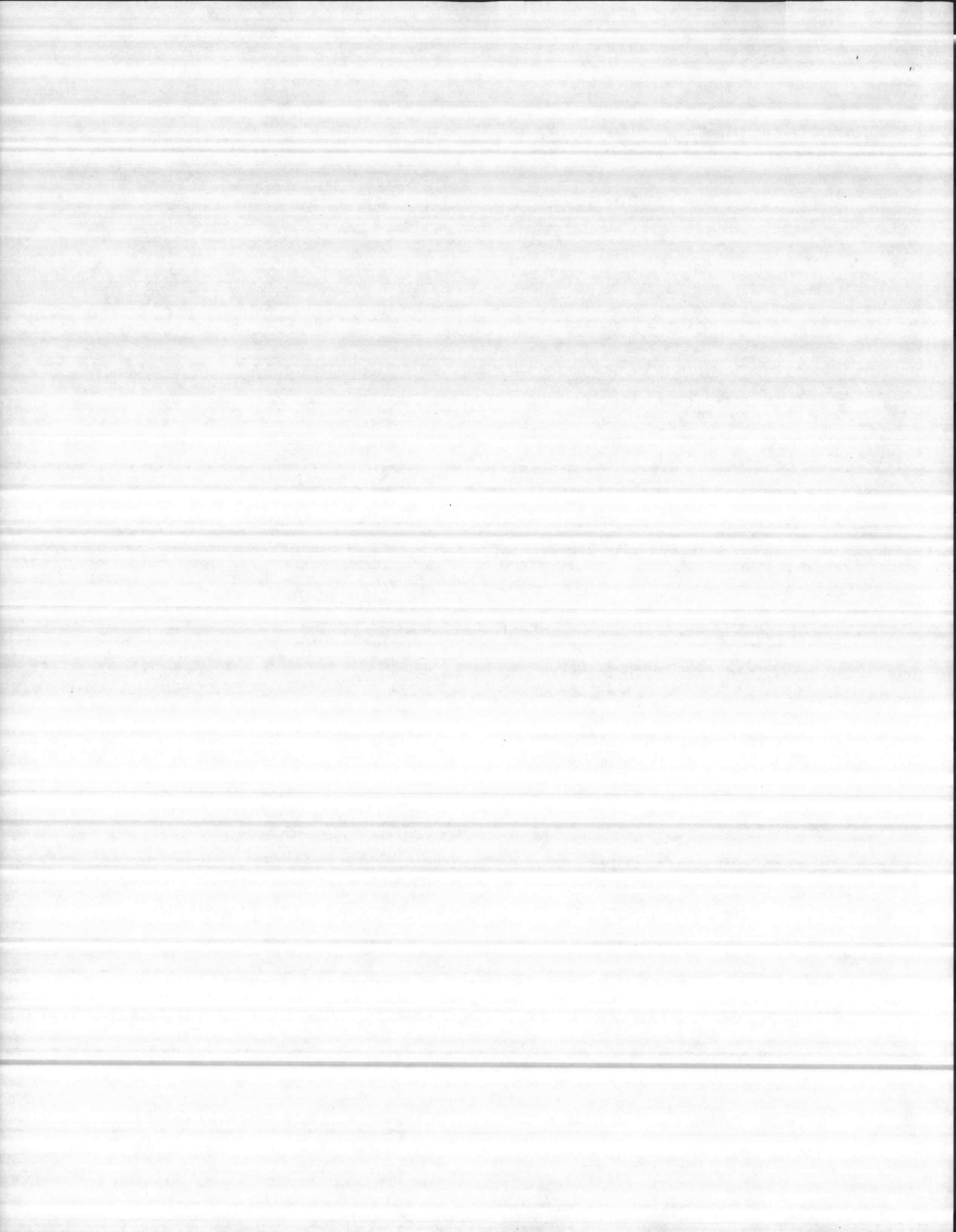
SUBSCRIBED AND SWORN TO BEFORE ME THIS THE 24th DAY OF
August, 19 79

Clarence Fick
NOTARY PUBLIC
SMITH COUNTY, TEXAS

REF: Naval Hospital
Camp Le Jeune, NC

6049

PAGE 2



P. O. Box 2027
Tyler, Texas 75710, Tel: 214/882-5511

SECTION 15401
PARA. 4.1

Tyler Pipe



Subsidiary of
Tyler Corporation

I CERTIFY THAT THE PRODUCTS MANUFACTURED BY TYLER PIPE INDUSTRIES, TYLER, TEXAS, WHICH ARE CAST IRON SOIL PIPE AND SOIL PIPE FITTINGS, MEET FEDERAL SPECIFICATIONS WW-P-401E (GSA-FSS), SV AND XH; ASTM A 74-75.

TYLER PIPE INDUSTRIES

BY James B. Horan
JAMES B. HORAN
VICE PRESIDENT

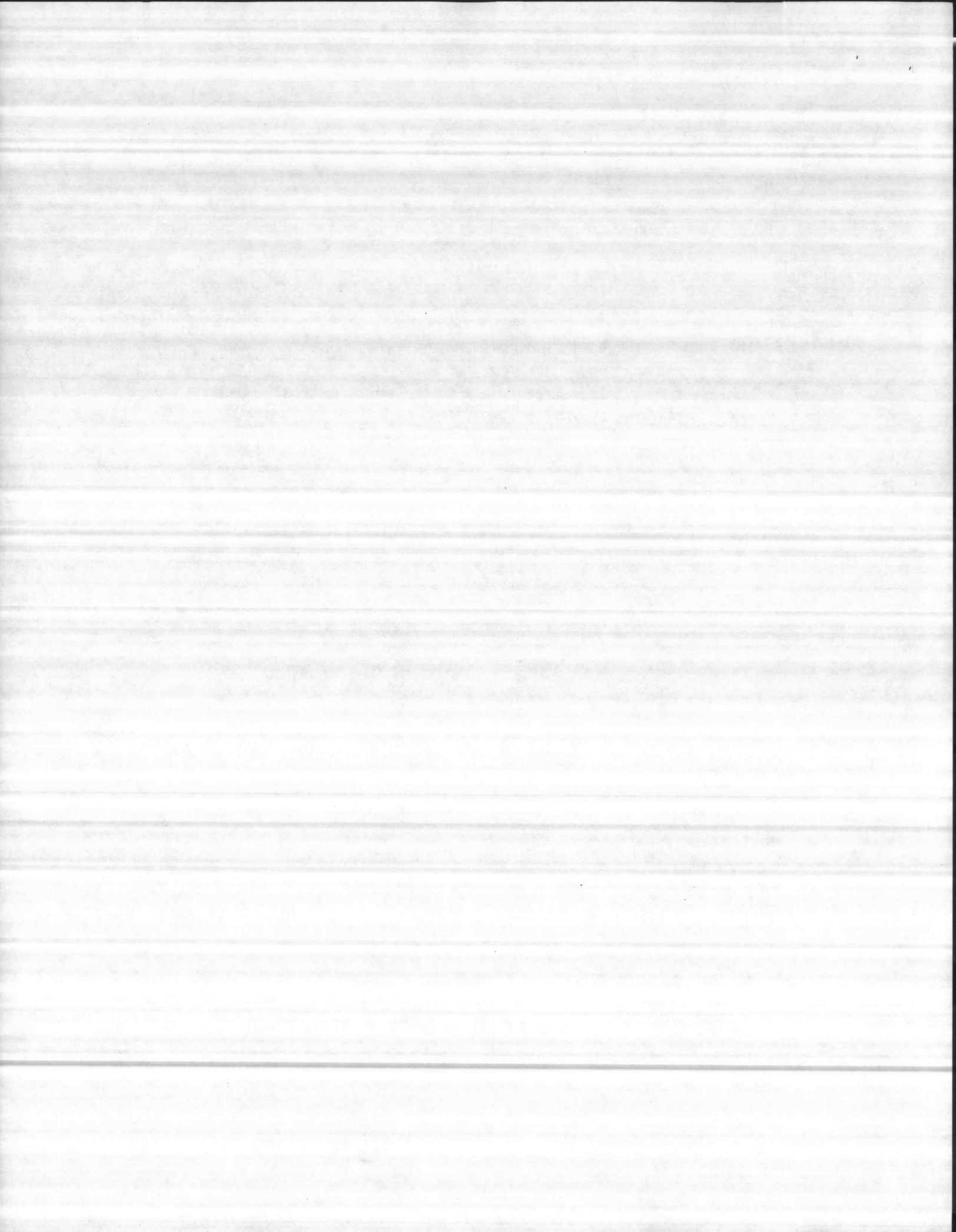
SUBSCRIBED AND SWORN TO BEFORE ME THIS 29th DAY OF August 1979

Clarence Fitz
NOTARY PUBLIC
SMITH COUNTY, TEXAS

REF: Naval Hospital
Camp Le Jeune, NC

6049

PAGE 3



P. O. Box 2027
Tyler, Texas 75710, Tel. 214/892-5511

SECTION 15401
PARA. 4.1

Tyler Pipe

Subsidiary of
Tyler Corporation

I CERTIFY THAT THE TY-SEAL GASKETS DESIGNED AND DISTRIBUTED BY TYLER PIPE INDUSTRIES, TYLER, TEXAS, CONFORM TO ASTM SPECIFICATION C 564-70.

TYLER PIPE INDUSTRIES

BY James B. Horan
JAMES B. HORAN
VICE PRESIDENT

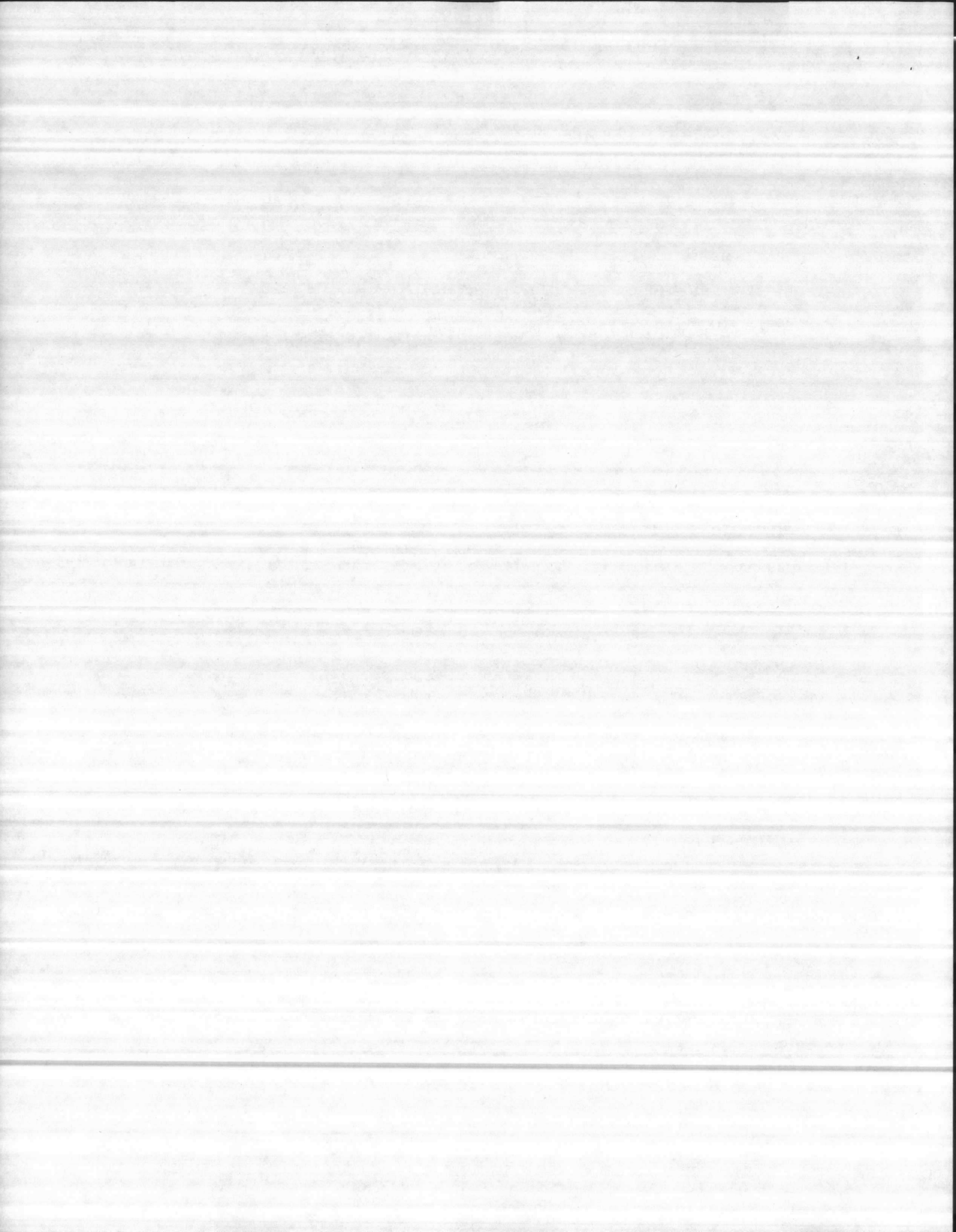
SUBSCRIBED AND SWORN TO BEFORE ME THIS THE 29th DAY OF August, 19 79

L. L. L. L.
NOTARY PUBLIC
SMITH COUNTY, TEXAS

REF: Naval Hospital
Camp Le Jeune, NC

6049

D. - 11



SECTION 15401
PARA 4.2

Long form:

ACID WASTE DRAINLINE

I. General

A. Contractor shall furnish and install a complete acid-waste drainline and vent system as indicated. This system shall be made of borosilicate glass conforming to Federal Specification DD-G-541B and Military Specification MIL-P-22561B (YD) as manufactured under the trade name "KIMAX" by O-I/Schott.

B. This system shall include all glass straight lengths, fittings and traps, compression type tetra-fluoro-ethylene lined couplings and padded hanger supports. It shall also include protected pipe for underground burial, and recommended adapter couplings to connect to other piping material, where applicable.

C. All pipe shall be installed free of strain, in a manner to permit limited movement. Horizontal runs shall be supported by a padded hanger or hangers 8' to 10' on centers. Vertical risers shall be supported by padded riser clamps designed to restrict lateral and downward movement. Vertical risers up to 3" I.D. may be supported at every other floor level. Three inch I.D. and greater shall be supported at every floor level.

II. Connections

A. Glass-to-glass connections shall be made with KIMAX compression type couplings, Article Nos. 6650 or 6661. Couplings outer shell, bolt and nut to be made from 300 series stainless steel. Coupling compression liner to be made from Buna-N Rubber. Seal ring gasket to be made from tetra-fluoro-ethylene. When installed according to the manufacturer's recommendations, they shall provide a leak-free joint when deflected up to 4°.

B. Joints between glass and other types of piping material shall be made with KIMAX adapters and/or according to manufacturer's recommendations.

III. Protection of Pipe

A. All glass pipe passing through walls or floor slabs shall be fitted with pipe sleeves a minimum 2" greater diameter than the pipe O.D. Space between pipe and sleeve shall be packed with fiber glass, glass wool and/or with a non-hardening approved caulking material.

B. Glass pipe shall not be installed in direct contact with concrete. Fiber glass insulation or other type padding as approved by the pipe manufacturer shall be used to insulate between the two materials.

C. Glass pipe shall be protected against all weld splatter.

IV. Tests

Test in accordance with manufacturer's recommendations and local code requirements.

V. Underground Pipe

A. Excavation—shall conform to National Plumbing Code A 40.8 Section 2.7.

1. Bottom of trench shall be properly compacted, graded, and the pipe supported throughout its entire length.

2. At least 4" of properly compacted sand or rock free soil shall be used directly under the pipe.

B. Buried Pipe

1. Straight lengths shall be protected in expanded polystyrene casing.

2. All underground fittings shall be protected prior to back-filling by wrapping in polyvinyl film (5 mil), Scotch Wrap or J. M. Trans-Tex or approved equal.

C. Backfill

Pipe trench shall be back-filled and tamped with sand or rock-free soil to 12" above top of pipe. Where space does not permit a minimum 12" cover, additional protection must be provided to protect pipe against crushing loads, except when buried under protective concrete slab.

VI. Laboratory Sink Connection

Sink outlets, tailpieces, traps and cupsinks shall be KIMAX.

Short form:

ACID WASTE DRAINLINE

This system shall be made of KIMAX borosilicate glass and conforming to Federal Specification DD-G-541-B and Military Specification MIL-P-22561-B (YD) as manufactured by O-I/Schott. Glass-to-glass connections shall be made with KIMAX compression type stainless steel couplings. Article Nos. 6650 or 6661, with a tetra-fluoroethylene inner seal ring. This system shall be installed in accordance with the manufacturer's recommendations and the governing plumbing code.

Note: Where applicable

Underground Glass Pipe

Excavation shall conform to National Plumbing Code A 40.8 Section 2.7. Bottom of trench shall consist of at least 4" of rock-free sand or soil compacted and graded to provide uniform full length support. Back fill with rock free sand and/or soil to 12" above pipe. When the above conditions cannot be met, consult the manufacturer for his recommendations.

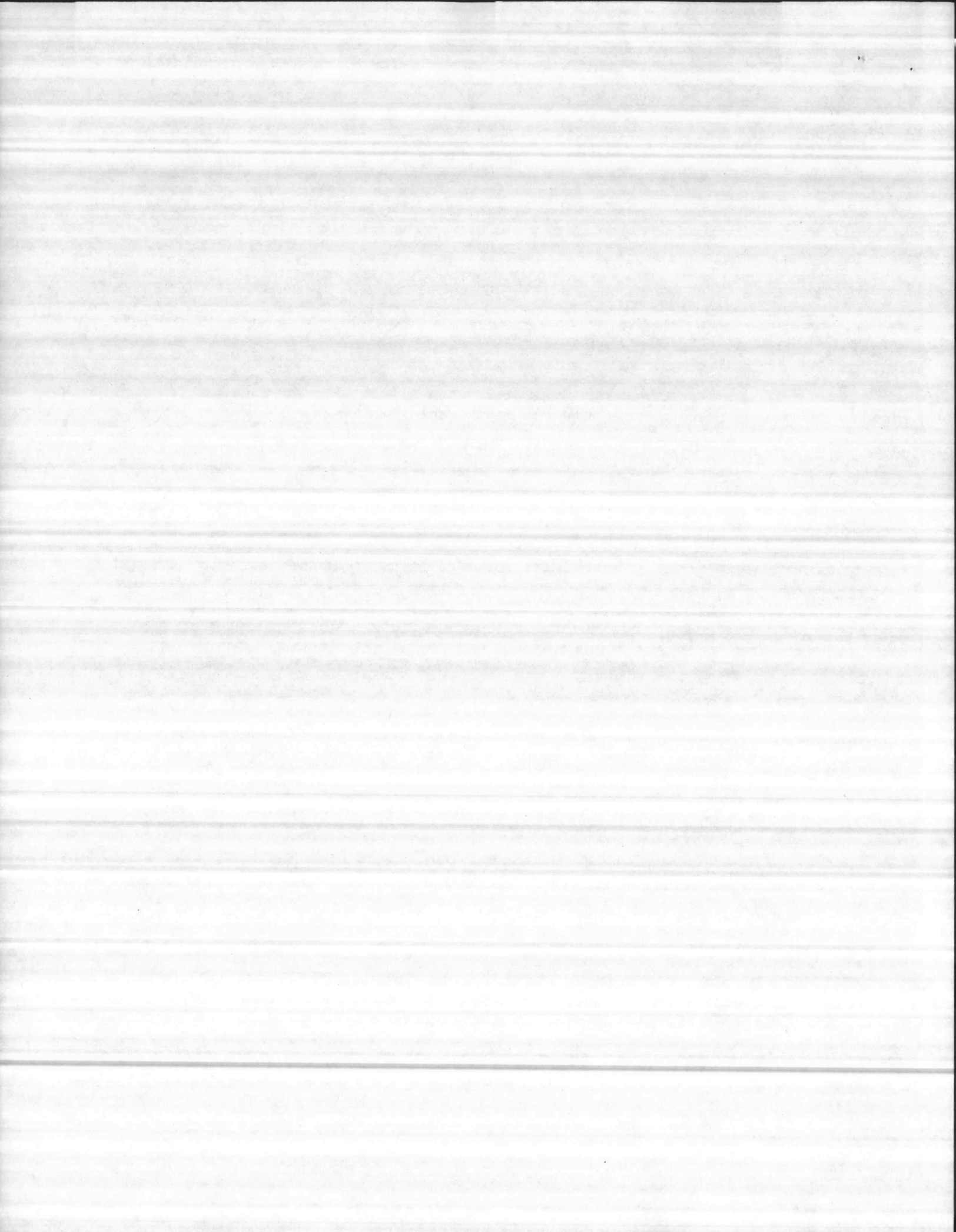
KIMAX protected pipe, and wrapped fittings shall be installed and back filled in accordance with the manufacturer's instructions and governing plumbing code.

O-I/SCHOTT - (609) 692-4700 VINELAND, N.J.

BG PETERSON CO RETAILER IN DES MOINES, IA

6049

DATE



Producing Mill: Mahoning Valley District - Youngstown

CERTIFICATE OF COMPLIANCE WITH STANDARDS

I hereby certify that the material described below complies with the requirements of ASTM Standard A-120, 1977 edition; with the following supplementary requirements:

None.

Customer Name Waldinger Corp., Des Moines IA 50321

Customer Order No. IM-2145-016

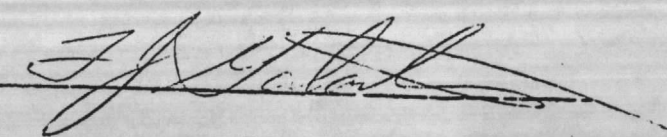
Republic Order No. 04-36116-106

Invoice No. 106-4699

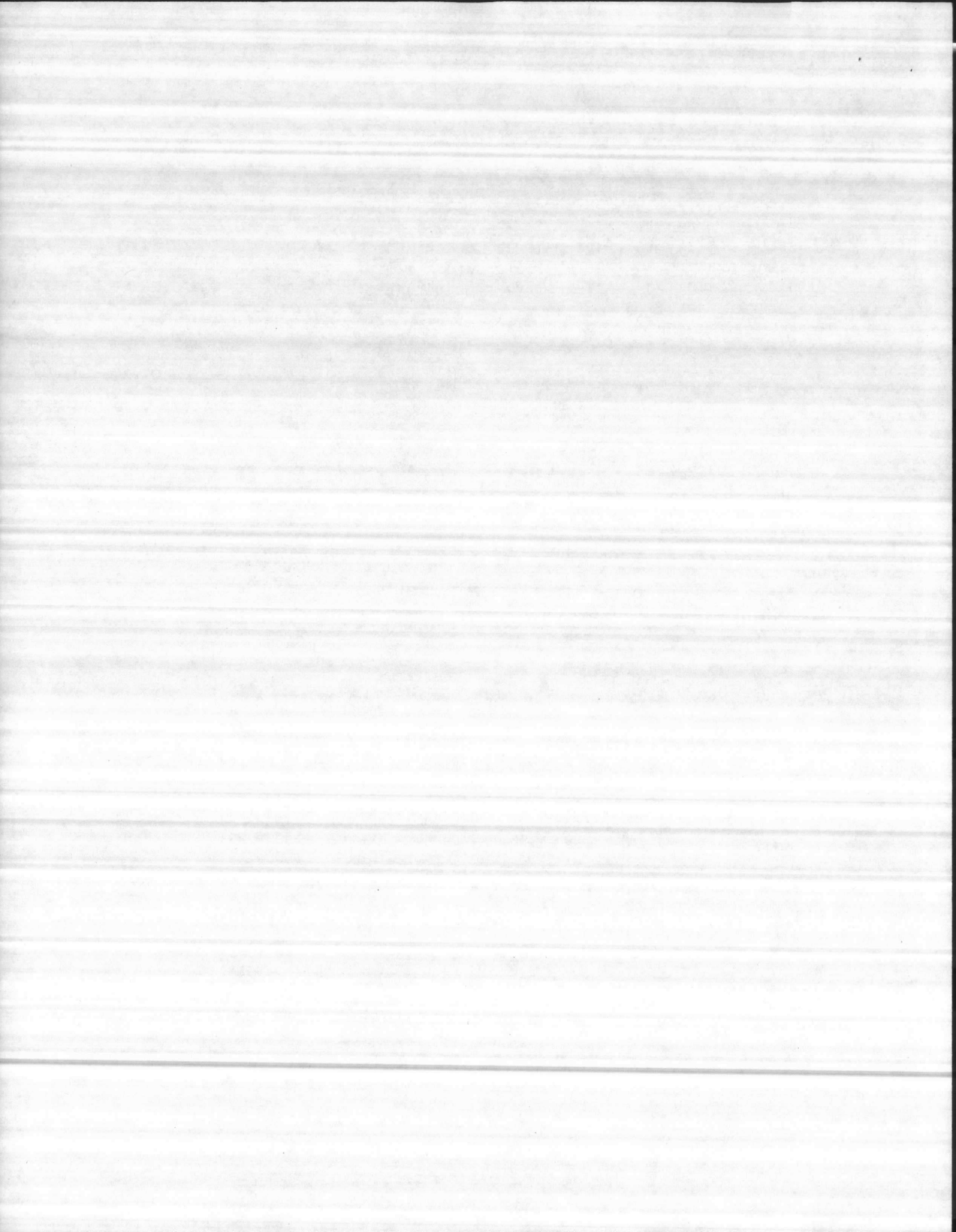
Date Shipped 9/26/79

<u>Quantity</u>	<u>Size & Thickness</u>	<u>Type of Pipe</u>	<u>Hydrostatic Test Pressure</u>
9 Pcs	2-3/8 OD X .154W	STD GALV CSR	1000# PSI
20 Pcs	2-7/8 OD X .203W	STD GALV CSR	1000# PSI
9 Pcs	3-1/2 OD X .216W	STD GALV CSR	1000# PSI
20 Pcs	4-1/2 OD X .237W	STD GALV CSR	1200# PSI
11 Pcs	3/4 NOM X .113W	STD GALV CSR	700# PSI
4 Pcs	1 NOM X .133W	STD GALV CSR	700# PSI
4 Pcs	1-1/4 NOM X .140W	STD GALV CSR	1000# PSI
2 Pcs	1-1/2 NOM X .145W	STD GALV CSR	1000# PSI
32 Pcs	2-3/8 OD X .154W	STD GALV CSR	1000# PSI
23 Pcs	2-7/8 OD X .203W	STD GALV CSR	1000# PSI
2 Pcs	3-1/2 OD X .216W	STD GALV CSR	1000# PSI
34 Pcs	4-1/2 OD X .237W	STD GALV CSR	1200# PSI

6049

Signed: 

Date: 10/1/79





The following is a partial listing of the many Federal agencies, associations, code groups, laboratories and organizations which have approved, listed, specified, tested or otherwise indicated acceptance of the Victaulic® grooved piping method. Contact Victaulic for details and the specific nature of each listing.

Most states, counties and municipalities have approved Victaulic for a wide variety of services. Pages 2, 3 and 4 contain a current listing.

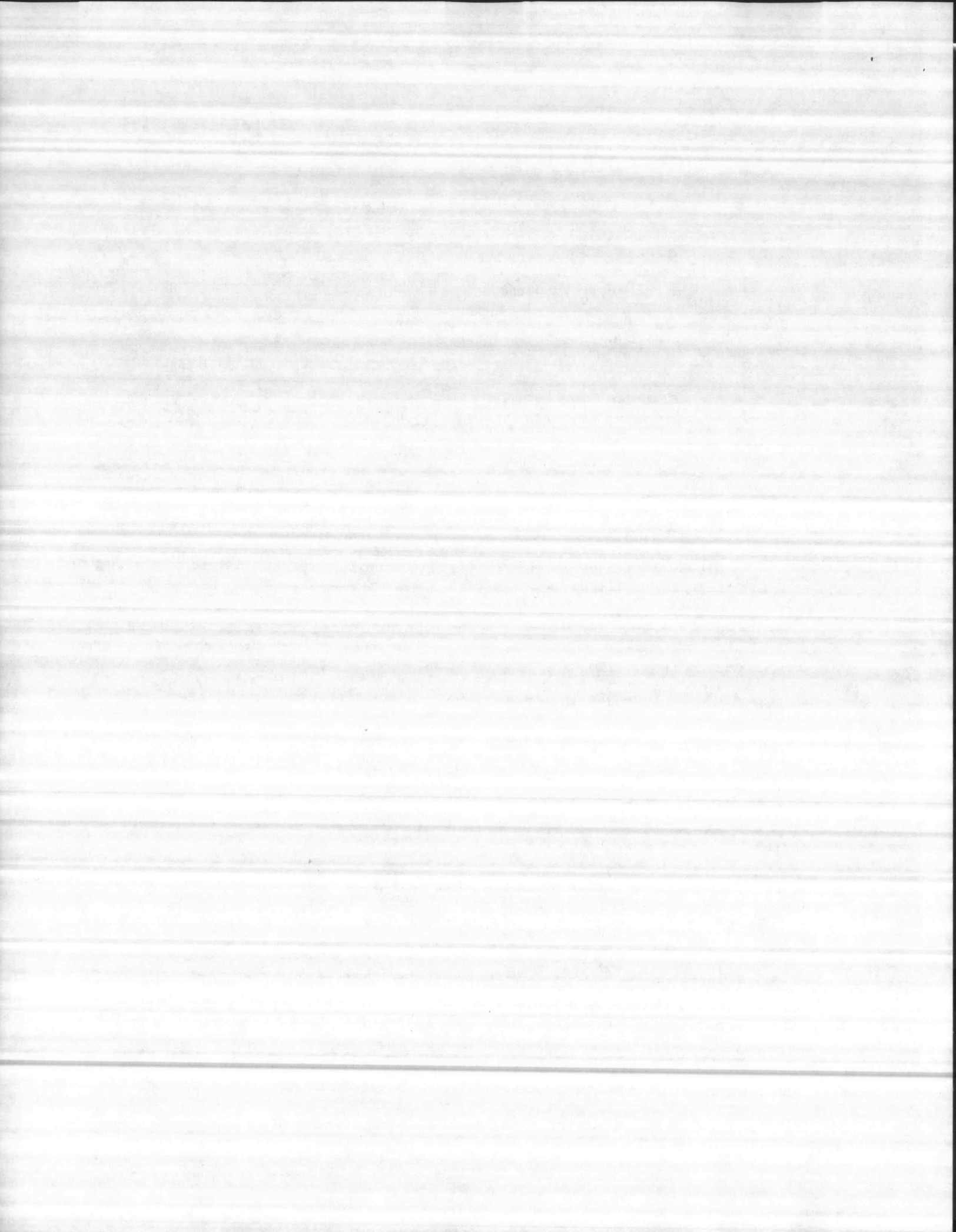
Many architectural, engineering, design/construction, contracting, industrial and commercial firms specify, approve, list and accept Victaulic for a wide variety of services. Contact Victaulic for details.

GENERAL CODE GROUPS, ASSOCIATIONS, LABORATORIES AND APPROVAL BODIES

- (API) American Petroleum Institute—API Std. 5L, Sect. 7-74
- (ANSI) American National Standards Institute—ANSI B-31.1 Code For Pressure Piping
 - Sect. 1 Power, USAS B-31.1.0
 - Sect. 2 Industrial Gas & Air, USAS B-31.1.1
 - Sect. 3 Petroleum Refinery Piping, ASA B-31.3
 - Sect. 5 Refrigeration Piping, ASA B-31.5
 - Sect. 6 Chemical Process, USAS B-31.6
 - Sect. 8 Gas Trans. Distrib., USAS B-31.8
- (AWWA) American Water Works Association—C-110 (same as ANSI 21.10 for cast iron fittings from 2" through 48")
- (BISSC) Baking Industry Sanitation Standards Committee—Std #27—Handling, Storing Refined Liquid & Dry Sweetening Products (Style 73).
- (BOCA) Building Officials & Code Administrators International, Inc. Report No. RR73-49 for plumbing, potable water, sanitary drains, fire protections, storm drains, air conditioning and heating hot water to 230°F.
- (FM) Factory Mutual Engineering Corporation—approved for fire protection services.
- (IAPMO - UPC) International Association of Plumbing & Mechanical Officials—Water systems, storm drains, standpipe, sprinkler above and below ground.
- (NFPA) National Fire Protection Association—Fire protection, seismic protection & vibration isolation services (Pamphlet 13).
- (NPC) National Plumbing Code—as in ASNI B-40.8
- (NYTL) New York Testing Laboratories—Hot and cold potable water.
- Pacific Fire Rating Bureau—Fire protection services.
- (SBCC) Southern Building Code Congress—Standard Building Code Sect. 103.6, Chapter IX, Section 2101.9 and Standard Plumbing Code Section 103.6, 1206 and 1502.1.
- (UL) Underwriter's Laboratories, Inc. — Listed for fire protection services.

FEDERAL GOVERNMENT AGENCIES

- Bureau of Marine Inspection—Salt & fresh water, oil transfer.
- Bureau of Public Roads—Div. of Bridges—Drain lines & bridge crossings.
- Coast Guard—Approves each vessel individually.
- Corps of Engineers—CE-300.01 Plumbing & drains; CE-301.37 Water, Air Supply and distribution.
- (FHA) Federal Housing Administration—fire protection, storm drains, water systems.
- (GSA) General Services Administration—PBS-4-1517 Plumbing; PBS-4-1590 Refrigeration; PBS-4-1515-7 Vibration Isolation; PBS-303-4 (Amend 2) Hydraulic Elevators.
- Military Specifications — MIL-P-10388 Fittings; MIL-P-10387 Couplings; MIL-P-11087A(CE) Steel Pipe, Grooved.
- Navy, Department of Naval Facilities Engineering Command—NAVFAC Spec. 55-Y; 58-Y; 59-Y—Plumbing, refrigeration and water distribution; TS-2W8 and TS-15400.
- Postal Public Facilities—CEPSCO 115-55-G52 fire protection, domestic water, chilled water.
- (TVA) Tennessee Valley Authority—Fire protection, storm drains.
- (VA) Veterans Administration—H-08-1: Sect. 300 Plumbing, Sect. 301 Roof drains, Sect. 321 Fire protection, Sect. 683 Hot and cold water, chilled, condenser and heating hot water.

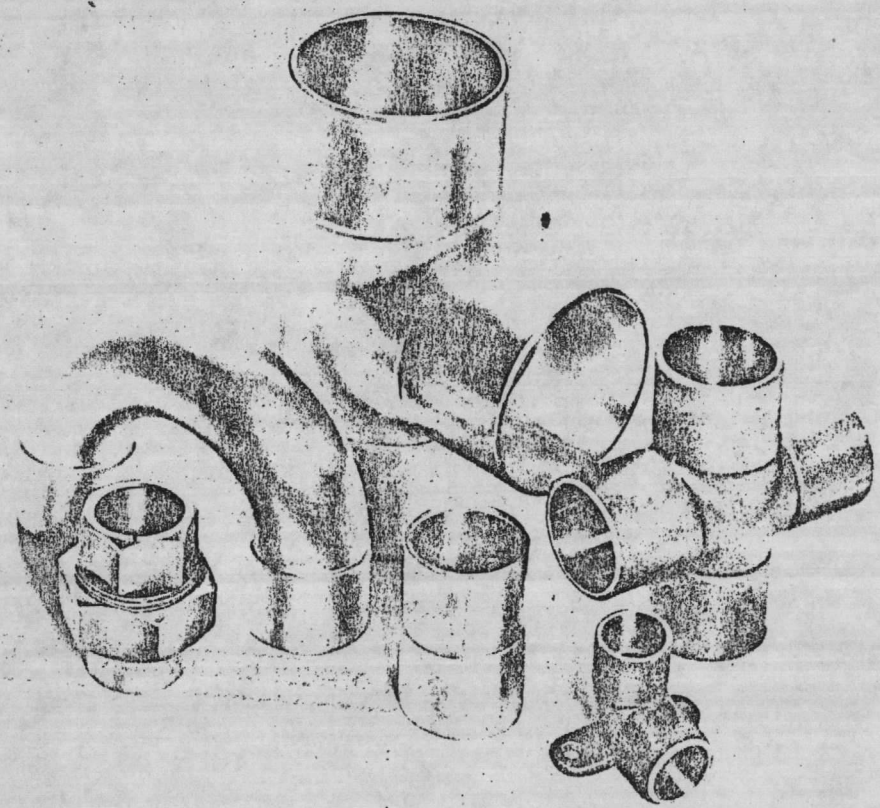


ITT Grinnell Wrot Copper Solder-Joint fittings for use in plumbing, heating, air conditioning and refrigeration installations are manufactured from commercially pure copper. All fittings are produced under a system of strict inspection and quality control.

Wrot Copper Pressure fittings are made to the requirements of specifications ANSI B16.22, Wrot Copper and Bronze Solder-Joint Pressure fittings.

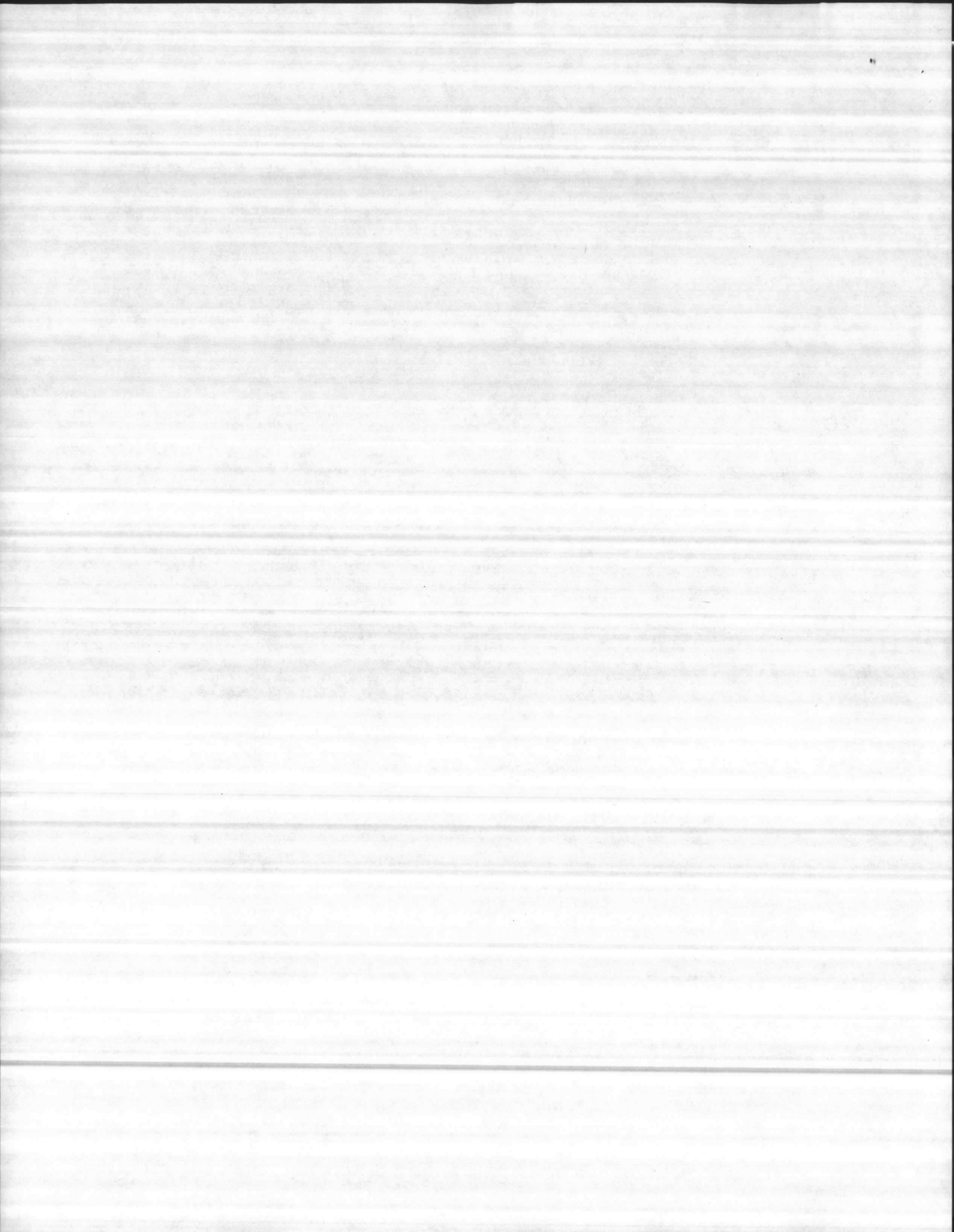
ITT Grinnell Cast Brass Solder Joint Fittings for copper tube plumbing, heating and other applications make for a strong and neat installation. Particular attention is paid to dimensions and machining so that capillary action will produce even distribution of the solder to effect a perfect solder joint.

All fittings are made to the requirements of ANSI B16.18 by modern casting technique. All fittings are tested at 60 psi under water and thoroughly inspected before packaging.



pressure fittings

60 49



Producing Mill: Mahoning Valley District - Youngstown

CERTIFICATE OF COMPLIANCE WITH STANDARDS

I hereby certify that the material described below complies with the requirements of ASTM Standard A-120, 1977 edition; with the following supplementary requirements:

None.

Customer Name Waldinger Corp., Des Moines IA 50321

Customer Order No. IM-2145-016


Republic Order No. 04-36116-106

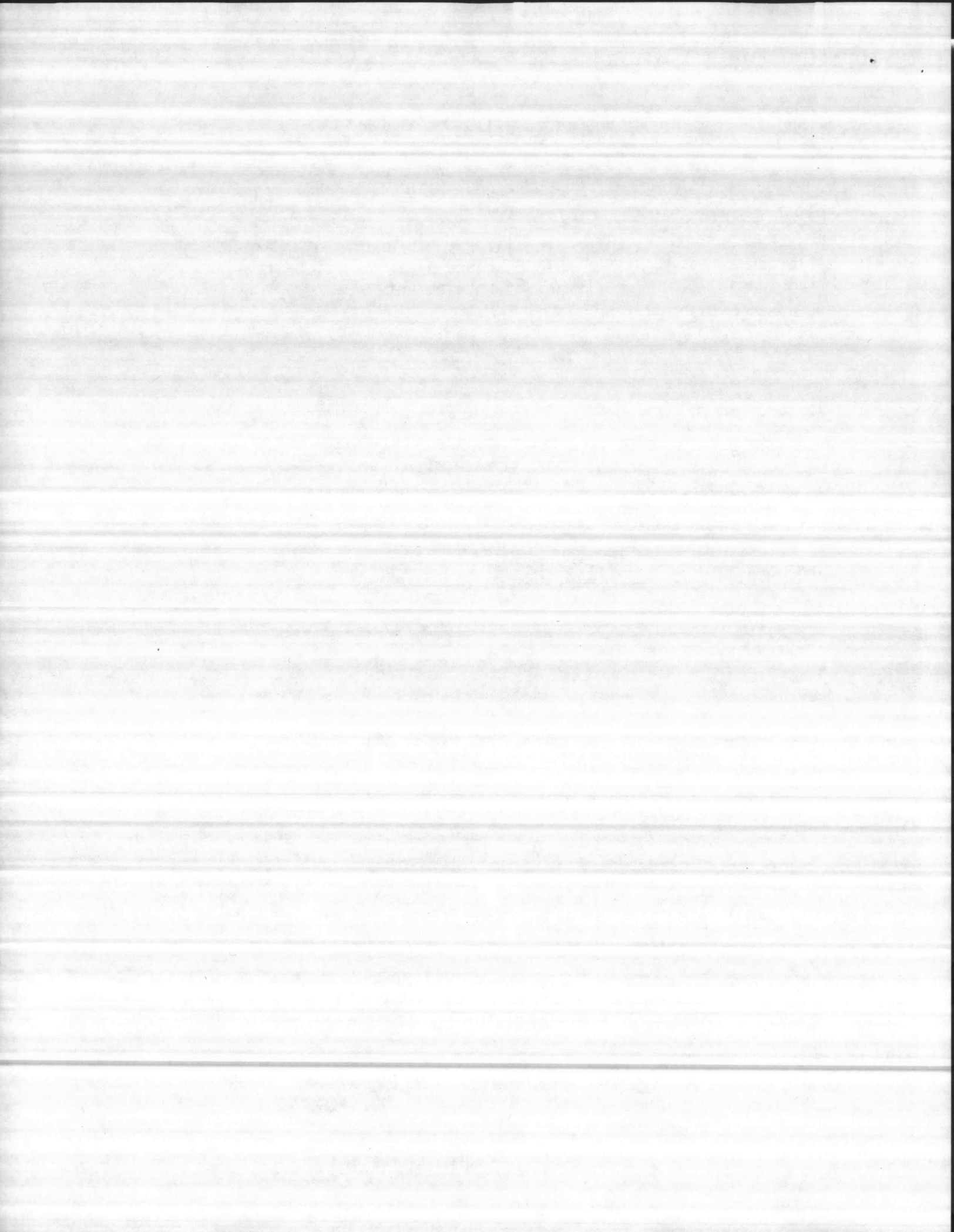
Invoice No. 106-4699

Date Shipped 9/26/79

<u>Quantity</u>	<u>Size & Thickness</u>	<u>Type of Pipe</u>	<u>Hydrostatic Test Pressure</u>
9 Pcs	2-3/8 OD X .154W	STD GALV CSR	1000# PSI
20 Pcs	2-7/8 OD X .203W	STD GALV CSR	1000# PSI
9 Pcs	3-1/2 OD X .216W	STD GALV CSR	1000# PSI
20 Pcs	4-1/2 OD X .237W	STD GALV CSR	1200# PSI
11 Pcs	3/4 NOM X .113W	STD GALV CSR	700# PSI
4 Pcs	1. NOM X .133W	STD GALV CSR	700# PSI
4 Pcs	1-1/4 NOM X .140W	STD GALV CSR	1000# PSI
2 Pcs	1-1/2 NOM X .145W	STD GALV CSR	1000# PSI
32 Pcs	2-3/8 OD X .154W	STD GALV CSR	1000# PSI
23 Pcs	2-7/8 OD X .203W	STD GALV CSR	1000# PSI
2 Pcs	3-1/2 OD X .216W	STD GALV CSR	1000# PSI
34 Pcs	4-1/2 OD X .237W	STD GALV CSR	1200# PSI

6049

Signed: 



malleable iron

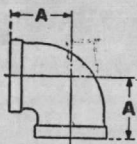
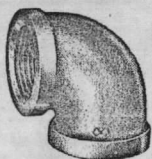
Class 150, (standard)

pressure ratings, psi { saturated steam: 150
liquid & gas at 150° F: 300

ITT Grinnell Class 150 (standard weight) malleable iron fittings conform to American National Standards ANSI B16.3. Dimensions conform to Federal specifications WW-P-521.

ITT Grinnell standard weight banded pattern fittings in this catalog, sizes 1/8 to 6-inch inclusive, are included in the "List of Inspected Fire Protection Equipment and Materials" issued by the Underwriters' Laboratories, Inc.

elbows

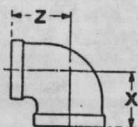


A: center to end

90° elbow: fig. 1101

size, in.	A in.	wgt (approx) each, lb		size, in.	A in.	wgt (approx) each, lb	
		black	galv.			black	galv.
1/8	1 1/16	.06	.07	2	2 1/4	2.03	2.16
1/4	1 3/16	.11	.12	2 1/2	2 1/2	3.72	3.92
3/8	1 5/16	.17	.18	3	3 1/16	5.36	5.37
1/2	1 1/8	.25	.26	3 1/2	3 1/8	7.40	7.52
3/4	1 3/8	.38	.40	4	3 3/8	9.70	10.15
1	1 1/2	.64	.67	5	4 1/2	15.20	15.18
1 1/4	1 3/4	1.01	1.04	6	5 1/8	23.00	25.60
1 1/2	1 5/8	1.33	1.36				

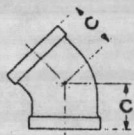
reducing elbow fig. 1101R



X and Z: center to end

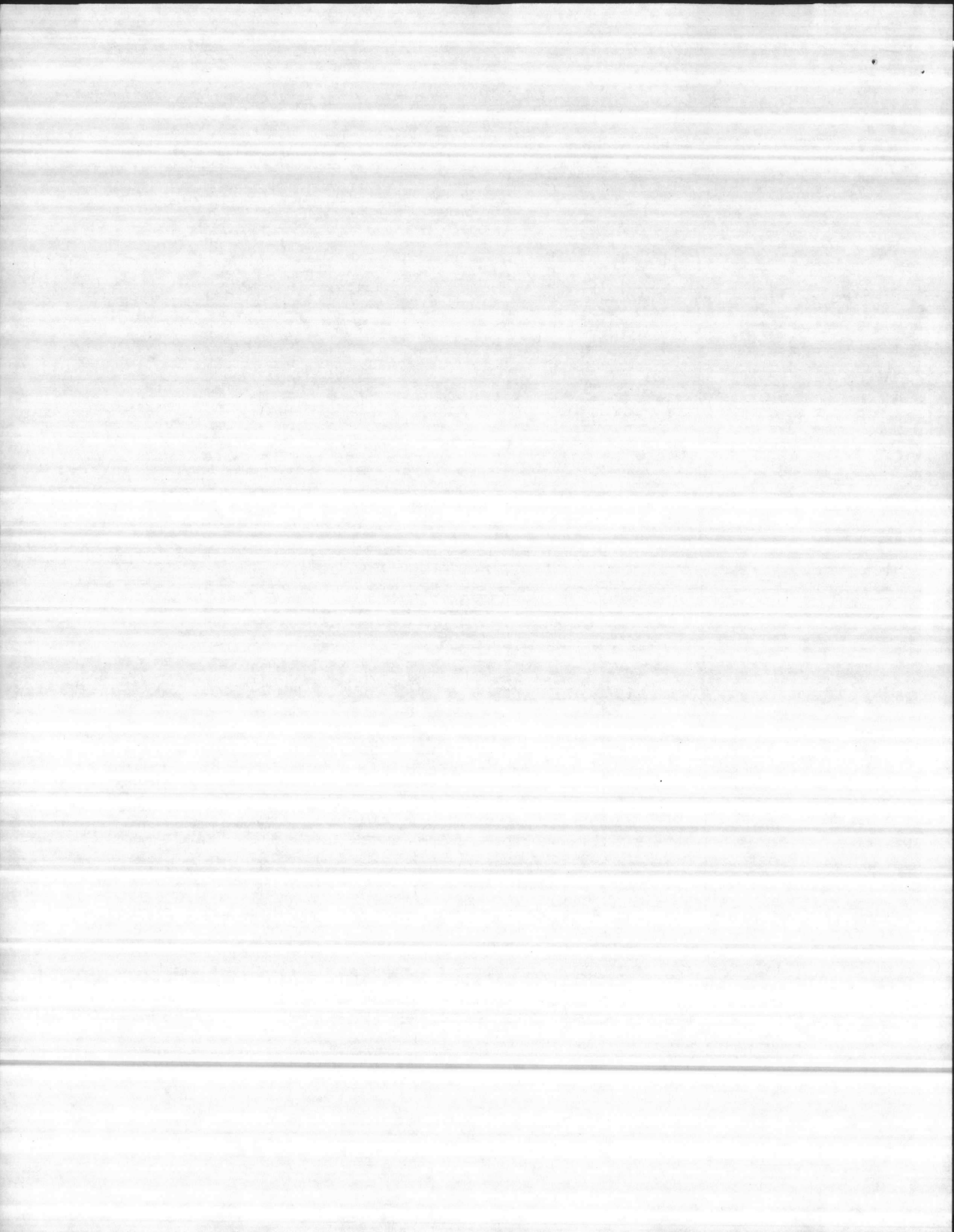
size, in.	X in.	Z in.	weight (approx) each, lb	
			black	galvanized
1/4	1/8	3/4	.09	.10
3/8	1/4	7/8	.14	.15
	1/8	1 1/8	.12	.13
1/2	3/8	1 1/8	.21	.22
	1/4	1	.18	.19
3/4	1/2	1 1/8	.33	.34
	3/8	1 1/8	.31	.32
	1/4	1 1/8	.27	.28
1	3/4	1 3/8	.50	.59
	1/2	1 1/4	.44	.46
	3/8	1 1/4	.41	.43
1 1/4	1	1 1/8	.78	.86
	3/4	1 3/8	.68	.71
	1/2	1 3/8	.62	.64
1 1/2	1 1/4	1 3/8	1.08	1.12
	1	1 5/8	.93	.97
	3/4	1 1/2	.87	.90
2	1 1/2	2	1.65	1.68
	1 1/4	1 3/4	1.60	1.63
	1	1 3/4	1.36	1.43
	3/4	1 5/8	1.26	1.30
2 1/2	2	2 1/8	2.85	2.95
	1 1/2	2 1/8	2.45	2.55
3	2 1/2	2 1/2	4.70	4.63
	2	2 1/2	3.81	4.10
4	3	3 5/8	7.95	7.90

45° elbow: fig. 1102



C: center to end

size, in.	C in.	wgt (approx) each, lb		size, in.	C in.	wgt (approx) each, lb	
		black	galv.			black	galv.
1/8	1 1/16	.07	.08	2	1 1/16	1.75	1.82
1/4	3/4	.11	.12	2 1/2	1 1/8	2.97	3.07
3/8	1 1/16	.15	.16	3	2 3/16	4.65	4.75
1/2	7/8	.22	.23	3 1/2	2 3/8	5.92	6.03
3/4	1	.34	.36	4	2 3/8	8.17	8.44
1	1 1/8	.57	.59	5	3 1/8	9.48	9.74
1 1/4	1 3/8	.84	.88	6	3 3/8	17.24	18.13
1 1/2	1 5/8	1.14	1.17				



PIEDMONT-

HUB
INC.

SECTION 15401
PARA. 4.8

P. O. BOX 11438 • GREENSBORO, NORTH CAROLINA 27409 • 205 STAGECOACH TRAIL • 919 / 294-3200

VENDOR CERTIFICATION

Date May 12, 1981

TO: Waldinger Corp.

FROM: PIEDMONT-HUB, INC.
PO BOX 11438
GREENSBORO, N.C. 27409

This is to certify that the materials furnished to you on your purchase order number IM 2145-249, meets all the requirements of the applicable specification and/or the purchase order requirements.

Description:

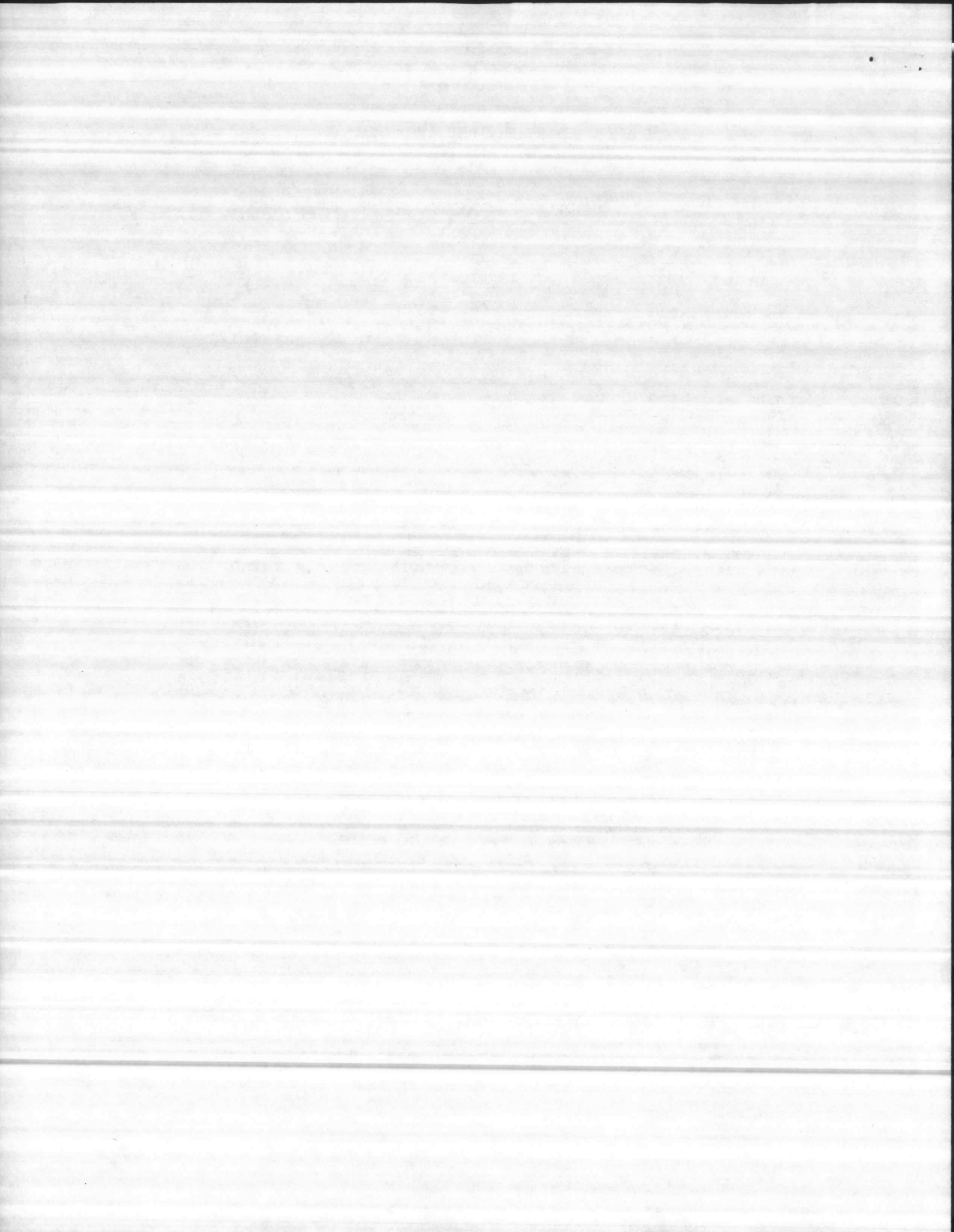
60 ft $3/4"$ OD X .049" wall tubing welded ASTM A-269
TP-304 stainless
80 ft $1/2"$ OD ditto

J. Waldinger
Sales

6049

DISTRIBUTORS • PIPE • VALVES • FITTINGS

Page 11



SECTION 15401

CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LAN: 11V 4-43563 (Rev. 6/76)

CONTRACT NO. N62470-77-G-7526	TRANSMITTAL NO. #7493	DATE 3-19-82
----------------------------------	--------------------------	-----------------

FROM CONTRACTOR
Cardinal Contracting Company, Inc.
TO
Lockwood Greene Eng'rs

PROJECT TITLE AND LOCATION
Naval Regional Medical Center
Camp Lejeune, North Carolina

FILE NO.
Lockwood Greene Engineers, Inc.

RECEIVED
MAR 29 1982

REF. TO Deviation/Substitution
For OICC Approval

ACK. _____

REVIEWER USE ONLY

****ACTION CODES**
A-Approved
D-Disapproved
AN-Approved as noted
RA-Receipt acknowledged.
C-Comments
R-Resubmit

*List only one specification division per form.
List only one of the following categories on each transmittal form and indicate which is being submitted

Contractor Approved OICC Approval

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
749C	Sect. 15401 Para. 8.2	100 Gallon Storage Tank Type II Deionizer Storage System	10	AN	CAT-406 4-30-82

	FOR	INIT	DATE
RDC		AC	5-11
RJD		⊙	5/11
JR		⊗	5-12
AY		⊗	
JJ		⊗	

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC <u>3-25-82</u>	CONTRACTOR REPRESENTATIVE (Signature) <u>Wm. J. Haunaker</u>
DATE RECEIVED BY REVIEWER <u>7 APR 82</u>	FROM (Reviewer) TO <u>LANTDIV</u> <u>Cardinal Const. Co.</u>

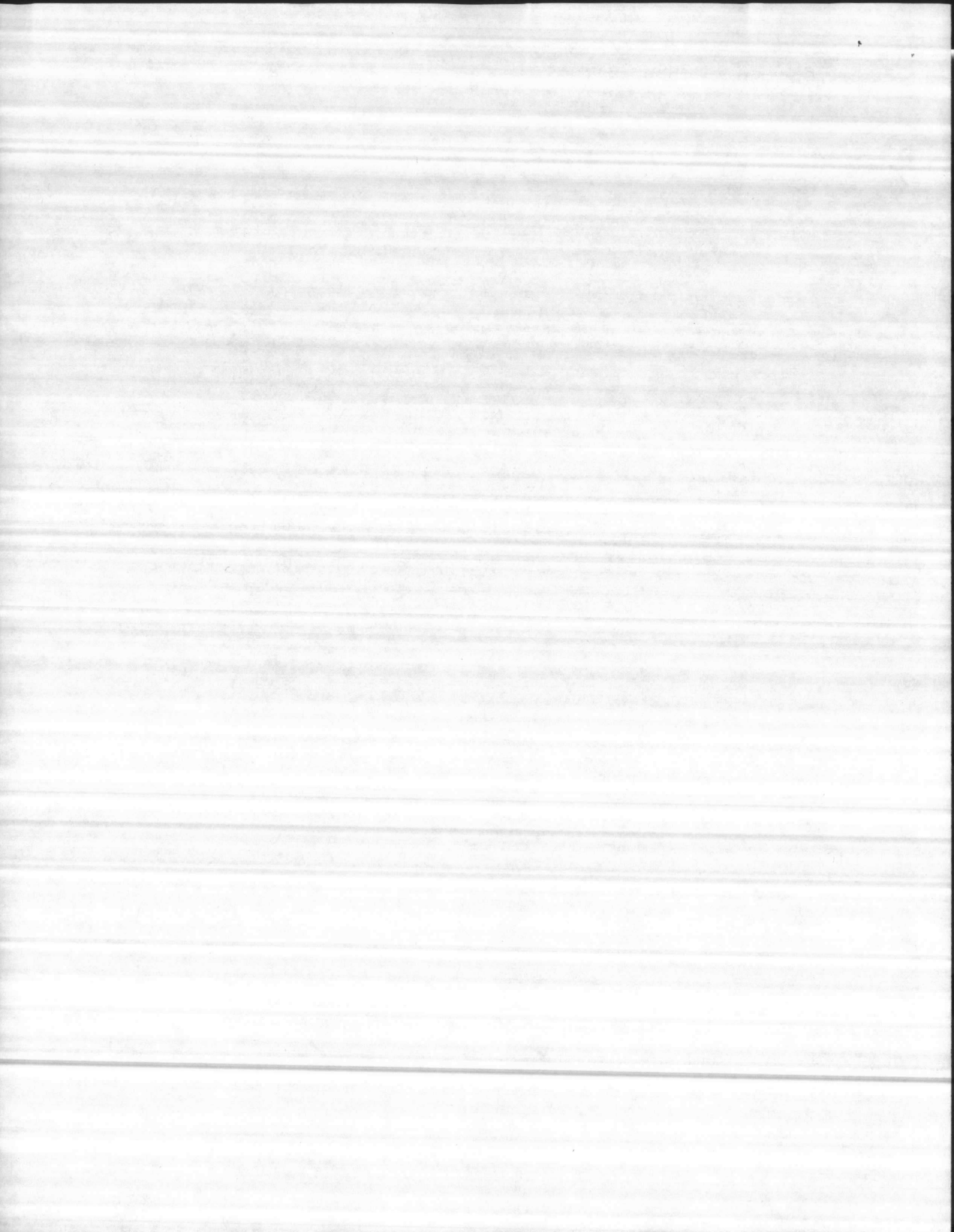
- Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.
- Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on ONE COPY of the transmittal form.

REVIEWER'S COMMENTS
APPROVED SUBJECT TO AN EQUITABLE CREDIT TO THE GOVERNMENT



COPIES TO: ROICC (2) LANTDIV (1) A-E (1)	DATE <u>7 May 82</u>	SIGNATURE <u>[Signature]</u>
---	-------------------------	---------------------------------

200583



SECTION 15401

CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDIV 4-4355/3 (Rev. 6/76)

CONTRACT NO. N62470-77-C-7526	TRANSMITTAL NO. #749C	DATE 3-19-82
----------------------------------	--------------------------	-----------------

FROM CONTRACTOR
Cardinal Contracting Company, Inc.
 TO
Lockwood Greene, Engrs.

PROJECT TITLE AND LOCATION
**Naval Regional Medical Center
 Camp Lejeune, North Carolina**

<p>CONTRACTOR USE ONLY</p> <p>*List only one specification division per form.</p> <p>List only one of the following categories on each transmittal form, and indicate which is being submitted</p> <p><input type="checkbox"/> Contractor Approved <input type="checkbox"/> OICC Approval <input checked="" type="checkbox"/> Deviation/Substitution For OICC Approval</p>	<p>REVIEWER USE ONLY</p> <p>**ACTION CODES</p> <p>A-Approved D-Disapproved AN-Approved as noted RA-Receipt acknowledged. C-Comments R-Resubmit</p>
---	--

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO.	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES	REVIEWER'S INITIALS		
					CODE	DATE	INITIALS
749C	Sect. 15401 Para. 8.2	100 Gallon Storage Tank Type II Deionizer Storage System	10	RDC	AC	3-26	
				RJD		3/29	
				JN			
				AY			
				JJ			

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC		CONTRACTOR REPRESENTATIVE (Signature)	
3-25-82		<i>WJH</i>	
DATE RECEIVED BY REVIEWER	FROM (Reviewer)	TO	

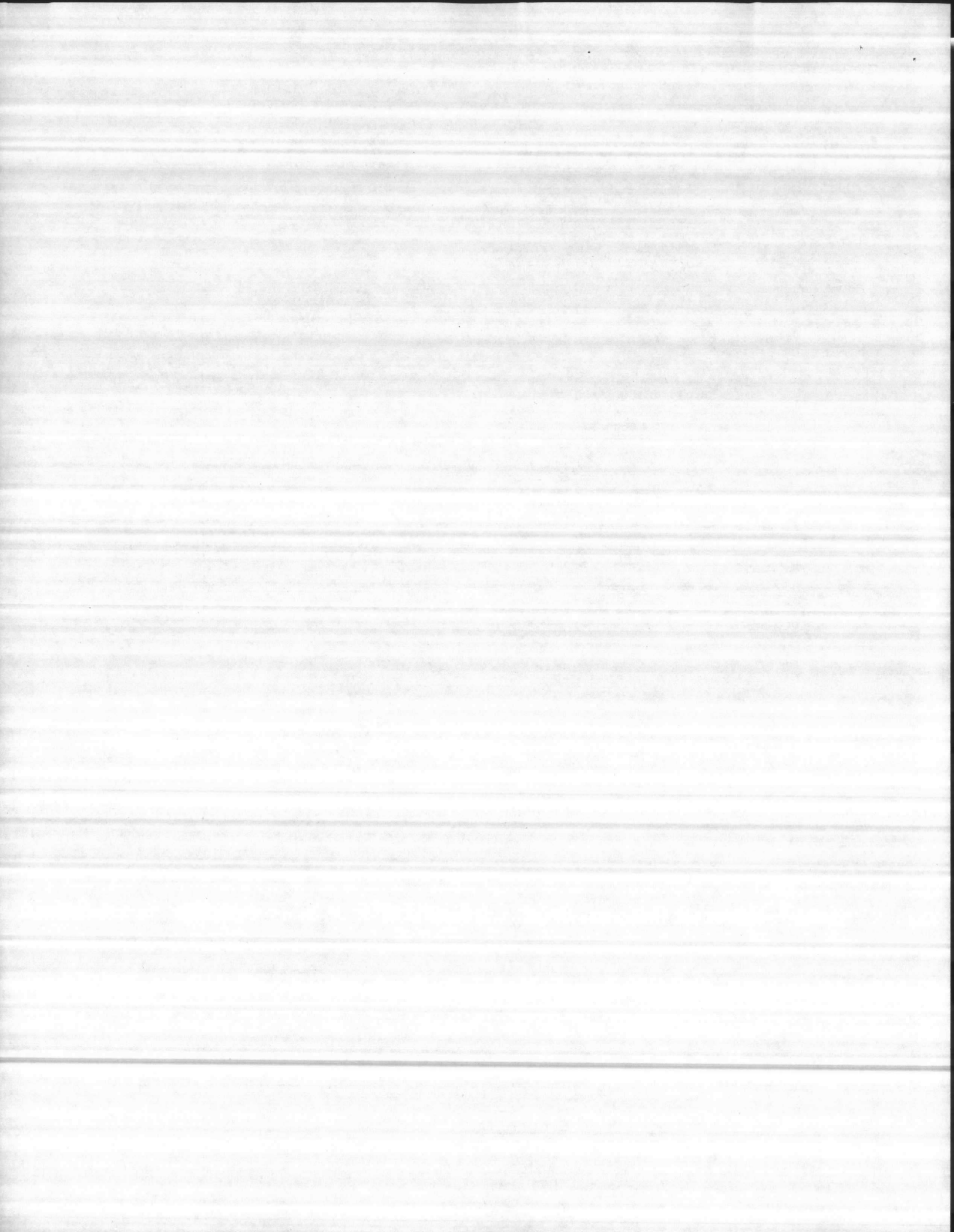
- Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.
- Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on ONE COPY of the transmittal form.

REVIEWER'S COMMENTS

COPIES TO:
 ROICC (2)
 LANTDIV (1)
 A-E (1)

SIGNATURE





15401

CONTRACTOR'S SUBMITTAL TRANSMITTAL
5ND LANTDIV 4-4355/3 (Rev. 6/76)

CONTRACT NO. N62470-77-C-7526	TRANSMITTAL NO. #749C	DATE 3-19-82
----------------------------------	--------------------------	-----------------

FROM CONTRACTOR
Cardinal Contracting Company, Inc.
TO

PROJECT TITLE AND LOCATION
**Naval Regional Medical Center
Camp Lejeune, North Carolina**

CONTRACTOR USE ONLY

*List only one specification division per form.

List only one of the following categories on each transmittal form,
and indicate which is being submitted

Contractor Approved

OICC Approval

FILE NO.

Lockwood Greene Engineers, Inc.

RECEIVED

MAR 29 1982

REF. Deviation/Substitution
For OICC Approval

REVIEWER USE ONLY

**ACTION CODES

- A-Approved
- D-Disapproved
- AN-Approved as noted
- RA-Receipt acknowledged
- C-Comments
- R-Resubmit

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO.	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF SHEETS TOTAL	ACTION CODES	REVIEWER'S INITIALS CODE AND DATE
749C	Sect. 15401 Para. 8.2	100 Gallon Storage Tank	10		
		Type II Deionizer Storage System			

CONTRACTOR'S COMMENTS

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

CONTRACTOR REPRESENTATIVE (Signature)

DATE RECEIVED BY REVIEWER

FROM (Reviewer)

TO

Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.

Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on ONE COPY of the transmittal form.

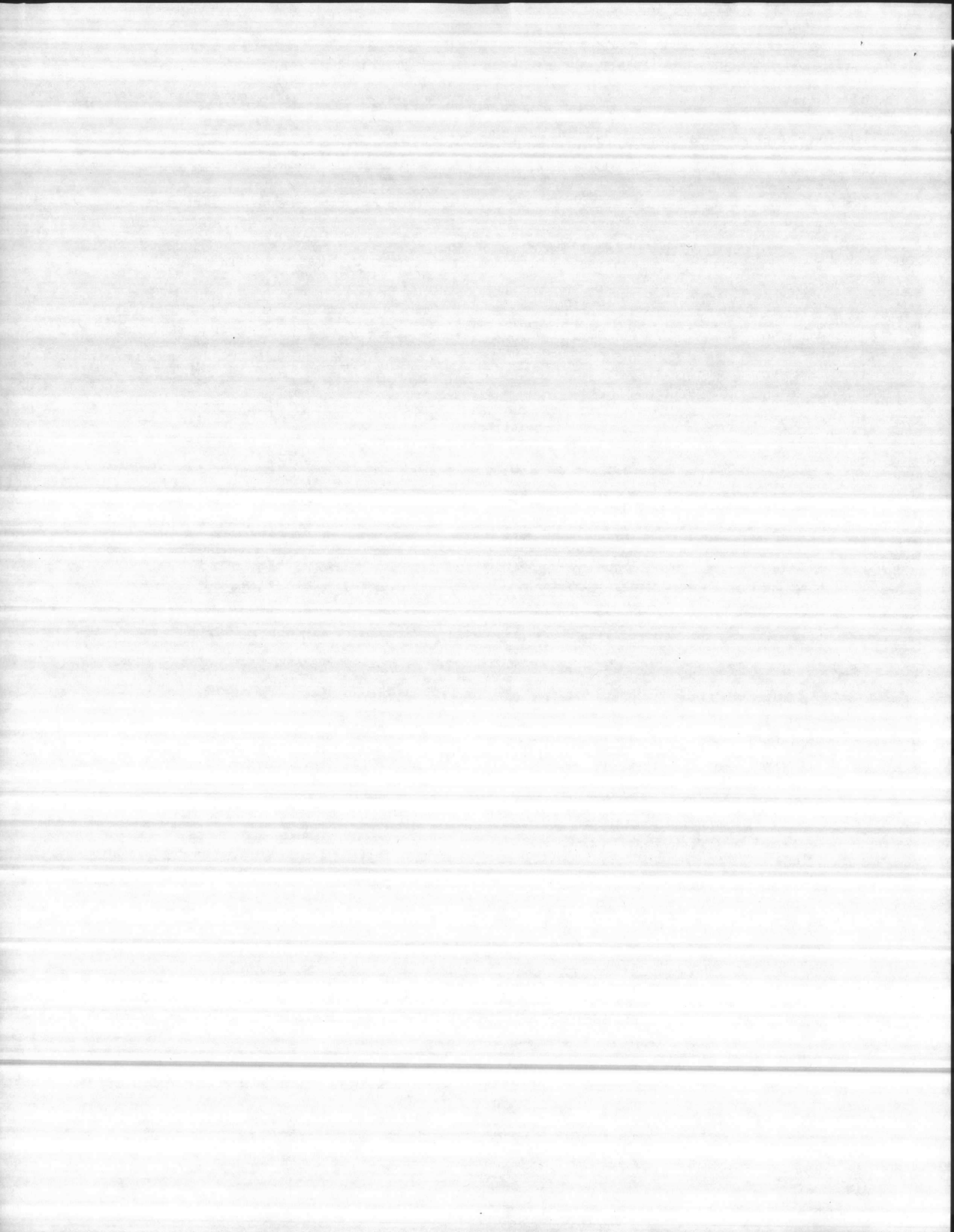
REVIEWER'S COMMENTS

COPIES TO:
ROICC (2)
LANTDIV (1)
A-E (1)

DATE

SIGNATURE

200583



DEIONIZED WATER STORAGE TANK

Section 15401, Paragraph 8

Table of Contents

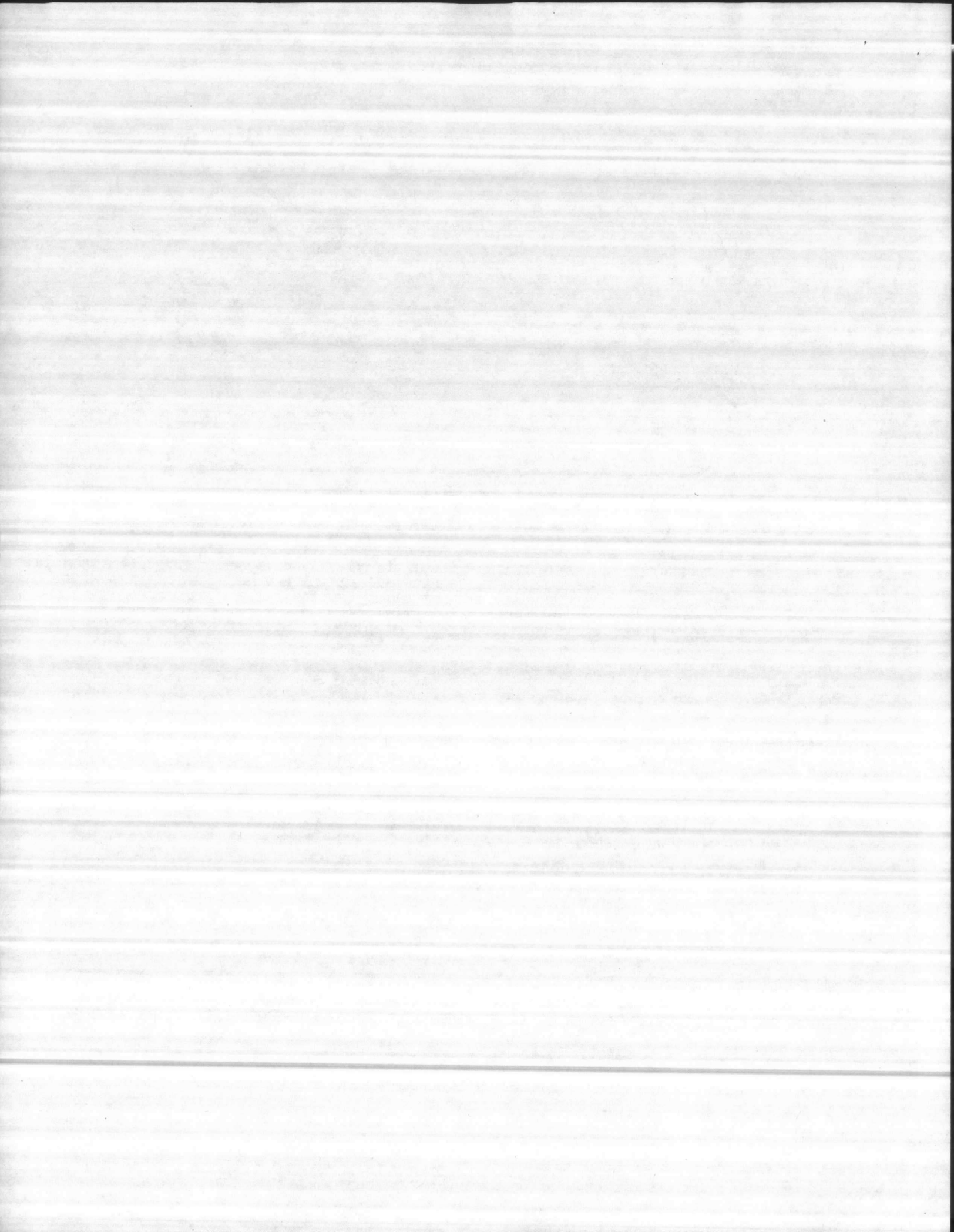
Millipore Corporation Letter Including Partial List of Existing Installations	Page 1, 2
Terracon Corporation Correspondence Specifying Exact Material	Page 3
DuPont Tech Sheet	Page 4
Tank Specifications	Page 5
Tank Shop Drawings	Page 6

"It is hereby certified that the material/equipment shown and marked in this submittal is that approved to be incorporated into Contract Number N62470-77-B-7526, is in compliance with the contract drawings and specifications, and can be installed in the allocated spaces, and is approved for use.

THE WALDINGER CORPORATION

Authorized Reviewer [Signature] Date 3-19-82

Signature CQC Rep WA Date 3-25-82





Millipore Corporation

March 15, 1982

Mr. Steve Stoddard
Waldinger Corporation
P.O. Box 8363
Camp Lejune, North Carolina 28542

Dear Mr. Stoddard:

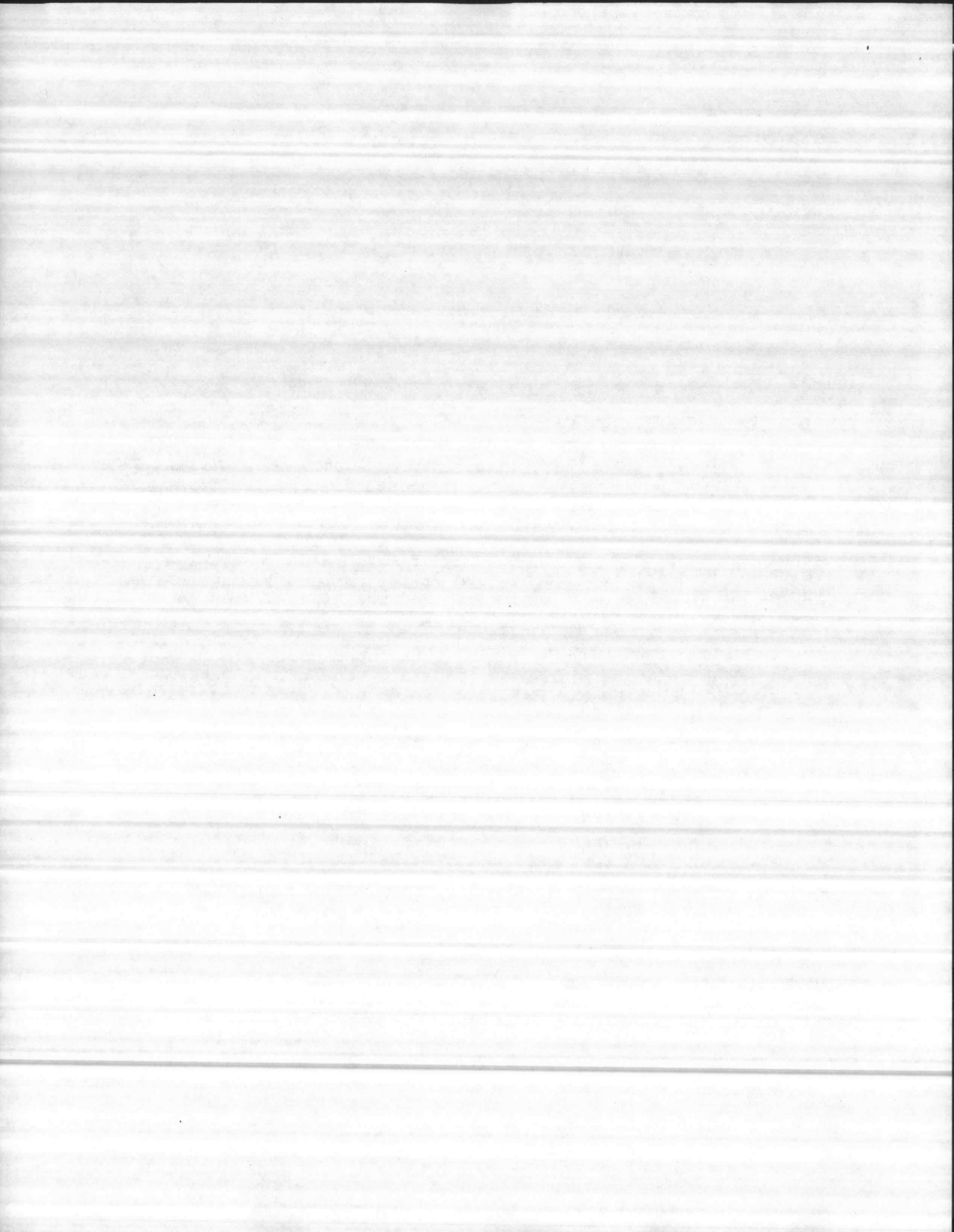
Mr. Don Batot, our sales specialist for Millipore-Continental Water Systems in your area, has requested we forward information to you regarding the use of our High Purity Water Storage Reservoirs in your facility.

Enclosed is literature and a copy of my personal communication with our vendor's representative restating that manufacturing specifications for the materials used in the tanks we sell comply with existing FDA standards.

Currently, our polyethylene flat bottom and conical bottomed tanks exist in many hospitals, dialysis centers, and pharmaceutical companies. A partial list of existing customers who use our tanks includes the following:

- a. St. Josephs' Hospital, Lowell, Mass.
Application: Storage of Water for Dialysis
- b. Owensboro-Davies County Hospital, Owensboro, Kentucky
Application: Storage of Water for Dialysis
- c. Bowling Green Kidney Center, Bowling Green, Kentucky
Application: Storage of Water for Dialysis
- d. Medical University of South Carolina, Charleston, S.C.
Application: Laboratory reagent makeup and general rinsing applications.

Most of these applications are "Critical Use" type applications; our equipment is of highest quality and system design using these tanks does not compromise product water quality.

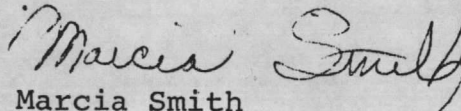


Mr. Steve Stoddard
March 15, 1982
Page 2

Please contact me on our toll-free number 1-800-225-1380 if I can be of further assistance to you. Don Batot can be reached at 919-477-2162. I will be forwarding copies of what I am sending to you to Mr. Batot.

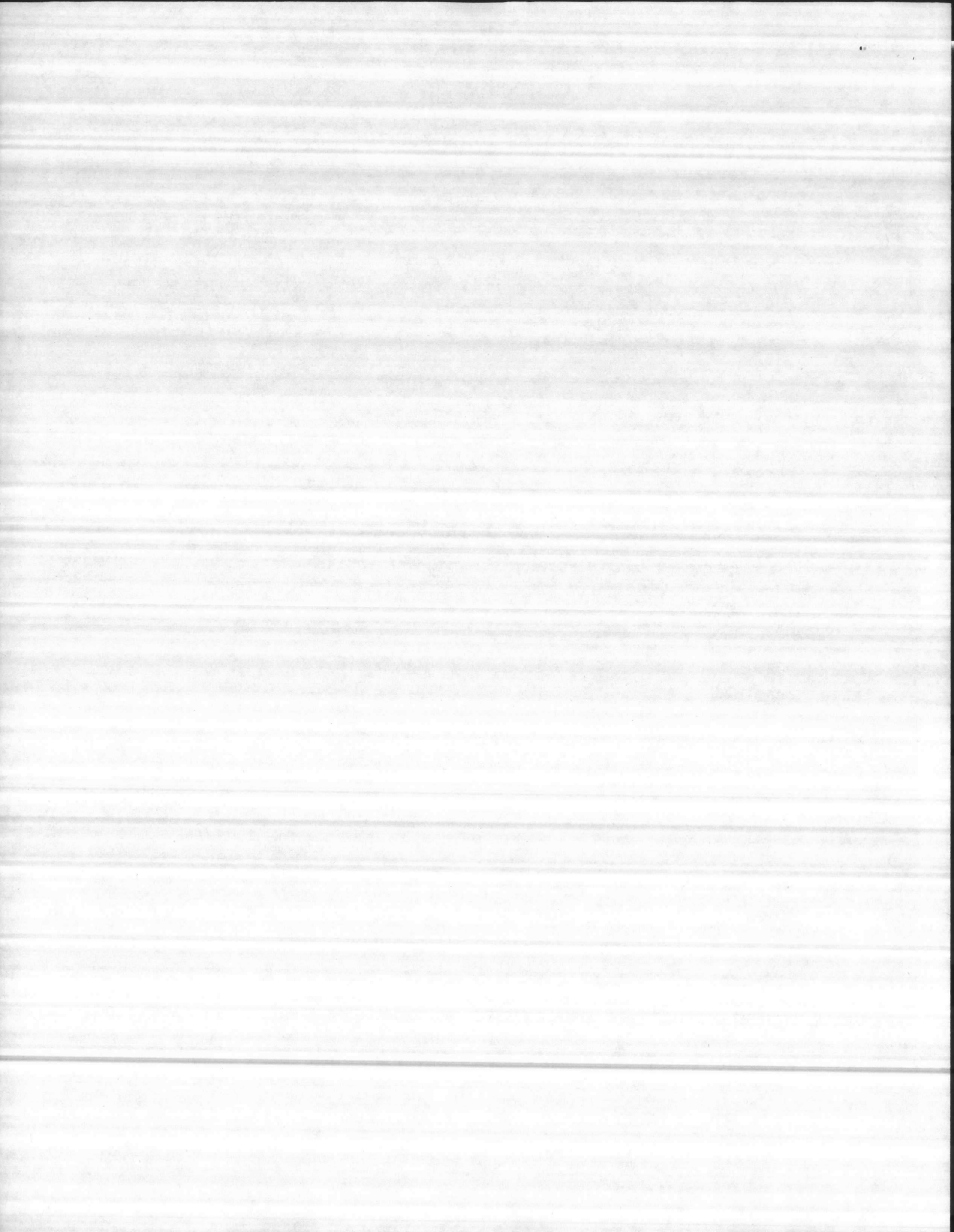
Very truly yours,

MILLIPORE CORPORATION



Marcia Smith
Technical Services
Water Systems Division

MS/sa
Enc.



ROM

Millipore Corporation
Ms. Marsha Smith, Tech Service
Bldg. E Mail Sta. A-1
Ashby Road
Bedford, MA 01730

TO

TERRACON CORPORATION

1389 MAIN STREET
WALTHAM, MASS. 02154 U.S.A.
617-899-4123 • Telex 92-3478

SUBJECT: Millipore ZRFT & ZRCT Tanks, FDA Compliance DATE: March 10, 1982

FOLD

Dear Ms. Smith:

Terracon cylindrical and cone bottom tanks that we supply to Millipore are constructed of DuPont Sclair 8305 resin material. The enclosed DuPont Tech sheet indicates USA FDA compliance. Also, please find enclosed our "A" bulletin describing standard tanks.

Please let me know if I can provide any further information.

Very truly yours,
TERRACON CORP.

[Signature]
Richard L. Jewett

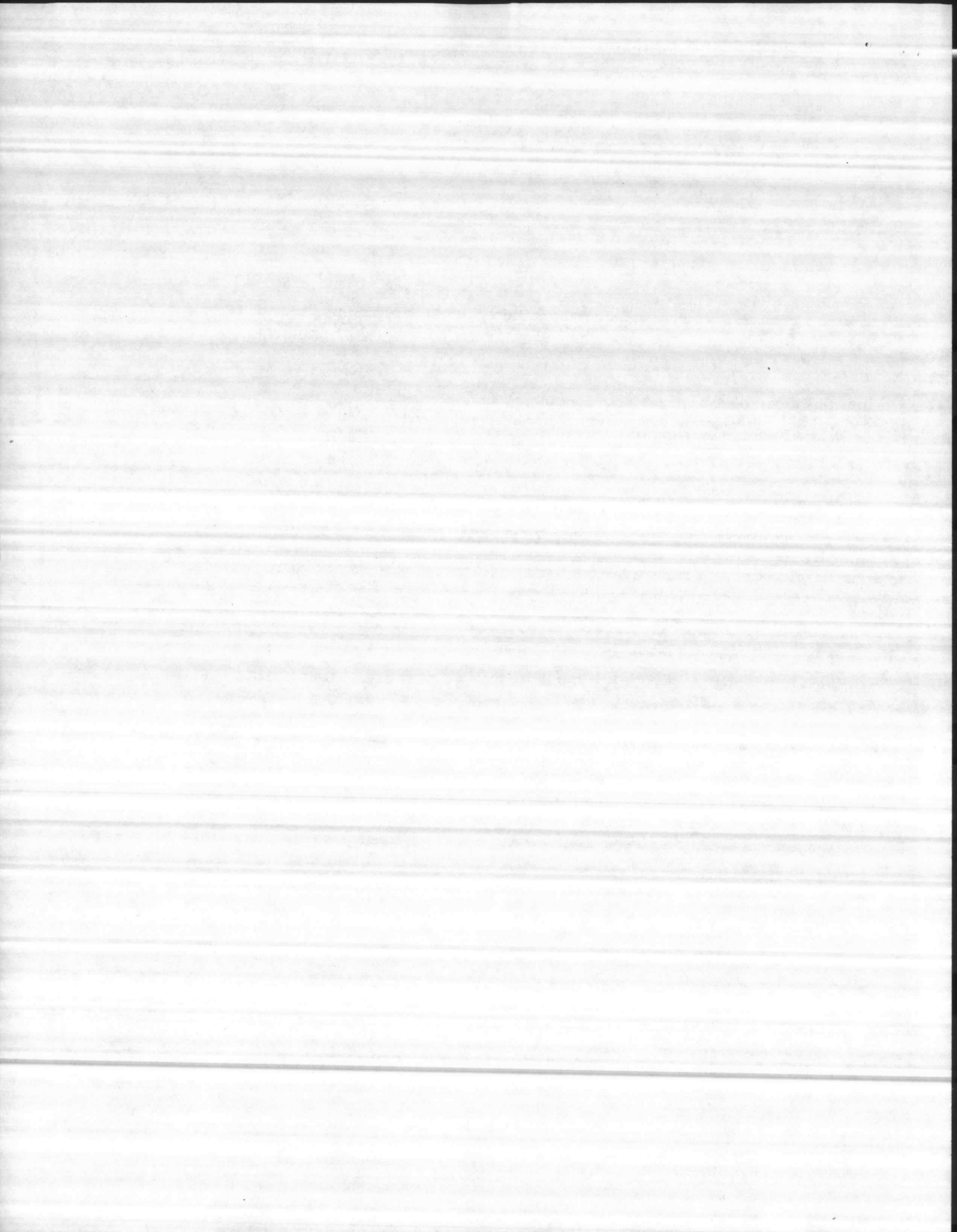
RETURN TO →

SIGNED

REPLY

DATE:

SIGNED





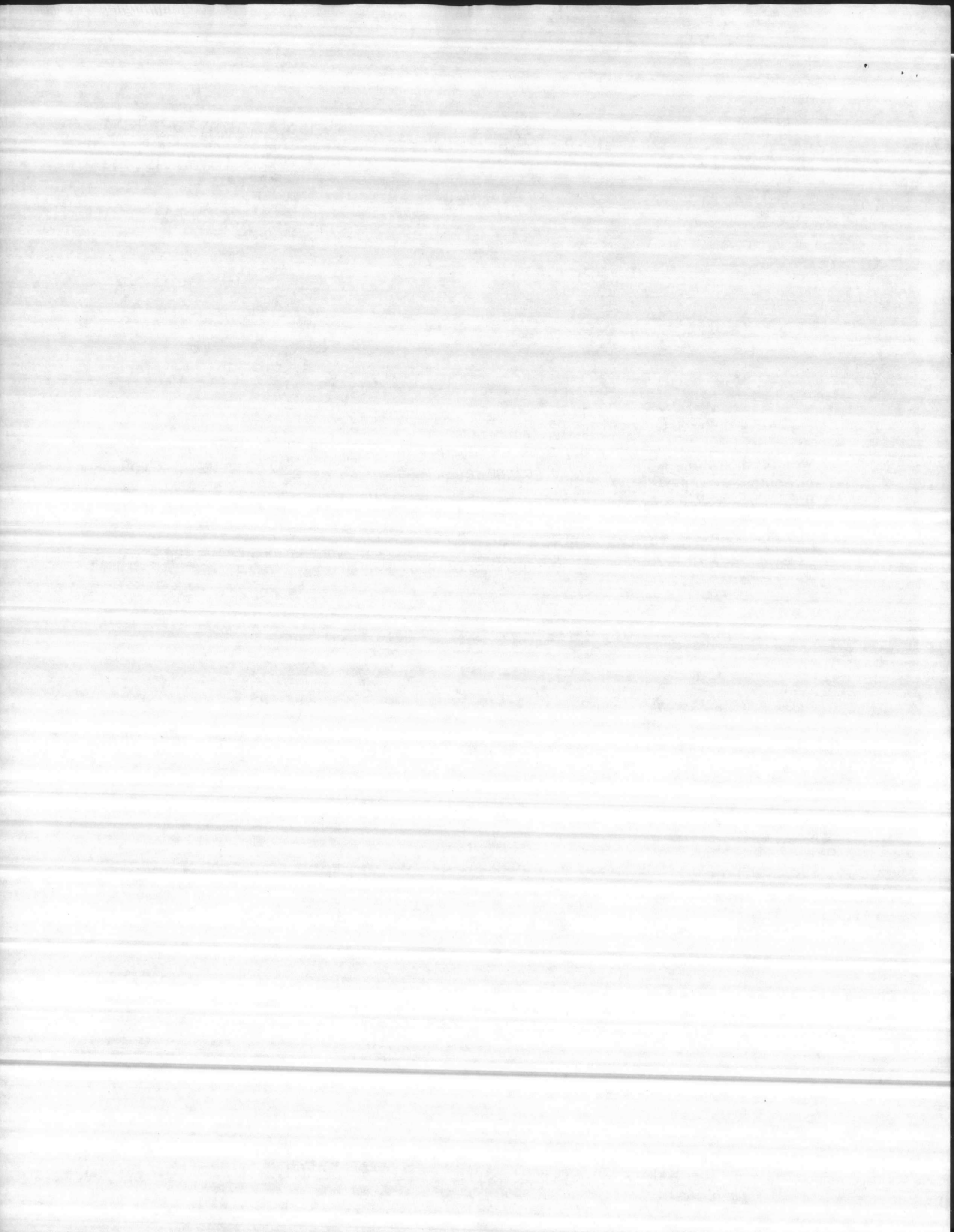
8305

**MEDIUM-DENSITY
ROTATIONAL
MOULDING RESIN WITH
EXTRA HIGH STRESS-
CRACK AND IMPACT
RESISTANCE**

**DENSITY — 0.932
MELT INDEX — 3.0**

SCLAIR 8305, a new addition to the family of SCLAIR rotational moulding polyethylene resins, is a sister resin to SCLAIR 8405. Both are medium-density linear resins with narrow molecular weight distributions displaying excellent processibility and overall general toughness and strength. Extra high stress-crack resistance and impact strength make SCLAIR 8305 very suitable for demanding applications requiring extreme toughness.

SCLAIR 8305 polyethylene resin as shipped by Du Pont of Canada Limited complies with the U.S.A. Food & Drug Administration regulation 121.2501 entitled "Olefin polymers".

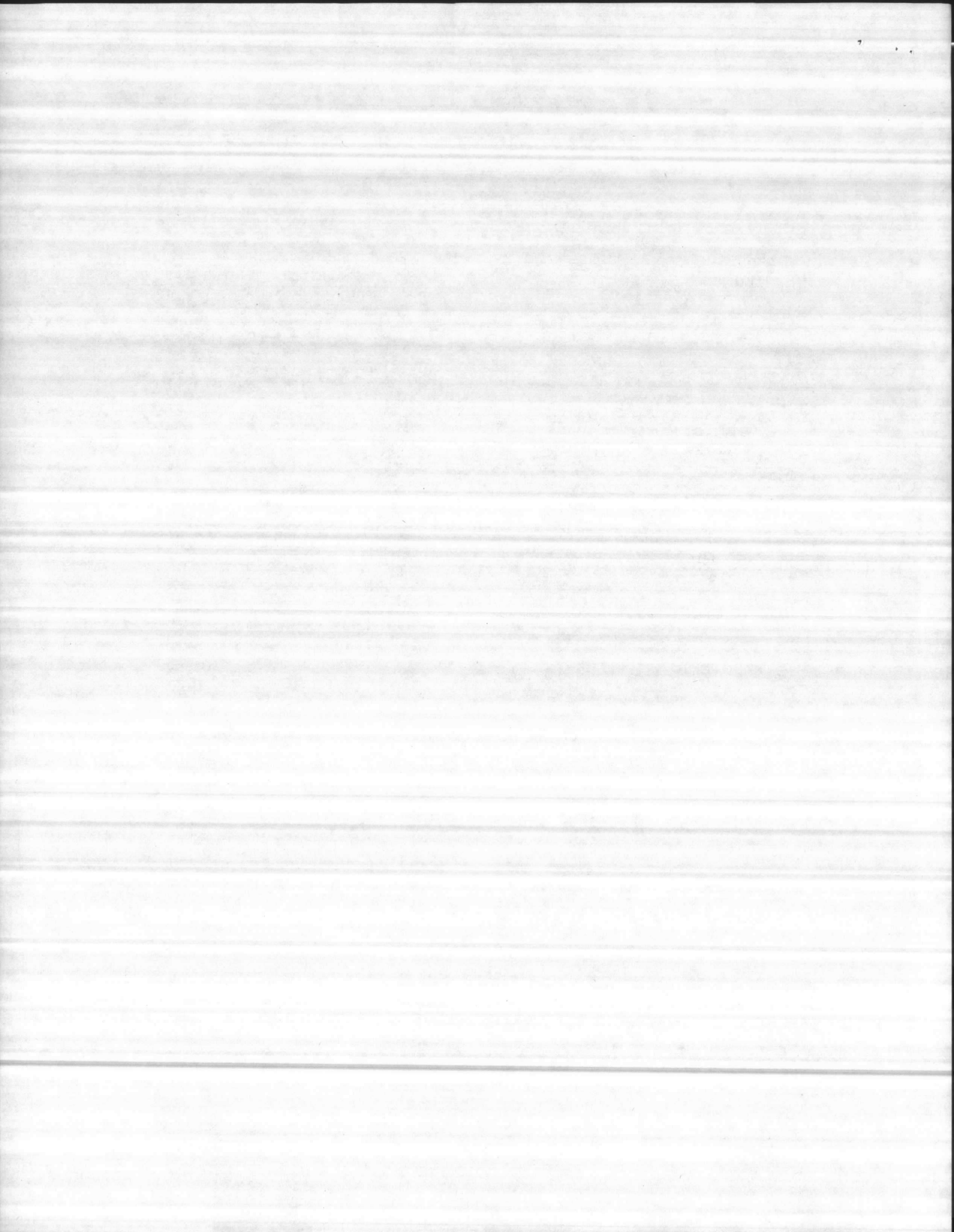


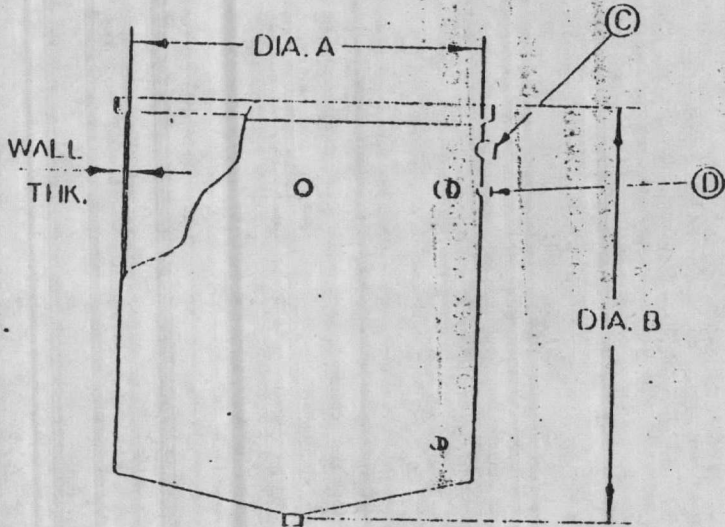
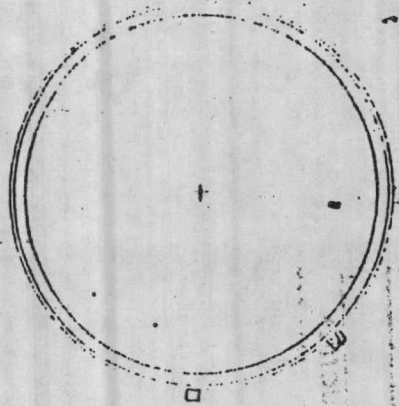
HIGH PURITY WATER RESERVOIR
 UNIT SPECIFICATIONS
 CATALOG NUMBERS: ZRCT 055 00
 ZRCT 100 00-
 ZRCT 250 00

1. FUNCTION - Reservoirs are utilized to store high purity water for future use and recirculation through distribution piping. Reservoirs are conical-bottom cylindrical tanks, and are supported on a painted steel stand.
2. MATERIALS OF CONSTRUCTION - Tank and cover made completely of high density polyethylene. Cover gasket is neoprene rubber. Cover mounting hardware is stainless steel. Bulkhead fittings are PVC.
3. CONNECTIONS - Tank comes with six connections: 4 - 1" NPT fittings for inlet and outlet lines, and 2 - 1/2" NPT connections for level switch and overflow connections.
4. DIMENSIONS

	ZRCT 055 00	ZRCT 100 00	ZRCT 250 00
Total holdup volume, gallons:	55	100	250
Height:*	56 3/4" (1.4 m)	54 1/2" (1.4 m)	64" (1.6 m)
Outside diameter:	23 3/8" (0.6 m)	33 5/8" (0.8 m)	44 1/4" (1.1 m)

* with stand





CAPY GAL.	DIA. A	DIA. B	WALL THK.	CALC. THK.
55	22"	38 1/8"	5/32"	ZRC12500
100	33 1/8"	36 15/16"	1/4"	ZRC12500
250	43 7/8"	41 5/8"	1/4"	ZRC12500

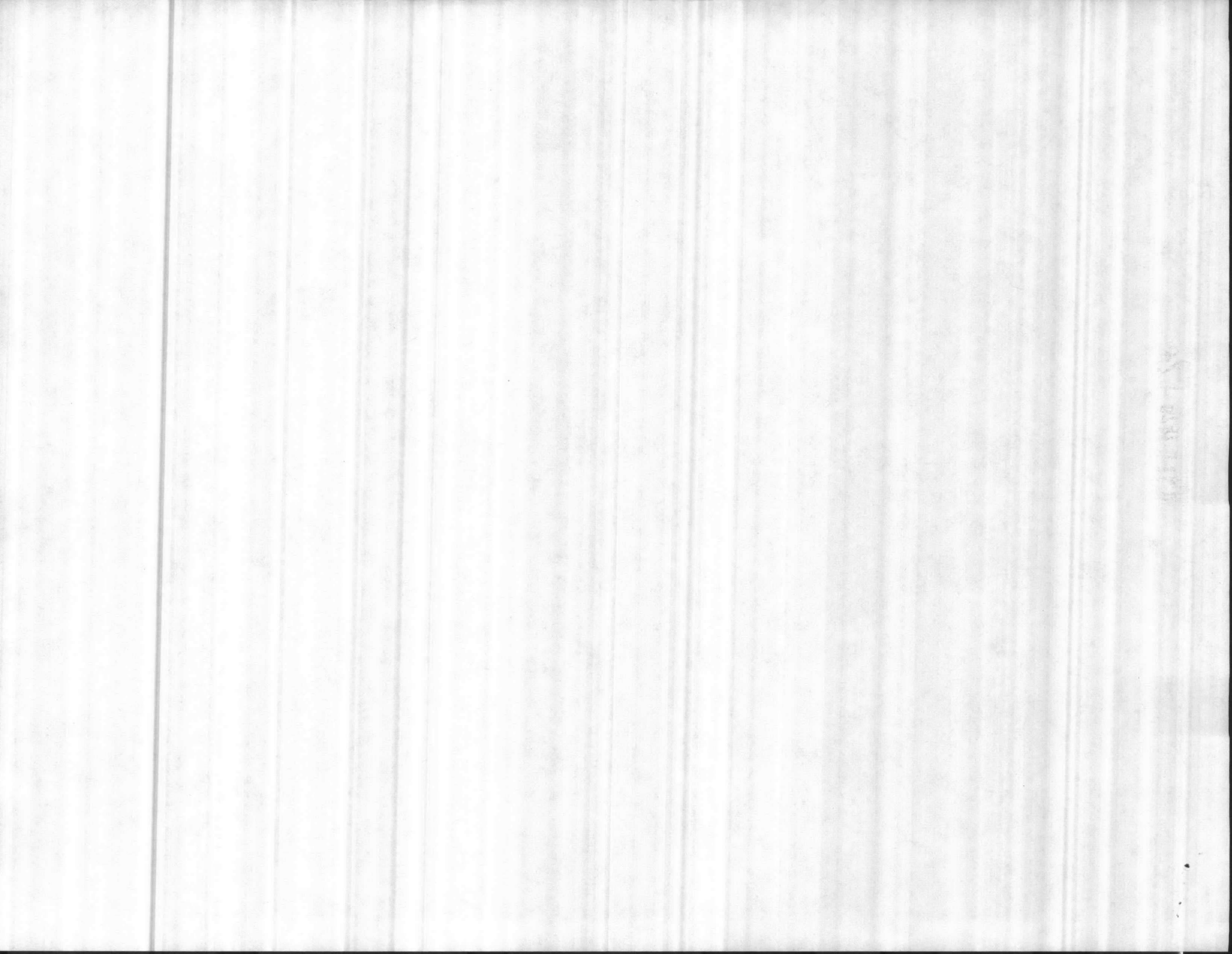
NOTE:

A STAND IS TO BE FURNISHED WITH EACH TANK.

FITTINGS:

- © 4" POLYETHYLENE OR POLYPROPYLENE FULL COUPLINGS MOLDED INTO 1/2" WALL
- © 2 1/2" POLYETHYLENE OR POLYPROPYLENE COUPLINGS MOLDED INTO TANK WALL.

DATE: _____ TIME: _____		DRAWING NO.: _____ REV: _____	
ALL DIMENSIONS ARE IN INCHES. REMOVE ALL BURRS AND SHARP EDGES. TOLERANCES: Decimals .XX ± .01 .XXX ± .005 Angles ± 1° Surface Roughness ✓	MATERIAL: _____ SPEC. REF.: _____ SURFACE TREATMENT: _____ FINISHING: _____	DESIGNED BY: _____ DATE: _____ CHECKED BY: _____ DATE: _____ APPROVED BY: _____ DATE: _____ RELEASED BY: _____ DATE: _____	STORED IN: _____ RO PERMEABLE STORAGE TANK (CONICAL BOTTOM) ZRC12500
DRAWN BY: _____ DATE: _____		SCALE: _____ SHEET NO.: _____ OF _____	



CONTRACTOR'S SUBMITTAL TRANSMITTAL
FORM LANTDIV 4-4355/3 (Rev. 6/76)

SECTION # 13401 *ch*
 CONTRACT NO. N-62470-77-C-7526
 TRANSMITTAL NO. 748-2
 DATE 8-2-82
 PROJECT TITLE AND LOCATION: NAVAL REGIONAL MED. CTR. COMPLETE CURVES

FROM CONTRACTOR: Cardinal Cont' Co.
 TO: Lockwood Greene, Engrs.

CONTRACTOR USE ONLY
 *List only one specification division per form.
 List only one of the following categories on each transmittal form, and indicate which is being submitted:

201425
 Contractor Approved

RECEIVED
 RECOMMENDATION
 Type, size, model no., Mfg. name, dwg. or brochure number
 AUG 6 1982
 REC. TO: [unclear]

FCR	REVIEWER USE ONLY	
	INIT	DATE
RDC		
RJD		
AT		
JJ		

8-2-82

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO.	NO. OF COPIES	ACTION CODES	REVIEWER'S INITIALS CODE AND DATE
748-2 10.9	Waldie letter dated 4/21/82	7		
	Jas. Pleasants Co. letter 9/28/79	7		
	Jas. Pleasants Co. letter 8/31/79 with Pump Perform. CURVES			

CONTRACTOR'S COMMENTS
 For Deviation see Item #2 of Pleasants Co. Letter.
 Deviation Was Approved on Transmittal #74.

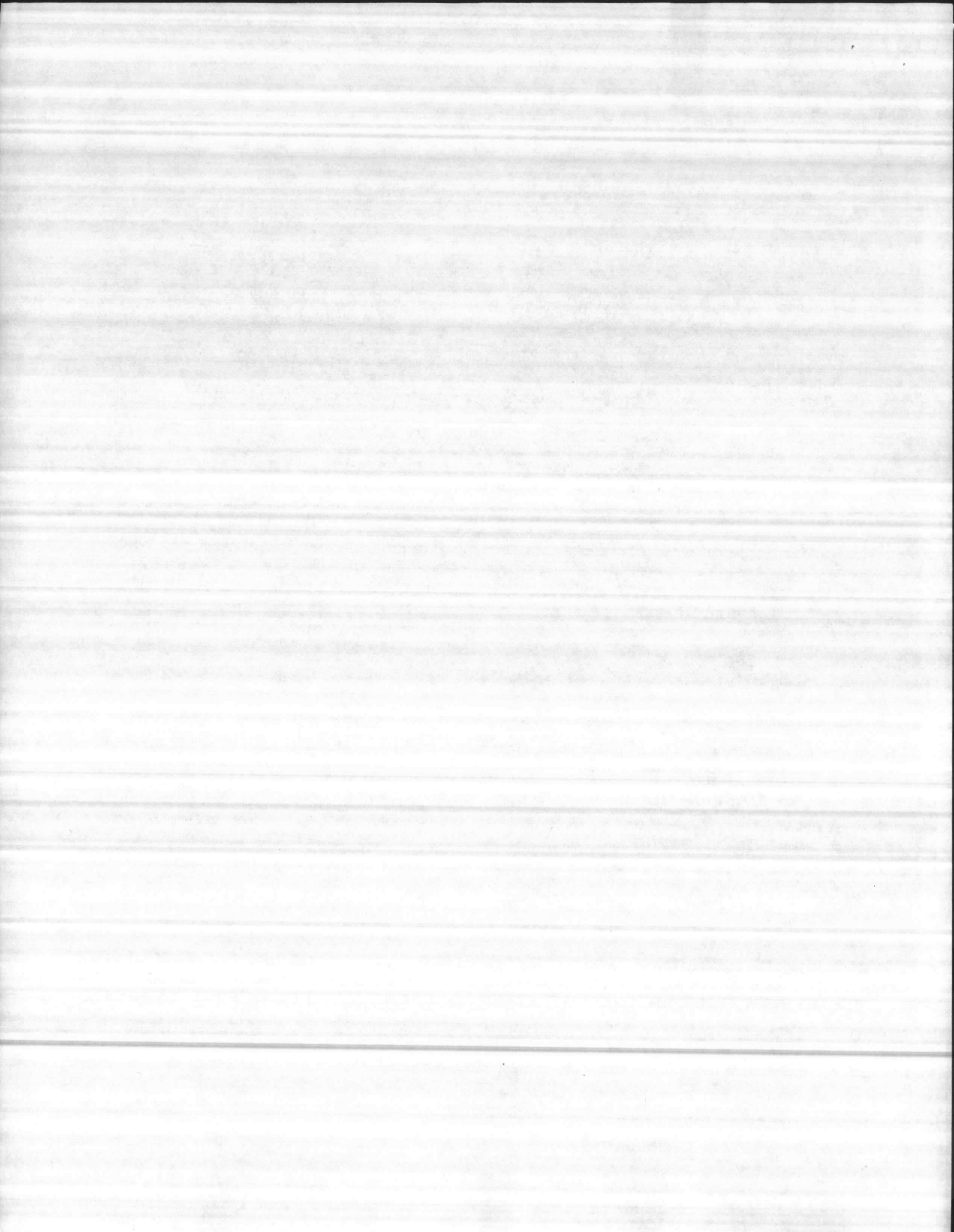
COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC
 FROM (Reviewer): LANTDIV
 CONTRACTOR REPRESENTATIVE (Signature): W.M.J. Haymaker
 TO: CARDINAL CONTR. CO.

DATE RECEIVED BY REVIEWER: 17 AUG 82
 FROM (Reviewer): LANTDIV
 Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.
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REVIEWER'S COMMENTS
 App table.



COPIES TO: ROICC (2), LANTDIV (1), A-E (1)
 DATE: 8-12-82
 SIGNATURE: Charles A. [unclear] 8/20



SECTION # 15401

CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDIV 4-4355/3 (Rev. 6/76)

CONTRACT NO. N-62470-77-C-7526	TRANSMITTAL NO. 748-2	DATE 8-2-82
-----------------------------------	--------------------------	----------------

FROM CONTRACTOR
Cardinal Conts. Co.

TO
Lockwood Greene, Engrs.

PROJECT TITLE AND LOCATION
NAVAL REGIONAL MED. CTR. Camp Lejeune, N.C.

CONTRACTOR USE ONLY

REVIEWER USE ONLY

*List only one specification division per form.

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Contractor Approved

OICC Approval

Deviation/Substitution For OICC Approval

**ACTION CODES
A-Approved
D-Disapproved
AN-Approved as noted
RA-Receipt acknowledged
C-Comments
R-Resubmit

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO.	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	REVIEWER'S FOR INITIALS CODE AND DATE	
				ACTION CODES	DATE
748-2	10.9	Waldinger Letter dated 4/21/82	7	RDC	8-9
		Jas. Pleasants Co. letter, 9/28/79	7	RJD	8/10
		Jas. Pleasants Co. letter 8/31/79		JX	
		with Pump Perform. Curves		AX	
				JJ	

CONTRACTOR'S COMMENTS

For Deviation see Item # 2 of Pleasants Co. Letter.
Deviation was approved on Transmittal # 748

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

CONTRACTOR REPRESENTATIVE (Signature)

DATE RECEIVED BY REVIEWER

FROM (Reviewer)

8-2-82

Wm. J. Haymaker

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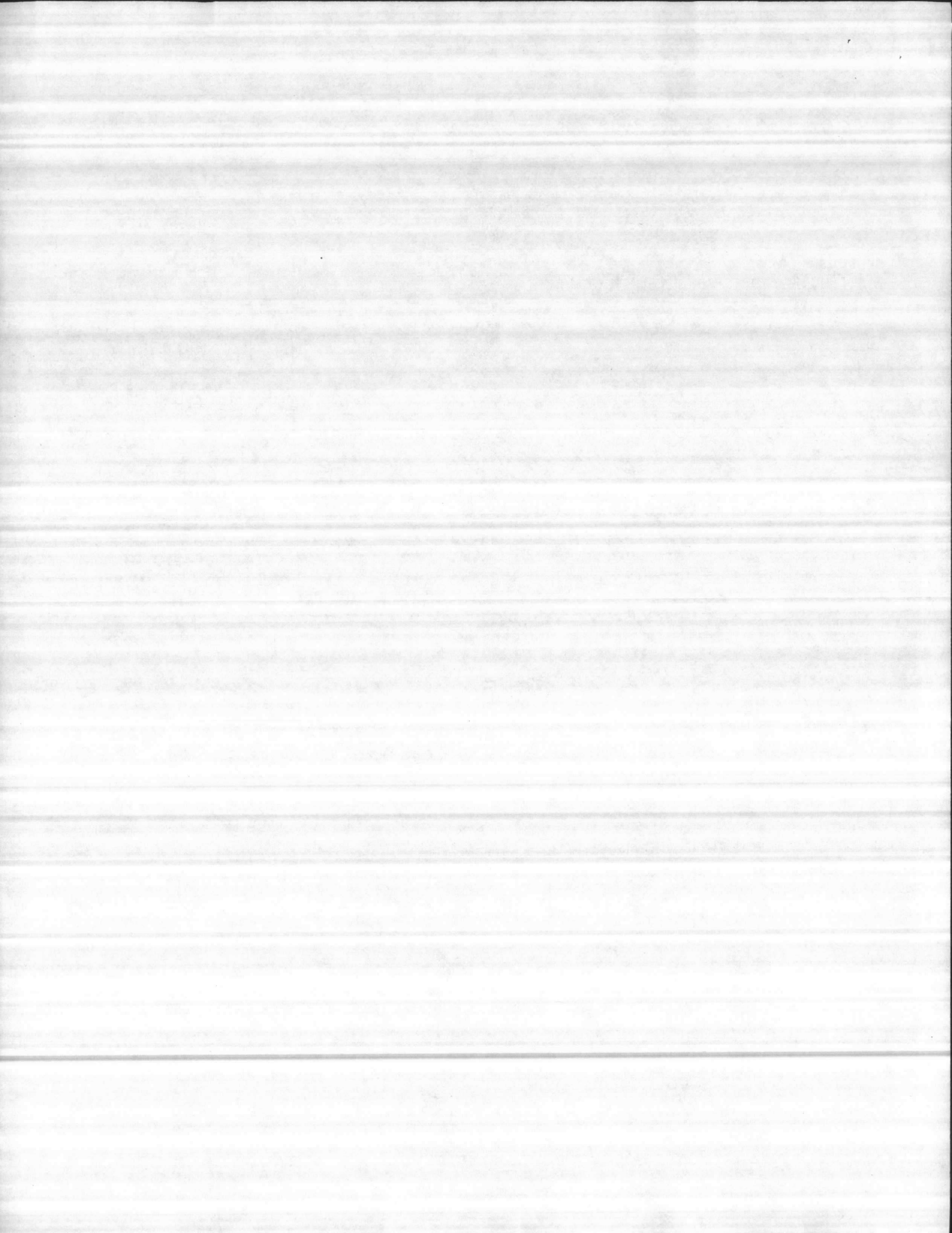
REVIEWER'S COMMENTS



COPIES TO:
ROICC (2)
LANTDIV (1)
A-E (1)

DATE

SIGNATURE





THE WALDINGER CORPORATION

P. O. Box 8363 / Camp Lejeune, North Carolina 28542 / 919/353-5341

April 21, 1982

Cardinal Contracting Company, Inc.
P.O. Box 8408
Camp Lejeune, NC 28542

Attention: Bill Haymaker

Reference: Naval Regional Medical Center
Camp Lejeune, NC
IM-2145

201425

Subject: Contract Requirements

Gentlemen:

The attached certificate and specification sheets should satisfy the requirement listed for section 15401, paragraph 10.9 on your letter dated February 15, 1982.

If I can be of any further assistance, please advise.

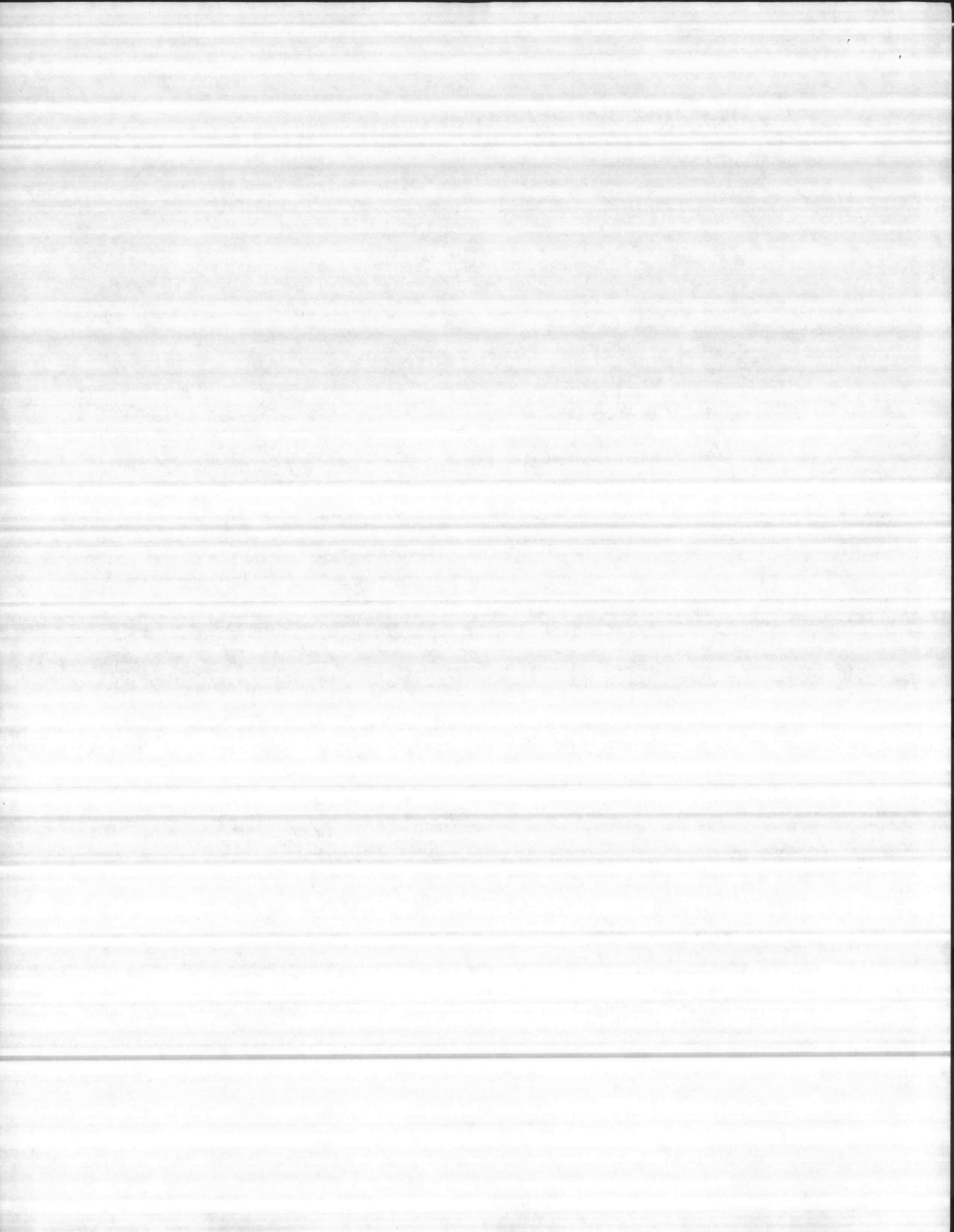
Sincerely,

THE WALDINGER CORPORATION

Steve Stoddard
Contract Administrator

SS/mc

Attachment



JAMES M. PLEASANTS COMPANY, INC.

2700 MARTINSVILLE ROAD
GREENSBORO, NORTH CAROLINA 27408

28 September, 1979

Waldinger Corporation
Post Office Box 8363
Camp Lejeune, N.C. 28542

Attention: Mr. Dick Welch

Reference: 205 Bed Hospital - Camp Lejeune

Subject: Certificate of Compliance
ITT Bell & Gossett Water Booster Pressure System
Model 70M-Triplex

Section: 15401 - Paragraph 10.0 thru 10.11

The unit to be furnished for this project complies with all requirements of project specifications except for the one following exception:

1. Paragraph 10.2 - ITT Bell & Gossett Pumps are constant speed closed coupled vertical centrifugal type, single stage, stainless steel shaft sleeve, enclosed bronze impeller hydraulically and dynamically balanced and keyed to the shaft. The single mechanical shaft seal is replacable without disturbing the piping connections. Pump head is constructed of cast iron and the impeller is drilled for continuous by-pass pressure relief.
2. CONCLUSION - The ITT Bell & Gossett Pressure Booster System as submitted meets all the requirements of capacities - gpm and total dynamic head, horsepower of motors, servicability, availability of parts and factory testing to perform the requirements of potable water pressure boost. The basic deviation from specifications is the substitution of centrifugal pumps in lieu of turbine pumps, the plans on Drawing M7-10 under pump schedule called for P-107, P-108 and P-109 to be centrifugal type.

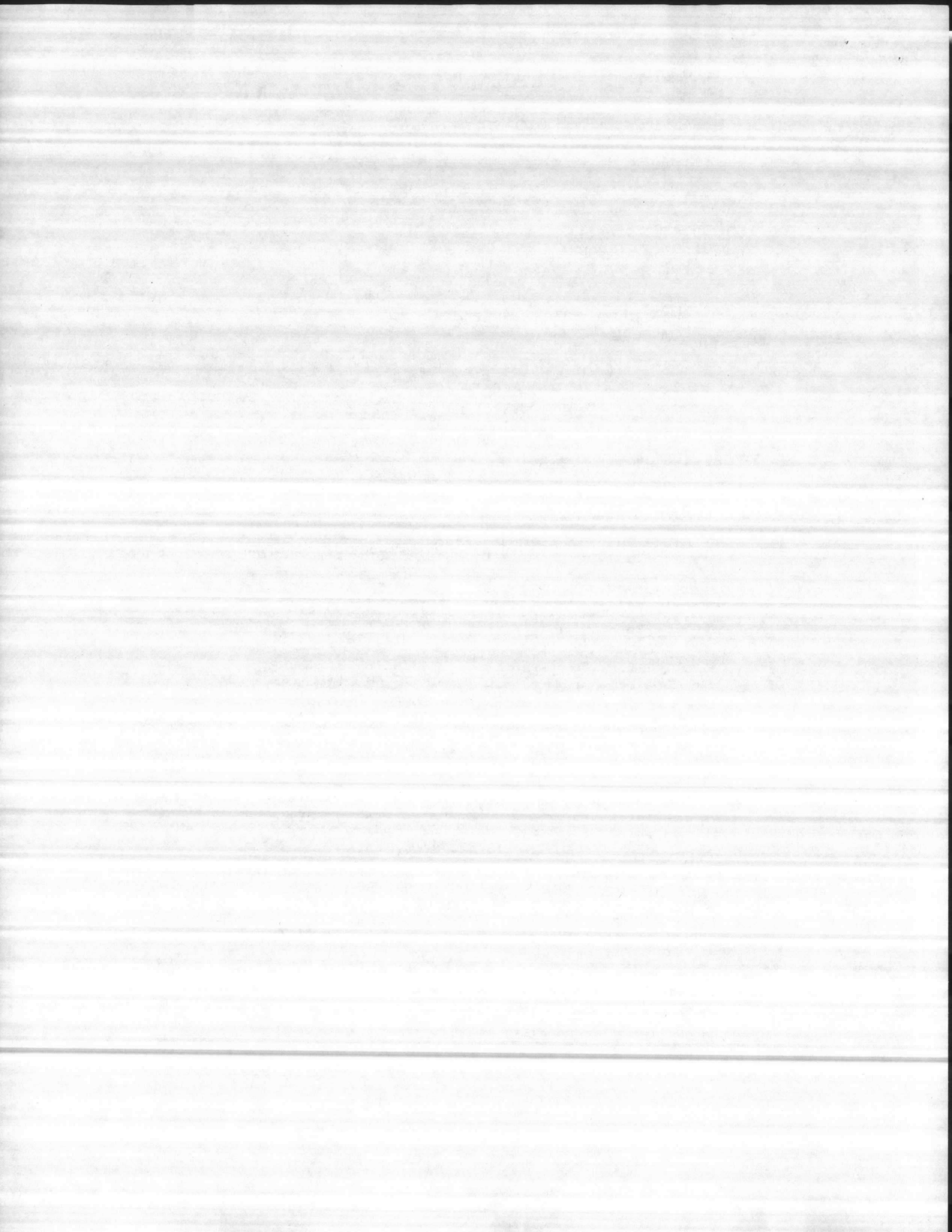
JAMES M. PLEASANTS COMPANY, INC.

Barry Briles

Barry Briles
Sales Representative (25)

BB:lv

c.c. JCS-944-BB



JAMES M. PLEASANTS COMPANY, INC.

2700 MARTINSVILLE ROAD
GREENSBORO, NORTH CAROLINA 27408

August 31, 1979

Waldinger Corp.
Brewster Blvd.
Camp Lejeune, N. C. 28542PO# IM-2145-019
JCS-944-BBJOB: 205 Bed Hospital
Camp Lejeune, N. C.PW BOOSTER PUMP

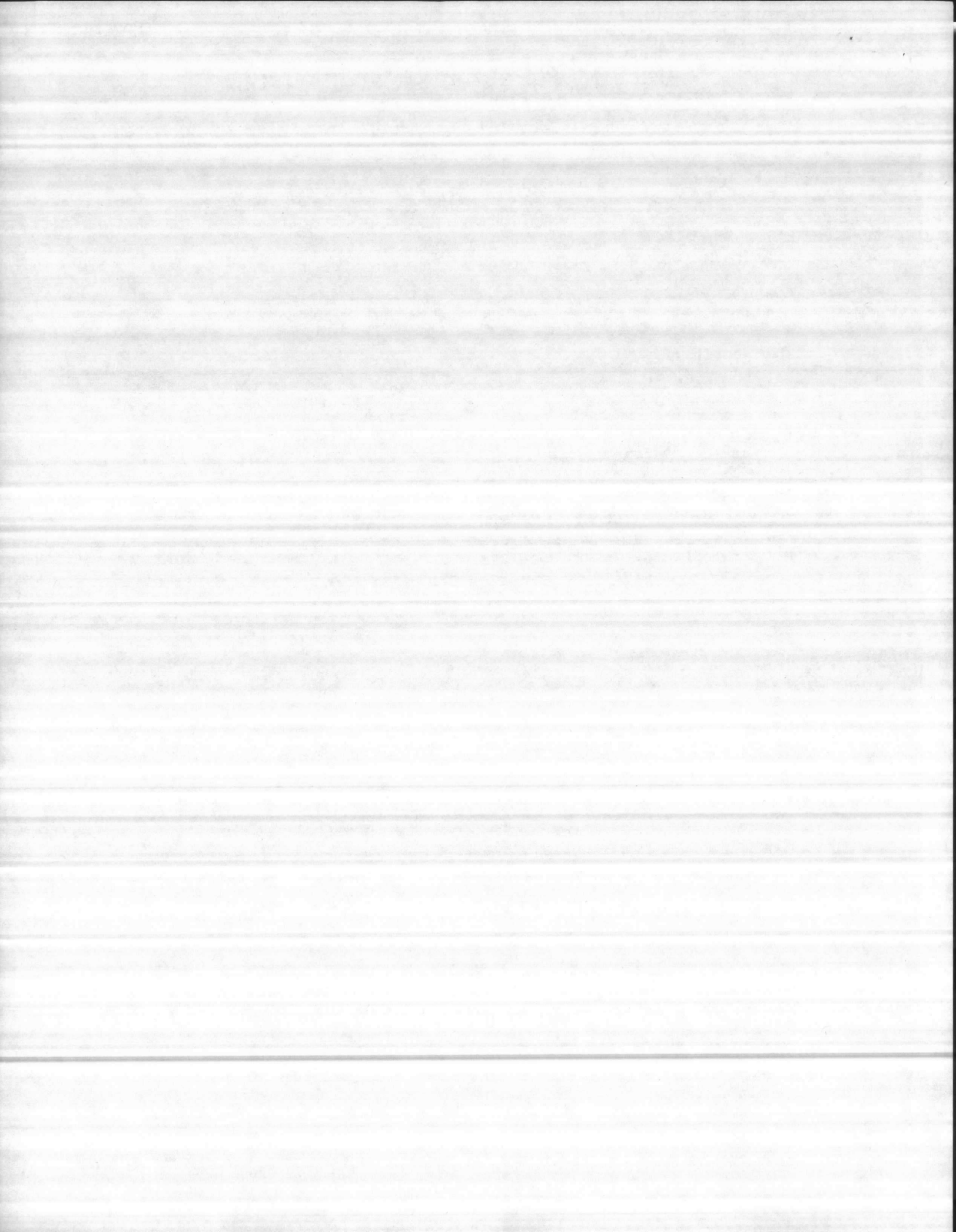
TAG: P-107, P-108, & P-109

1) 70 M - Triplex Unit

<u>P-107</u>	535 GPM at 60 Ft. 15 HP, 1750 RPM
<u>P-108</u>	535 GPM at 60 Ft. 15 HP, 1750 RPM
<u>P-109</u>	270 GPM at 60 Ft. 7½ HP, 1750 RPM

12 Sets Submittal

HOLD FOR APPROVAL





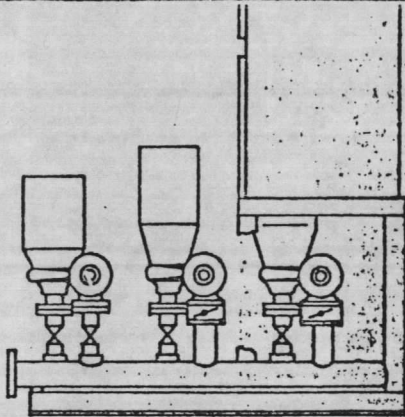
BELL & GOSSETT
PRODUCTS

SPECIFICATION
AND SUBMITTAL SHEET

D-555

70 M SERIES PRESSURE BOOSTER SYSTEM
VERTICAL CONFIGURATION

3 PUMP



JOB 205 Bed Hospital
Camp Lejeune, N. C.

ENGINEER _____ ORDER NO. _____

CONTRACTOR _____

B & G REPRESENTATIVE J. M. Pleasants Co.

SUBMITTED BY _____ DATE _____

APPROVED BY _____ DATE _____

DESIGN DATA:

Maximum System Capacity Required:	1340	GPM
Pressure Required at Discharge Header:	56	PSIG
Minimum Suction Pressure to Suction Header:	30	PSIG
Total Dynamic Head to be Developed by 70M:	26	PSIG
TDH x 2.31 = TDH in Feet	60	Feet

PUMP DATA:

	Pump No. 1	Pump No. 2	Pump No. 3
Gallons per Minute	535	535	270
<input checked="" type="checkbox"/> PRV or <input type="checkbox"/> Check Valve	4"	4"	3"
Series 1531	4BB	4BB	2 ¹ / ₂ B
Motor HP	15	15	7 ¹ / ₂
Motor RPM	1750	1750	1750
Voltage 460 Hertz	60	Phase	3

STANDARD EQUIPMENT:

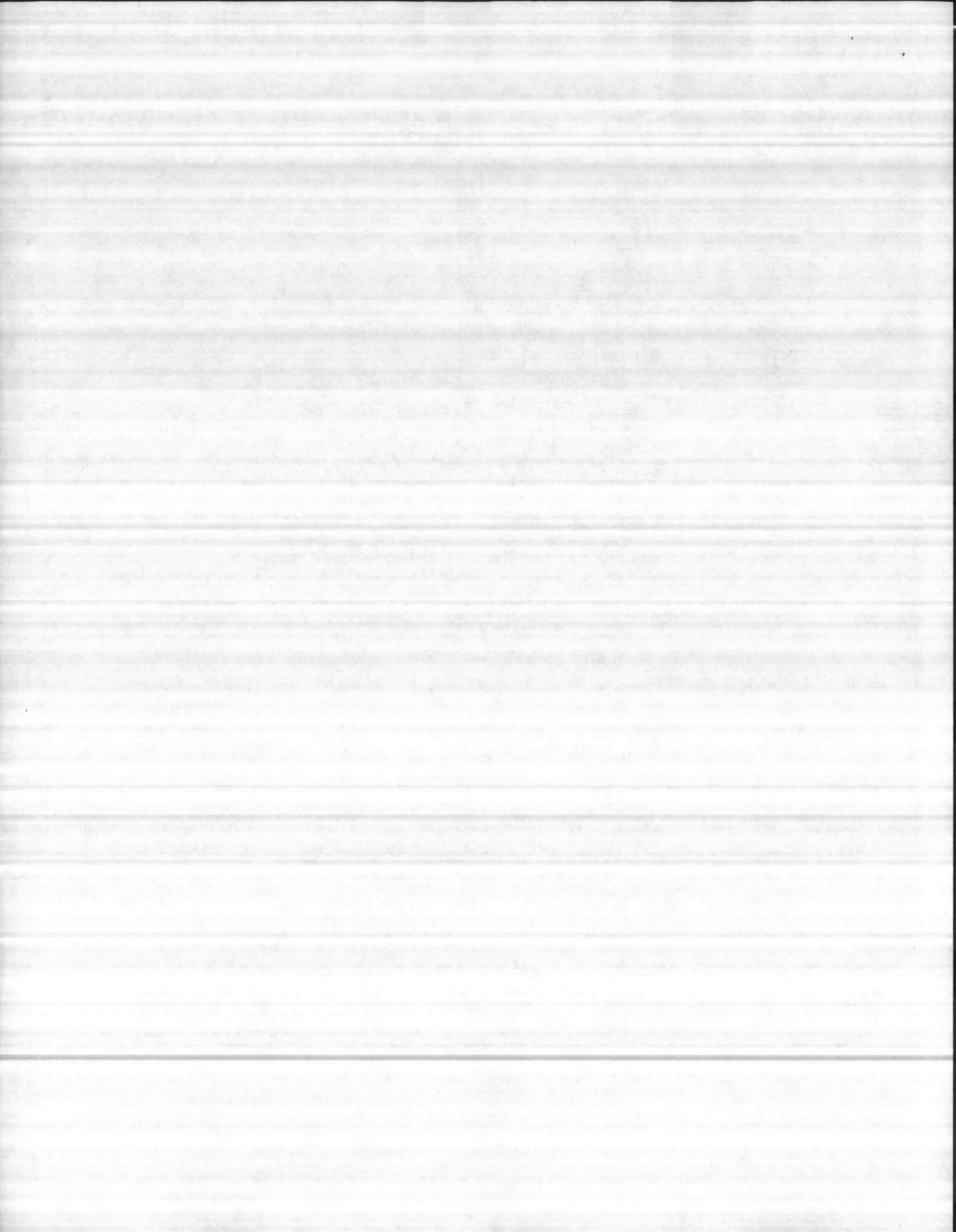
Assembled System
Basic unit fully piped, wired, tested and mounted on steel frame includes: Bronze-fitted B&G pumps, shut-off valves on suction and discharge of each pump; combination pressure reducing-nonslam check valves, or check valves only, on discharge side of each pump; thermal protection in discharge header and open drip-proof motors. NEMA 1 control cabinet includes motor starters, fused control circuit transformer, time delay and sensing relays, LSP cutout, H-O-A switches, minimum run timers and running and warning lights. All pipe is Schedule 40 galvanized steel.

Unassembled System
Consists of the above unmounted and not piped. Less frame, shutoff valves, gauges, pipe and fittings. Includes thermal protection for each pump.

See other side for dimensions and options

BELL & GOSSETT MORTON GROVE, ILL. 60053
Fluid Handling Division, International Telephone and Telegraph Corporation





TAG: P.1; P.2

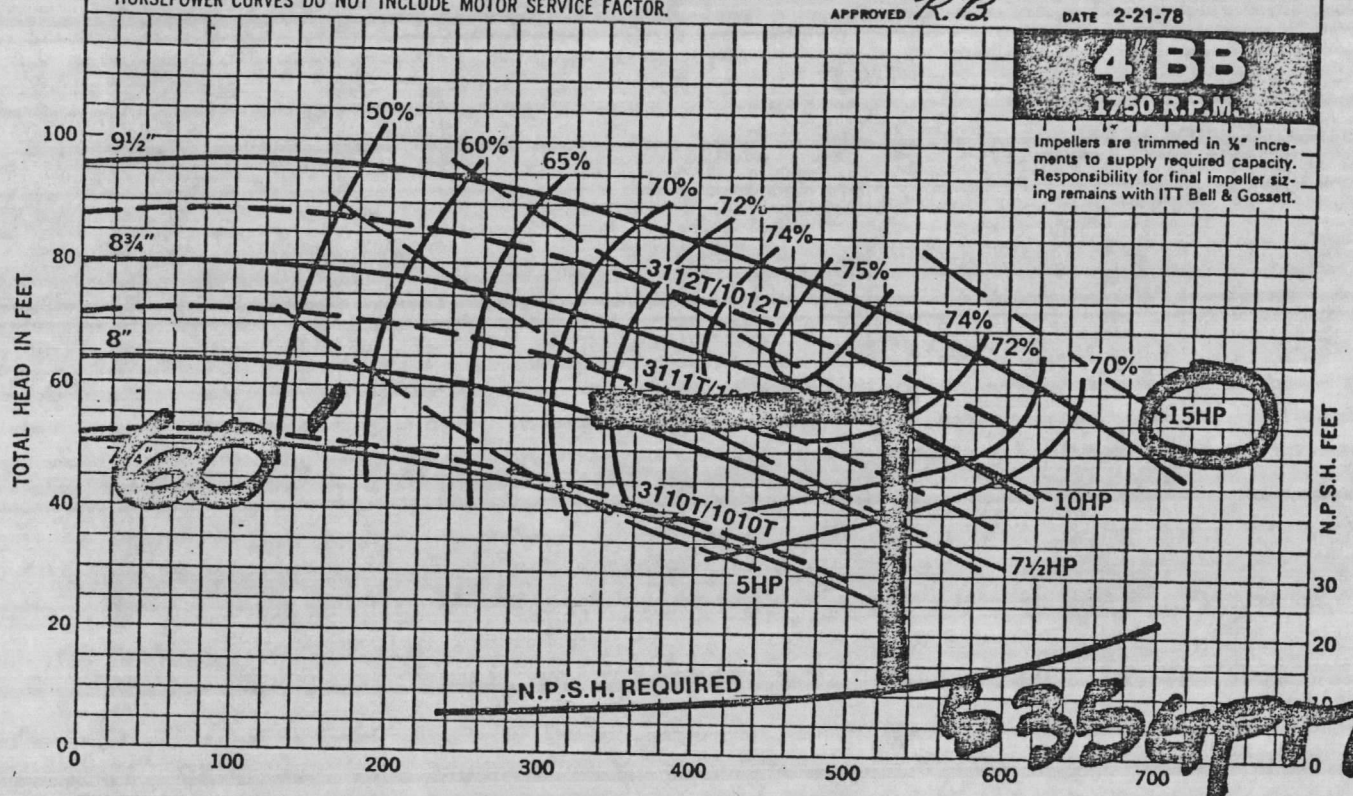
PERFORMANCE CHARACTERISTIC CURVE
FOR 4"BB CENTRIFUGAL PUMP FIG. NO. 1510/1531 SPEED 1750 R.P.M.

CURVES BASED ON SHOP TEST USING CLEAR COLD WATER AT A TEMPERATURE OF NOT OVER 85°F. PERFORMANCE IS GUARANTEED AT INDICATED OPERATING POINT ONLY. HORSEPOWER CURVES DO NOT INCLUDE MOTOR SERVICE FACTOR.

APPROVED *R.B.* DATE 2-21-78

4 BB
1750 R.P.M.

Impellers are trimmed in 1/8" increments to supply required capacity. Responsibility for final impeller sizing remains with ITT Bell & Gossett.



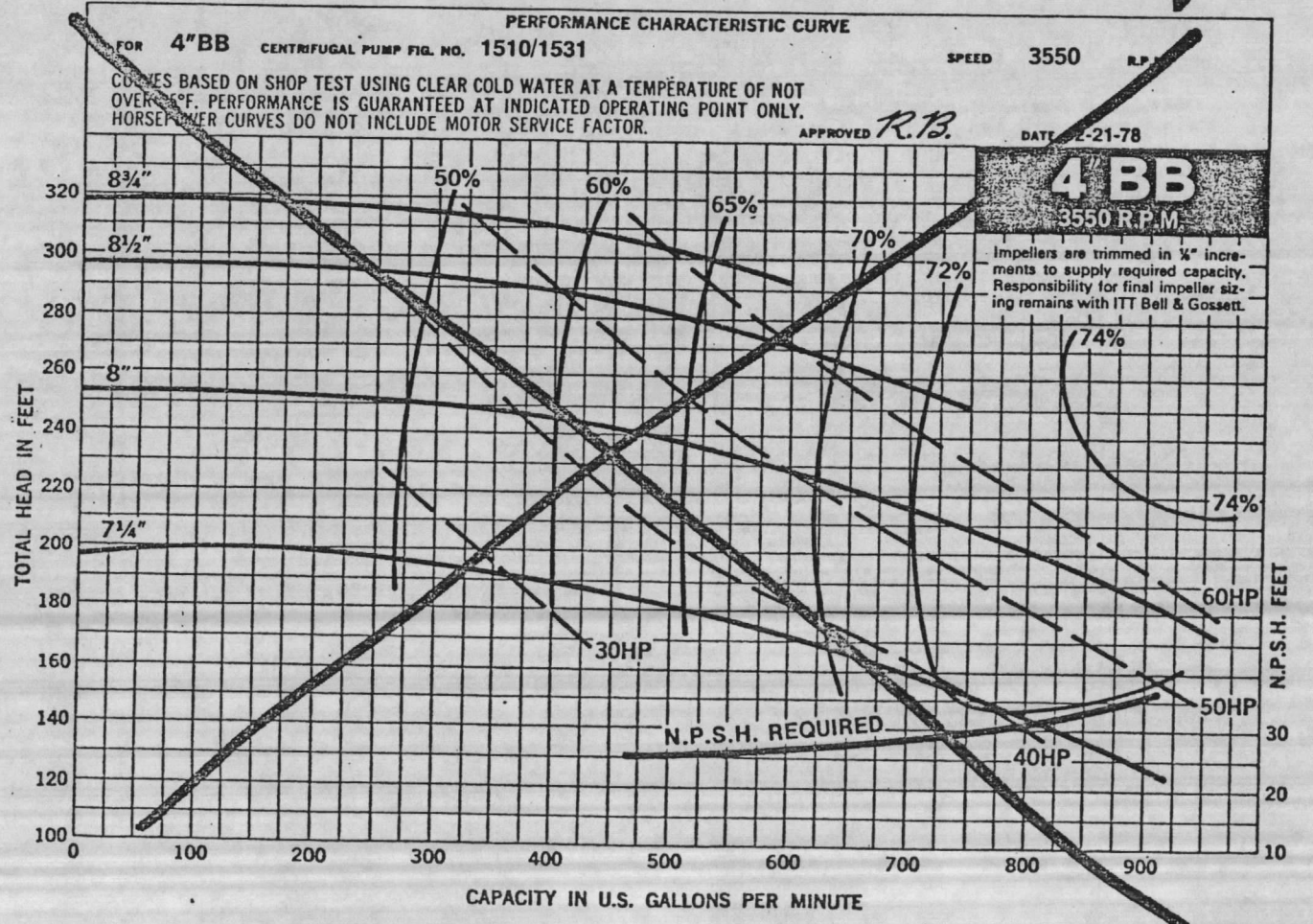
PERFORMANCE CHARACTERISTIC CURVE
FOR 4"BB CENTRIFUGAL PUMP FIG. NO. 1510/1531 SPEED 3550 R.P.M.

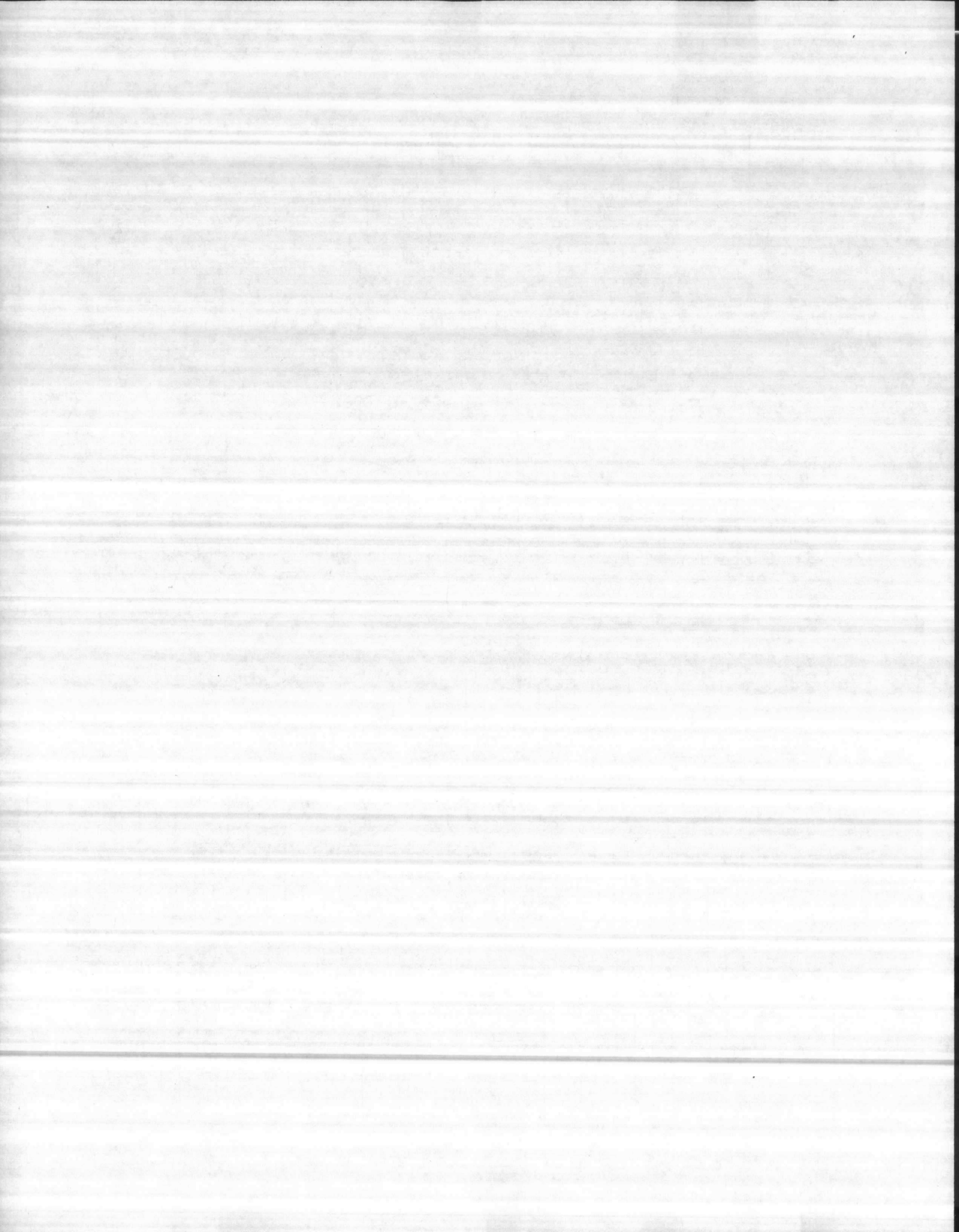
CURVES BASED ON SHOP TEST USING CLEAR COLD WATER AT A TEMPERATURE OF NOT OVER 85°F. PERFORMANCE IS GUARANTEED AT INDICATED OPERATING POINT ONLY. HORSEPOWER CURVES DO NOT INCLUDE MOTOR SERVICE FACTOR.

APPROVED *R.B.* DATE 2-21-78

4 BB
3550 R.P.M.

Impellers are trimmed in 1/8" increments to supply required capacity. Responsibility for final impeller sizing remains with ITT Bell & Gossett.





TAG: P. 3

PERFORMANCE CHARACTERISTIC CURVE

FOR 2 1/2" B CENTRIFUGAL PUMP FIG. NO. 1531

SPEED 1750 R.P.M.

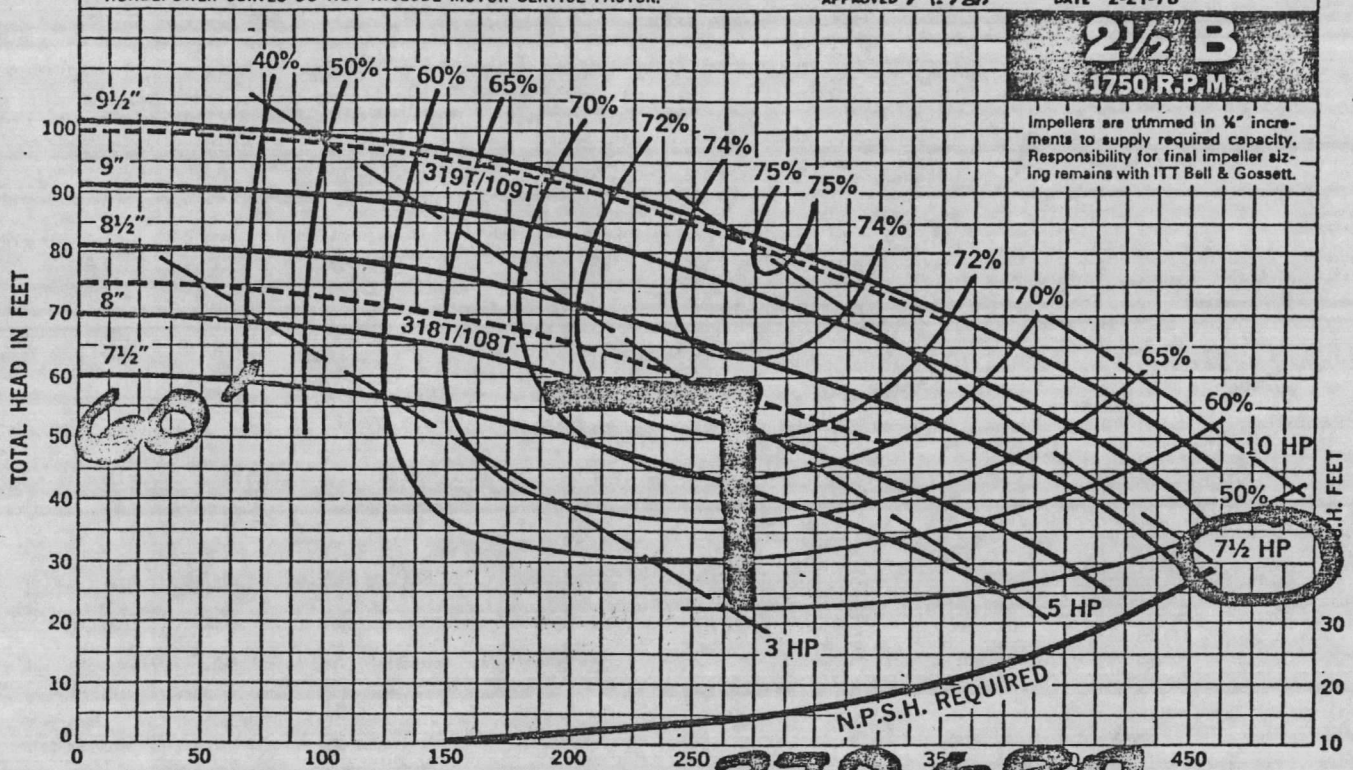
CURVES BASED ON SHOP TEST USING CLEAR COLD WATER AT A TEMPERATURE OF NOT OVER 85°F. PERFORMANCE IS GUARANTEED AT INDICATED OPERATING POINT ONLY. HORSEPOWER CURVES DO NOT INCLUDE MOTOR SERVICE FACTOR.

APPROVED R.B.

DATE 2-21-78

2 1/2" B
1750 R.P.M.

Impellers are trimmed in 1/8" increments to supply required capacity. Responsibility for final impeller sizing remains with ITT Bell & Gossett.



PERFORMANCE CHARACTERISTIC CURVE

FOR 2 1/2" B CENTRIFUGAL PUMP FIG. NO. 1510/1531

SPEED 3550 R.P.M.

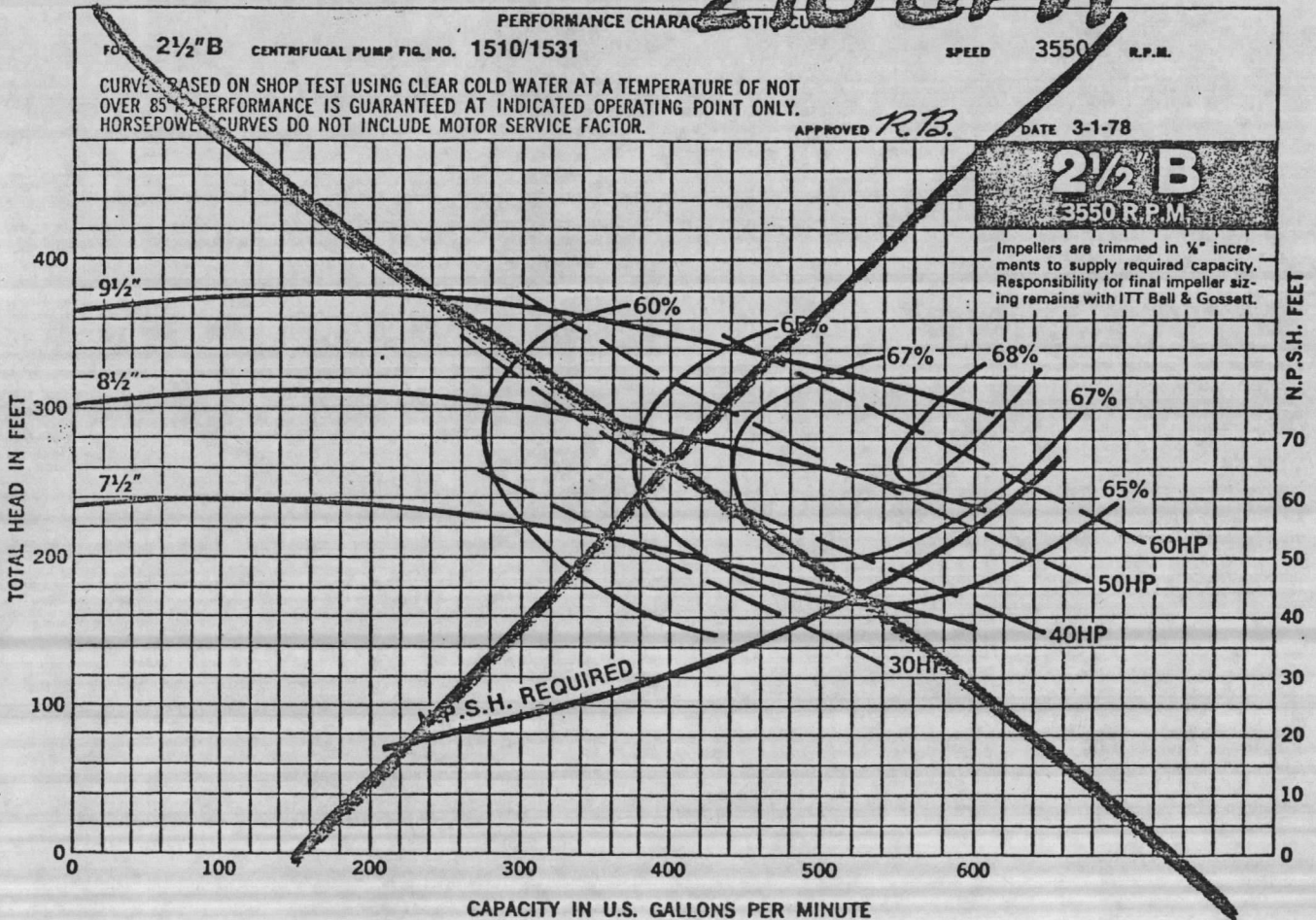
CURVES BASED ON SHOP TEST USING CLEAR COLD WATER AT A TEMPERATURE OF NOT OVER 85°F. PERFORMANCE IS GUARANTEED AT INDICATED OPERATING POINT ONLY. HORSEPOWER CURVES DO NOT INCLUDE MOTOR SERVICE FACTOR.

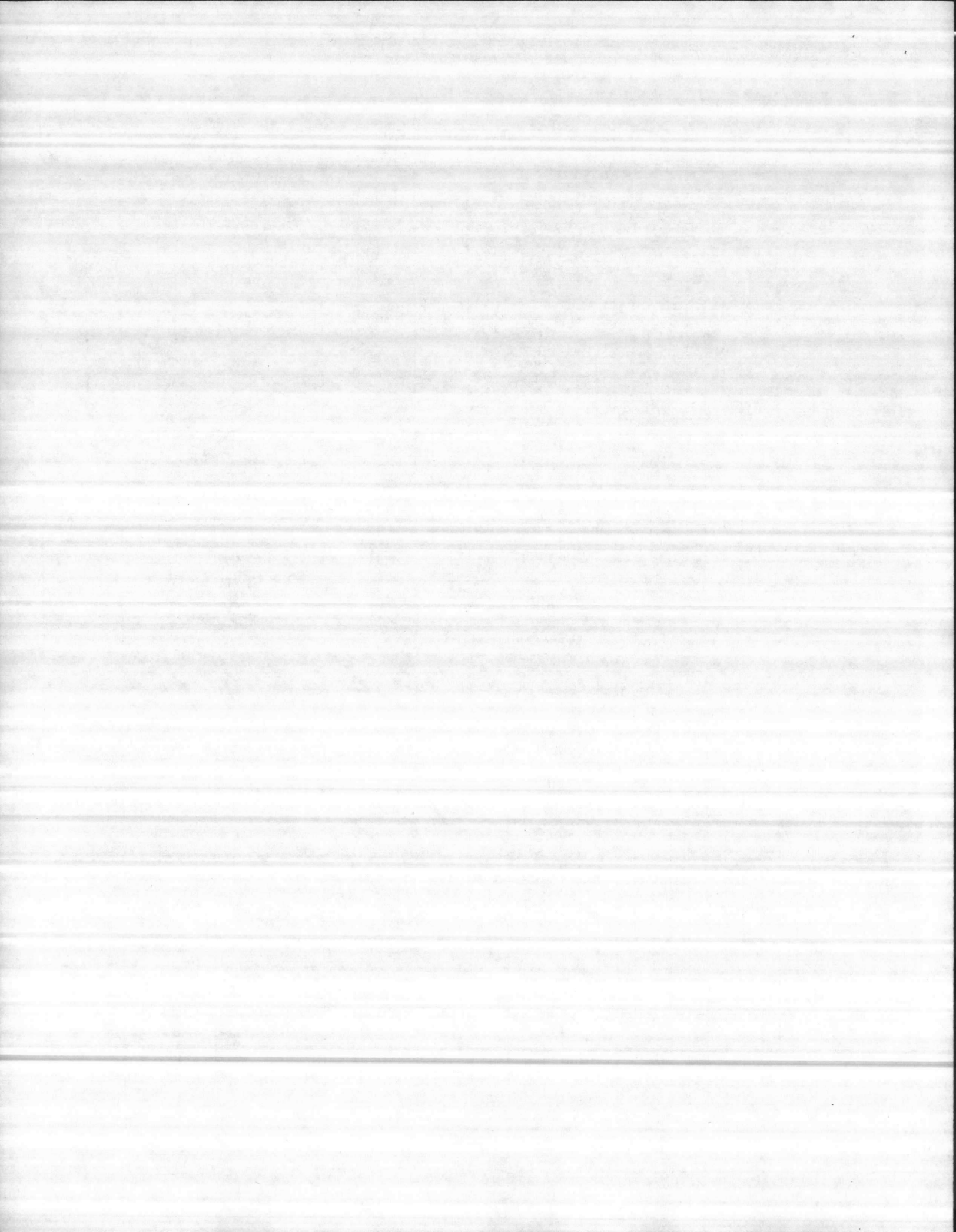
APPROVED R.B.

DATE 3-1-78

2 1/2" B
3550 R.P.M.

Impellers are trimmed in 1/8" increments to supply required capacity. Responsibility for final impeller sizing remains with ITT Bell & Gossett.





CONTRACTOR'S SUBMITTAL TRANSMITTAL

5ND LANTDIV 4355/3 (Rev. 8/76)

SECTION 15401

CONTRACT NO. N62470-77-C-7526	TRANSMITTAL NO. 748	DATE 10/24/79
----------------------------------	------------------------	------------------

FROM CONTRACTOR
CARDINAL CONTRACTING CO., INC.
TO
LOCKWOOD-GREEN ENGRS.

PROJECT TITLE AND LOCATION
NAVAL REGIONAL MEDICAL CENTER
CAMP LEJEUNE, NORTH CAROLINA 28542

<p align="center">CONTRACTOR USE ONLY</p> <p align="center">*List only one specification division per form.</p> <p align="center">List only one of the following categories on each transmittal form, and indicate which is being submitted</p> <p><input type="checkbox"/> Contractor Approved <input type="checkbox"/> OICC Approval <input checked="" type="checkbox"/> Deviation/Substitution For OICC Approval</p>	<p align="center">REVIEWER USE ONLY</p> <p align="center">**ACTION CODES</p> <p>A-Approved D-Disapproved AN-Approved as noted RA-Receipt acknowledged. C-Comments R-Resubmit</p>
--	---

1819

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
748	10-10.11	MFGS. Descriptive Data, PW Booster Pumps, P-107, P-108 & P-109	9	AN	RWT 403 11/29/79

CONTRACTOR'S COMMENTS

NOTE: Certificate of Compliance Para. 1 & 2 Suppliers Recommended Deviation.

PLEASE RETURN A MINIMUM OF 6 COPIES WITH OWNERS APPROVAL

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC: 10-30-79

CONTRACTOR REPRESENTATIVE (Signature): *Wm. J. Haymaker*

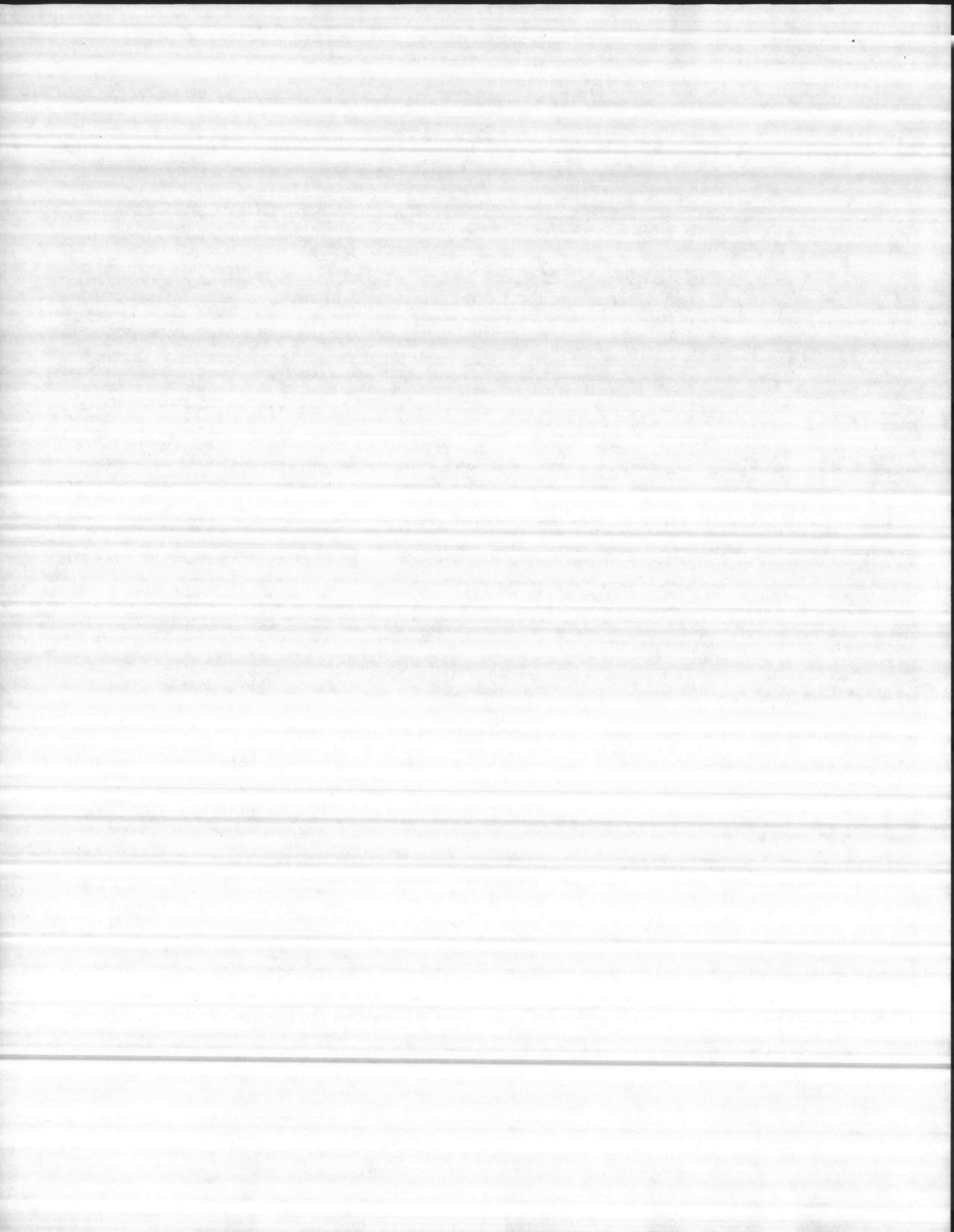
DATE RECEIVED BY REVIEWER: FROM (Reviewer): *Lantdiv* TO: *Cardinal*

- Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.
- Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on ONE COPY of the transmittal form.

REVIEWER'S COMMENTS

*file/field
1-3-80
lw*

COPIES TO: ROICC (2), LANTDIV (1), A-E (1) DATE: 12/7/79 SIGNATURE: *J. D. Hall*



PN BOOSTER PUMPS
P-107, P100, P-100
SPECIFICATION SECTION 15401

1819

- Pg.1 Descriptive Letter, James H. Pleasant Co.
- Pg.2 Certificate of Compliance, With Deviations
- D-333 Pg.1 70M Series Pressure Booster System Data
- Pg.2 Options - Mounted & Wired
- BULLETIN D-306 Revision 3, 70M Series Pressure Booster Systems
- D-305 Pg.2 Illustrations B & G Pumps
- " Pg.3 Illustrations B & G Pumps Cont.
- " Pg.4 70M Piping - Panel Arrangement
- " Pg.5 How the 70M Operates
- " Pg.6 70M by B & G
- " Pg.7 70M Quality Equipped
- " Pg.8 70M Selection Procedure
- " Pg.9 70M Pump Selection, 3500 RPM
- " Pg.10 70M Pump Selection, 1750 RPM
- " Pg.11 70M Specifications
- " Pg.12 Dimension Data
- DWG. 23PB65 Control Panel Assembly
- Part No. Q63932 ALD - Control Options
- Part No. Q63932 Pressure Booster System
- DWG. 15PB05 Field Connections 70M Series

ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA 23511

APPROVED _____
 APPROVED AS NOTED _____
 DISAPPROVED _____

SUBJECT TO THE REQUIREMENTS OF
 CONTRACT NO. N62470-77-C-7525

APPROVAL OF A SUBMITTAL DOES NOT INCLUDE
 APPROVAL OF ANY DEVIATION FROM THE CON-
 TRACT REQUIREMENTS UNLESS THE CONTRAC-
 TOR CALLS ATTENTION TO AND SUPPORTS THE
 DEVIATION...THE CONTRACTOR SHALL BE RE-
 SPONSIBLE FOR PROVIDING PROPER PHYSICAL
 DIMENSIONS & WEIGHTS, COORDINATION OF
 TRADES, ETC., AS REQUIRED

REVIEWER [Signature] DATE 7 DEC 1978

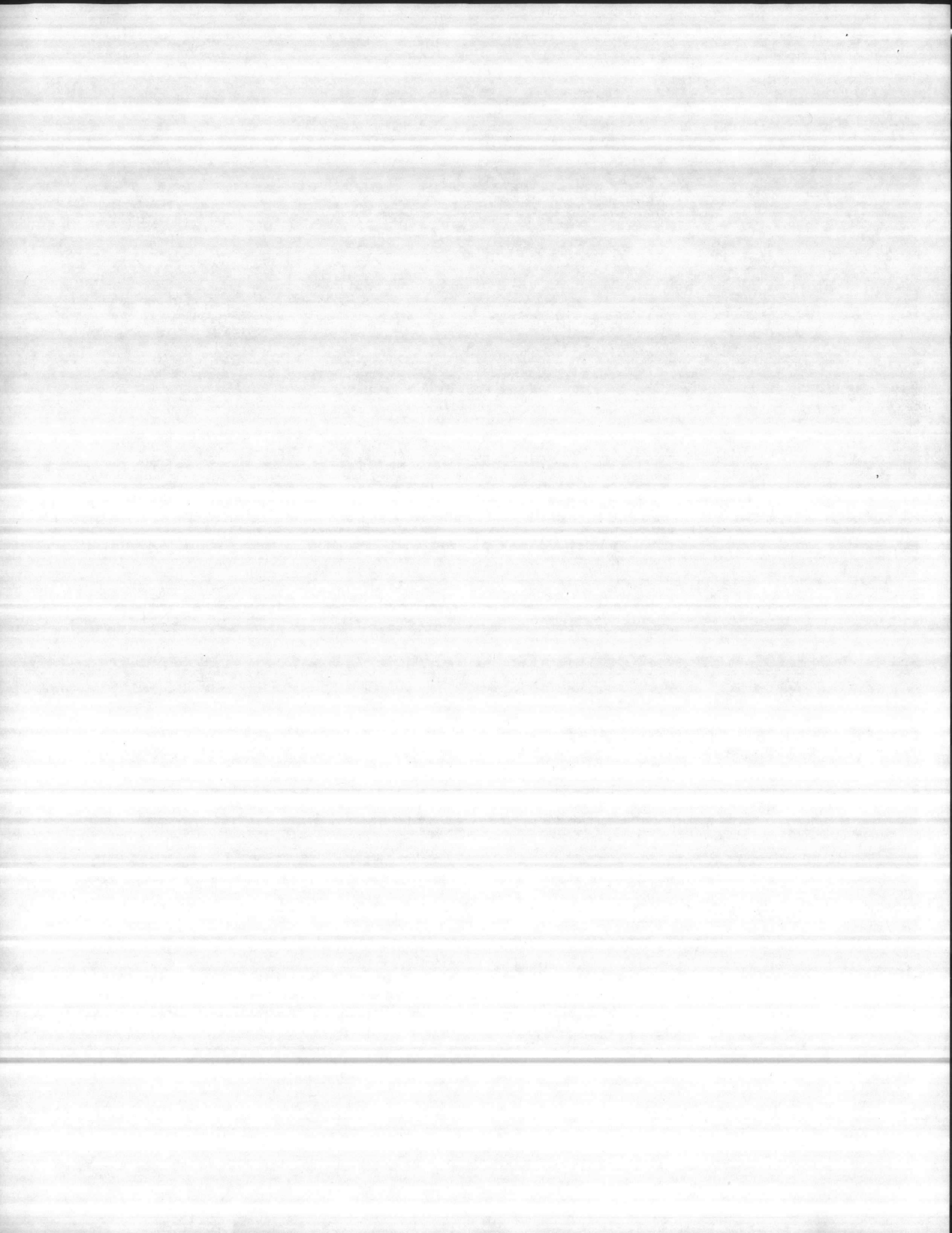
FOR OFFICER IN CHARGE OF CONSTRUCTION

"It is hereby certified that the material/equipment shown and marked in this submittal is that proposed to be incorporated into Contract Number N62470-77-B-7526, is in compliance with the contract drawings and specifications, and can be installed in the allocated spaces, and is (submitted for Government approval).

THE WALDINGER CORPORATION

Authorized Reviewer [Signature] Date 10-24-79

Signature CQC Rep W.J.H. Date 10/30/79



JAMES M. PLEASANTS COMPANY, INC.

2700 MARTINSVILLE ROAD
GREENSBORO, NORTH CAROLINA 27408

August 31, 1979

Waldinger Corp.
Brewster Blvd.
Camp Lejeune, N. C. 28542

PO# IM-2145-019
JCS-944-BB

JOB: 205 Bed Hospital
Camp Lejeune, N. C.

PW BOOSTER PUMP

TAG: P-107, P-108, & P-109

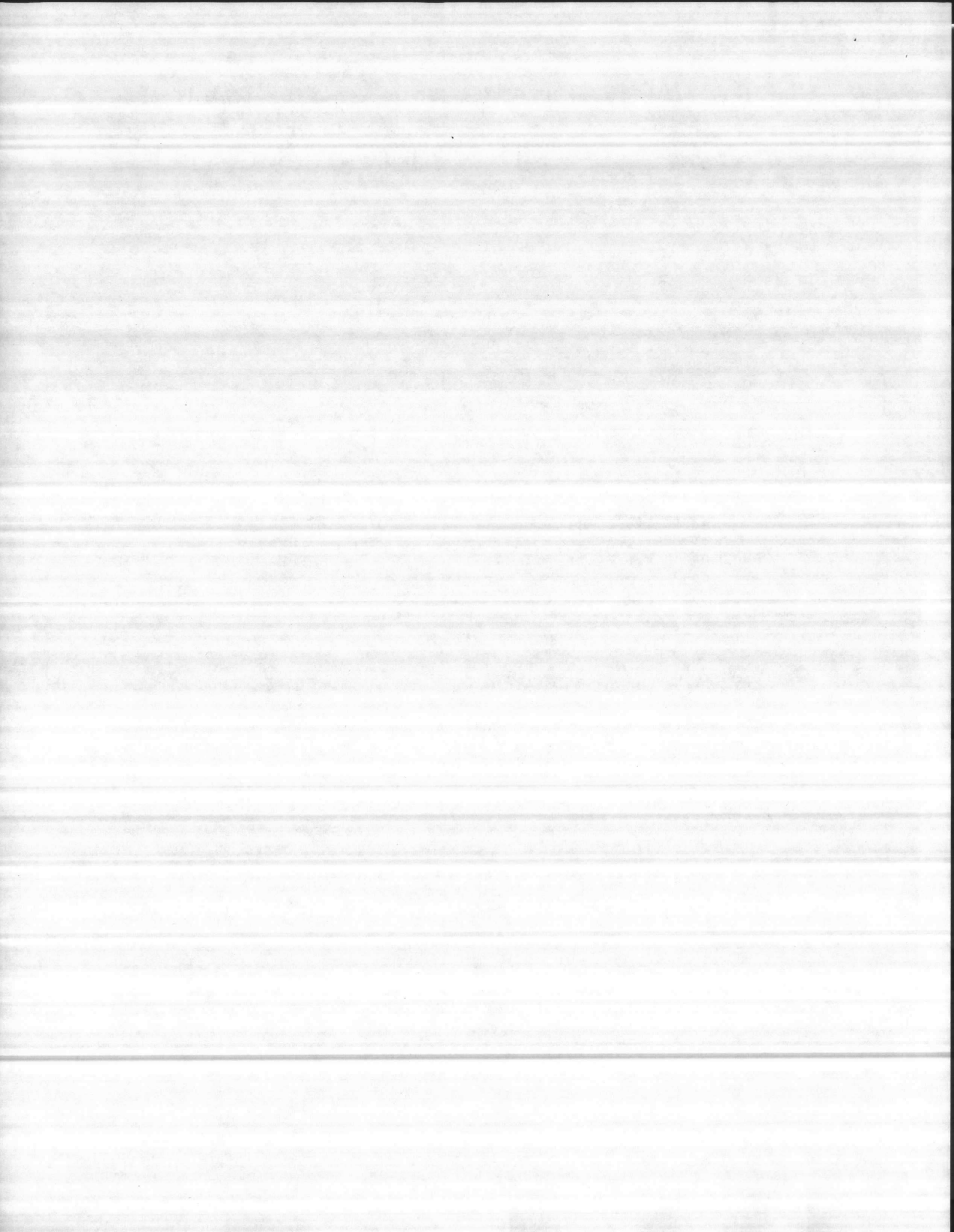
1) 70 M - Triplex Unit

- P-107 535 GPM at 60 Ft. 15 HP, 1750 RPM
- P-108 535 GPM at 60 Ft. 15 HP, 1750 RPM
- P-109 270 GPM at 60 Ft. 7½ HP, 1750 RPM

12 Sets Submittal

HOLD FOR APPROVAL

Contractor shall be responsible to verify that motor HP is adequate.



JAMES M. PLEASANTS COMPANY, INC.2700 MARTINSVILLE ROAD
GREENSBORO, NORTH CAROLINA 27408

28 September, 1979

Waldinger Corporation
Post Office Box 8363
Camp Lejeune, N.C. 28542

Attention: Mr. Dick Welch

Reference: 205 Bed Hospital - Camp Lejeune

Subject: Certificate of Compliance
ITT Bell & Gossett Water Booster Pressure System
Model 70M-Triplex

Section: 15401 - Paragraph 10.0 thru 10.11

The unit to be furnished for this project complies with all requirements of project specifications except for the one following exception:

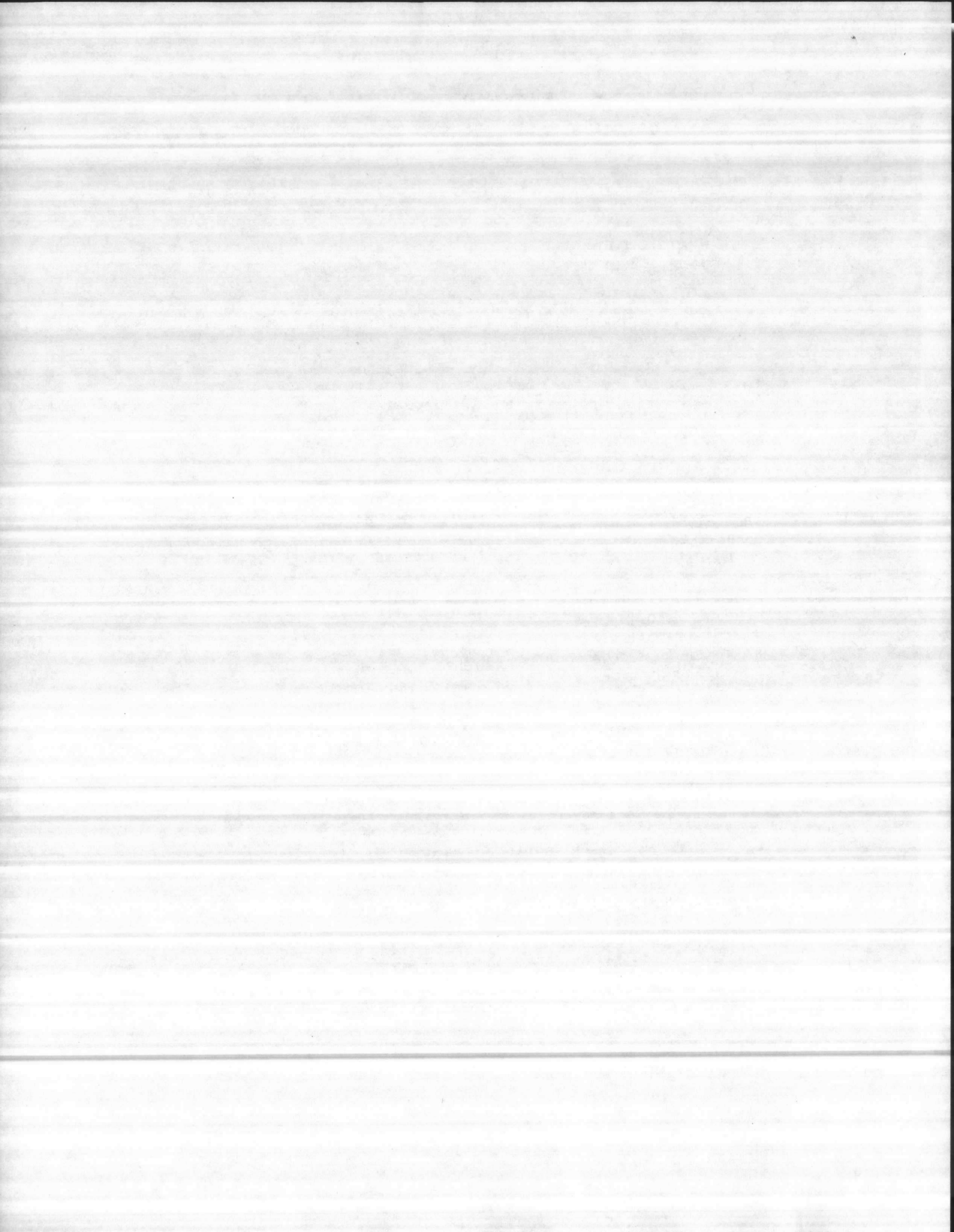
1. Paragraph 10.2 - ITT Bell & Gossett Pumps are constant speed closed coupled vertical centrifugal type, single stage, stainless steel shaft sleeve, enclosed bronze impeller hydraulically and dynamically balanced and keyed to the shaft. The single mechanical shaft seal is replacable without disturbing the piping connections. Pump head is constructed of cast iron and the impeller is drilled for continuous by-pass pressure relief.
2. CONCLUSION - The ITT Bell & Gossett Pressure Booster System as submitted meets all the requirements of capacities - gpm and total dynamic head, horsepower of motors, servicability, availability of parts and factory testing to perform the requirements of potable water pressure boost. The basic deviation from specifications is the substitution of centrifugal pumps in lieu of turbine pumps, the plans on Drawing M7-10 under pump schedule called for P-107, P-108 and P-109 to be centrifugal type.

JAMES M. PLEASANTS COMPANY, INC.

Barry Briles
Barry Briles
Sales Representative*(25)*

BB:lv

c.c. JCS-944-BB





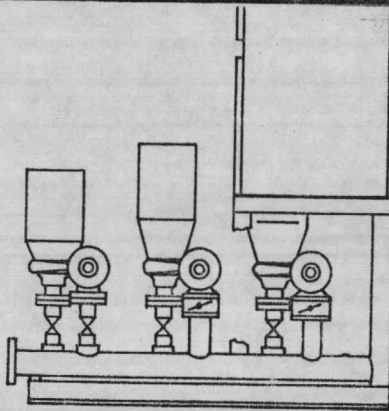
BELL & GOSSETT
PRODUCTS

PLUMBING PRODUCTS
SPECIFICATION
AND SUBMITTAL SHEET

D-333
Pg-1

70 M SERIES PRESSURE BOOSTER SYSTEM
VERTICAL CONFIGURATION

3 PUMP



JOB 205 Bed Hospital
Camp Lejeune, N. C.

ENGINEER _____ ORDER NO. _____

CONTRACTOR _____

B & G REPRESENTATIVE J. M. Pleasants Co.

SUBMITTED BY _____ DATE _____

APPROVED BY _____ DATE _____

DESIGN DATA:

Maximum System Capacity Required: 1340 GPM
 Pressure Required at Discharge Header: 56 PSIG
 Minimum Suction Pressure to Suction Header: 30 PSIG
 Total Dynamic Head to be Developed by 70M: 26 PSIG
 TDH × 2.31 = TDH in Feet 60 Feet

PUMP DATA:

	Pump No. 1	Pump No. 2	Pump No. 3
Gallons per Minute	<u>535</u>	<u>535</u>	<u>270</u>
<input checked="" type="checkbox"/> PRV or <input type="checkbox"/> Check Valve	<u>4"</u>	<u>4"</u>	<u>3"</u>
Series <u>1531</u>	<u>4BB</u>	<u>4BB</u>	<u>2 1/2 B</u>
Motor HP	<u>15</u>	<u>15</u>	<u>7 1/2</u>
Motor RPM	<u>1750</u>	<u>1750</u>	<u>1750</u>
Voltage <u>460</u> Hertz	<u>60</u>	Phase <u>3</u>	

STANDARD EQUIPMENT:

Assembled System

Basic unit fully piped, wired, tested and mounted on steel frame includes: Bronze-fitted B&G pumps; shut-off valves on suction and discharge of each pump; combination pressure reducing-nonslam check valves, or check valves only, on discharge side of each pump; thermal protection in discharge header and open drip-proof motors. NEMA 1 control cabinet includes motor starters, fused control circuit transformer, time delay and sensing relays, LSP cutout, H-O-A switches, minimum run timers and running and warning lights. All pipe is Schedule 40 galvanized steel.

Unassembled System

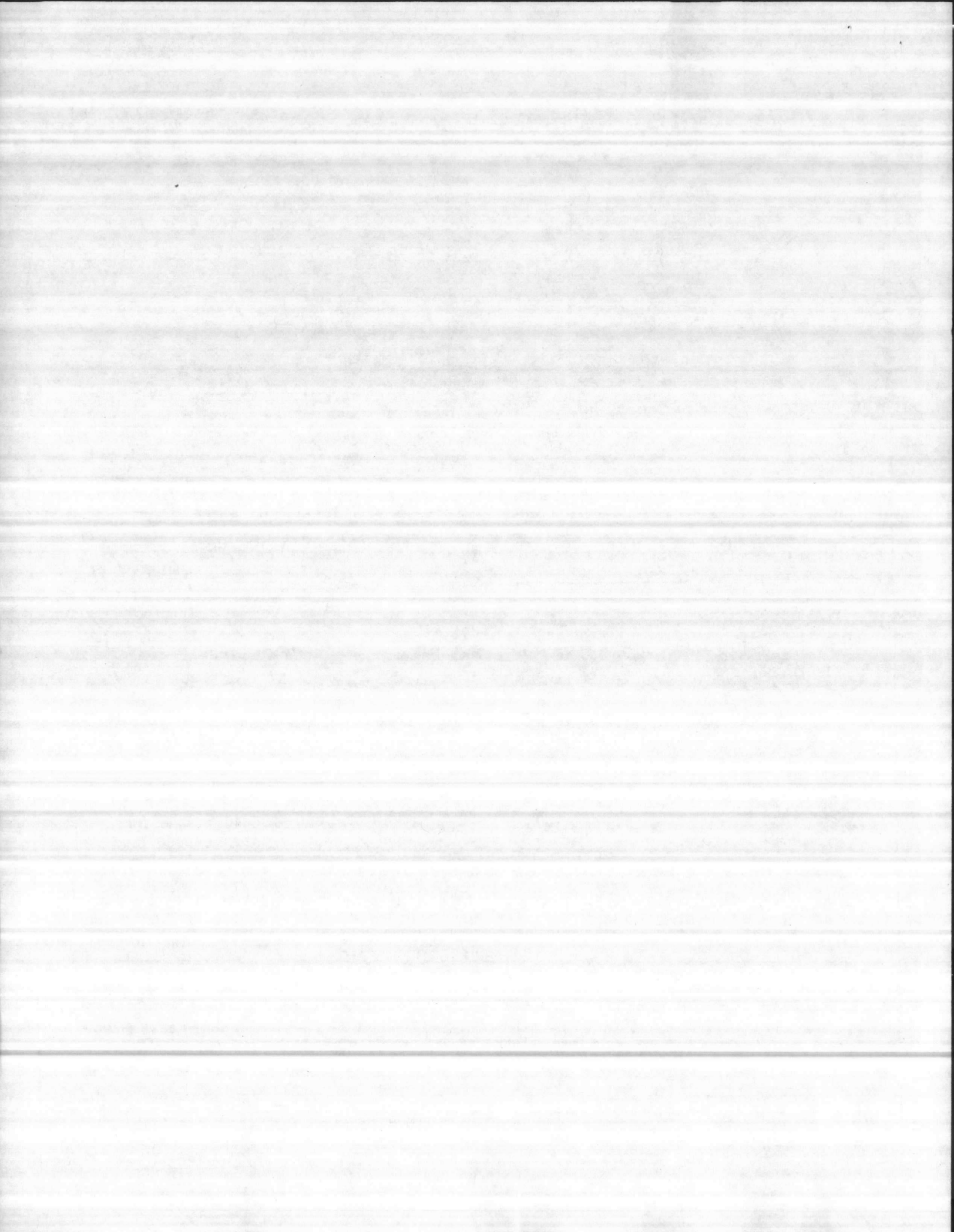
Consists of the above unmounted and not piped. Less frame, shutoff valves, gauges, pipe and fittings. Includes thermal protection for each pump.

See other side for dimensions and options

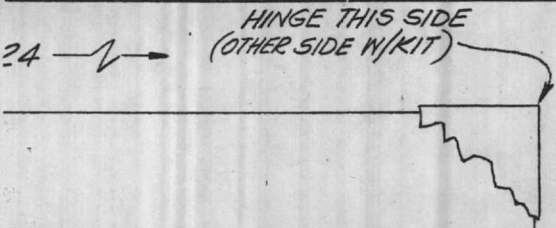
BELL & GOSSETT MORTON GROVE, ILL. 60053

Fluid Handling Division, International Telephone and Telegraph Corporation



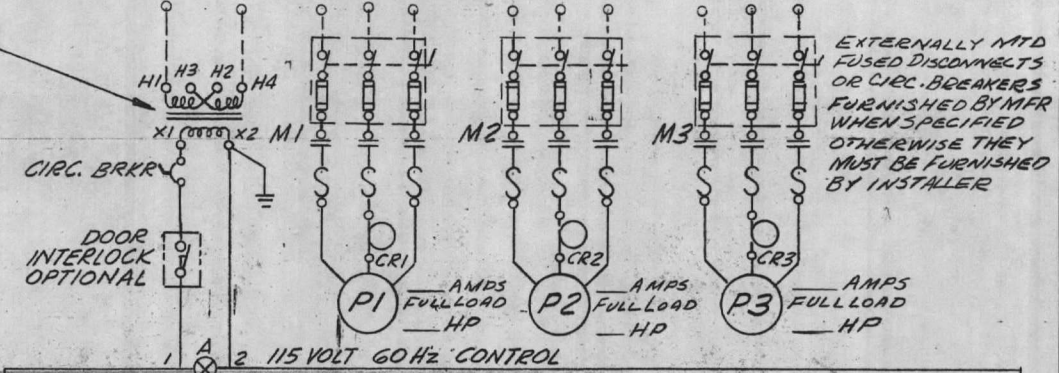


POWER SUPPLY: ___ V, ___ PH., ___ Hz.



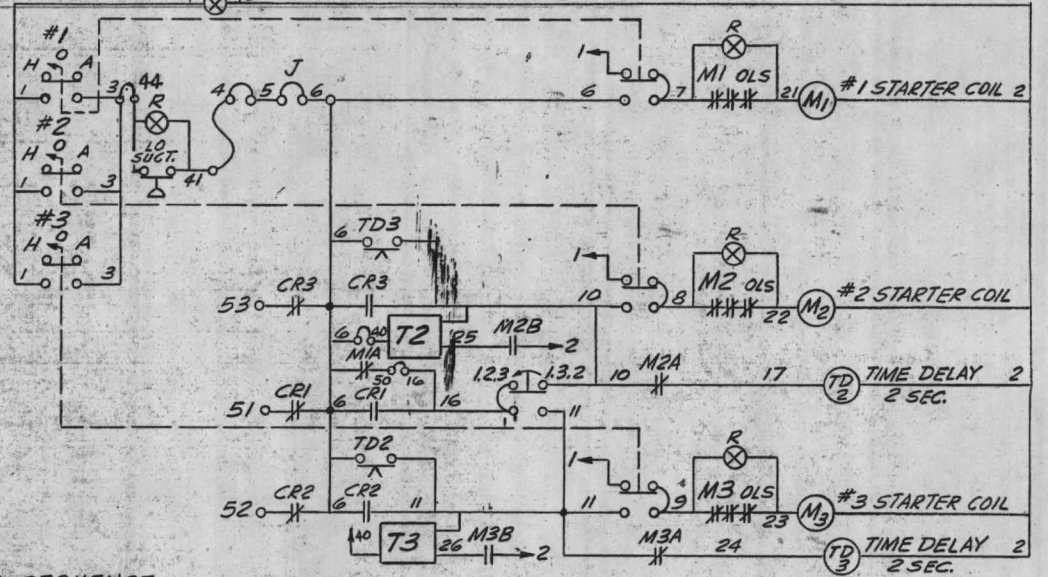
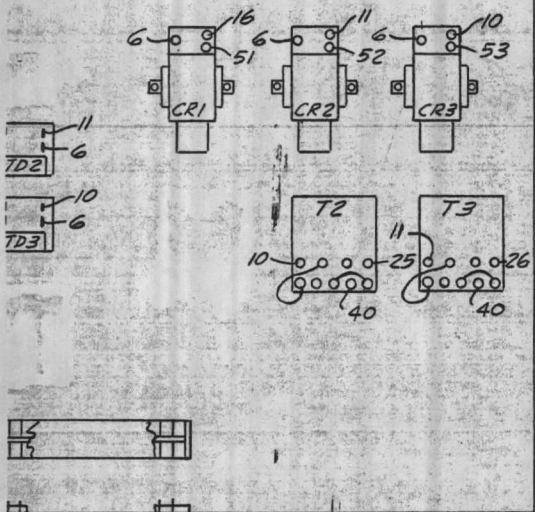
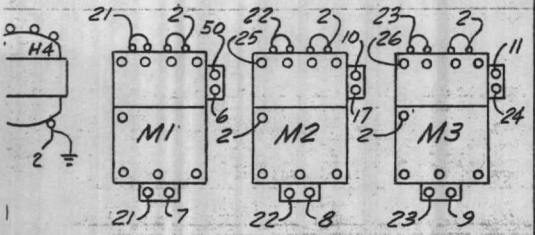
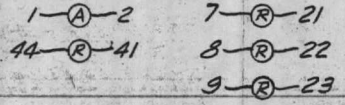
TRANSFORMER CONNECTIONS:
460V - JUMPER H3 TO H2.
230V - JUMPER H1 TO H3, H2 TO H4

WIRING TO POWER SUPPLY PER LOCAL CODE



EXTERNALLY MTD FUSED DISCONNECTS OR CIRC. BREAKERS FURNISHED BY MFR WHEN SPECIFIED OTHERWISE THEY MUST BE FURNISHED BY INSTALLER

LIGHTS & SWITCHES IN PANEL DOOR.



1,2,3 SEQUENCE

- #1 PUMP RUNS CONTINUOUSLY
- #2 PUMP RUN BY CR1 OR #1 FAILURE
- #3 PUMP RUN BY CR2, OR CR1 ON #2 FAILURE, OR #1 & #2 FAILURE

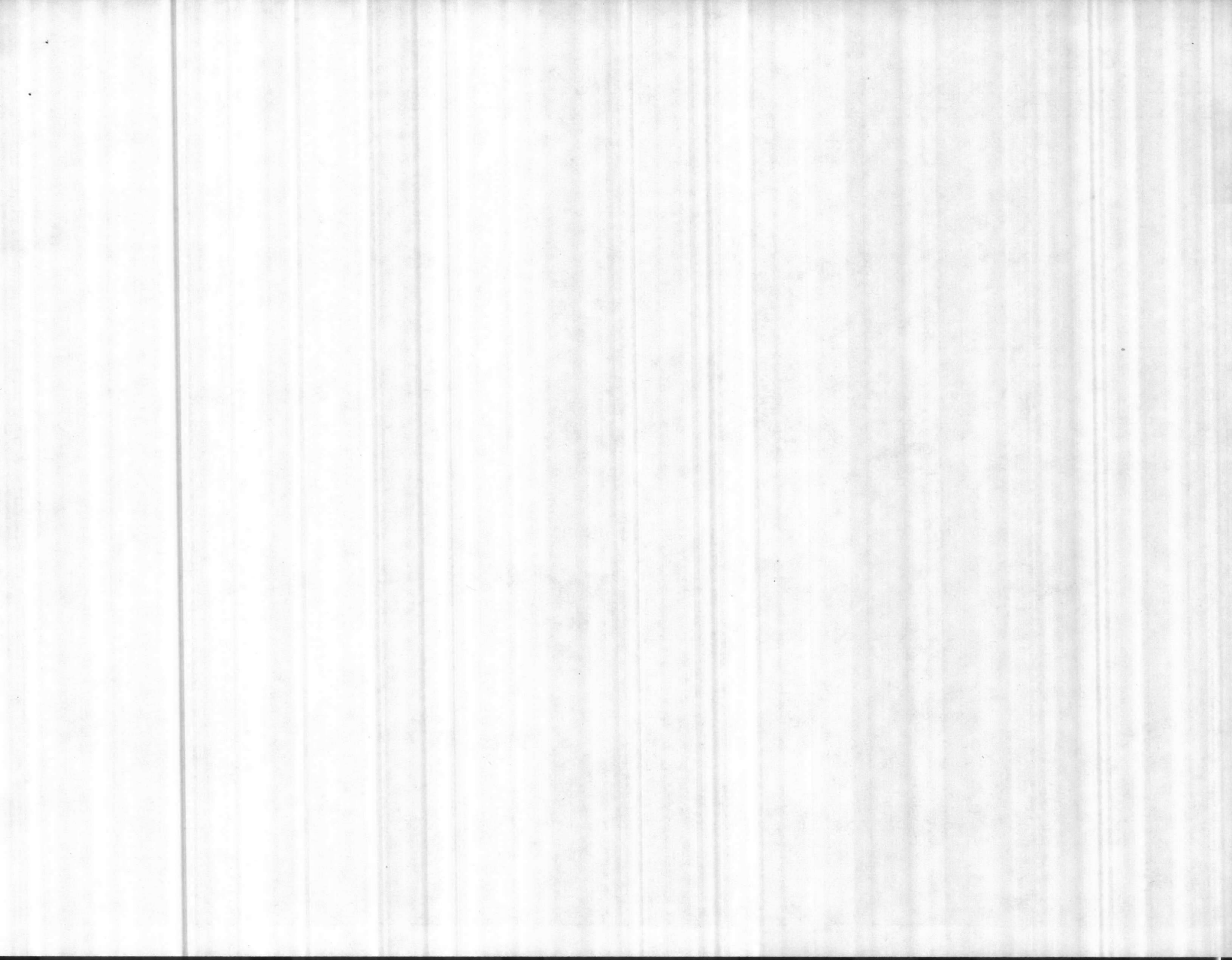
1,3,2 SEQUENCE

- #1 PUMP RUNS CONTINUOUSLY
- #3 PUMP RUN BY CR1 OR #1 FAILURE
- #2 PUMP RUN BY CR3, OR CR1 ON #3 FAILURE, OR #1 & #3 FAILURE

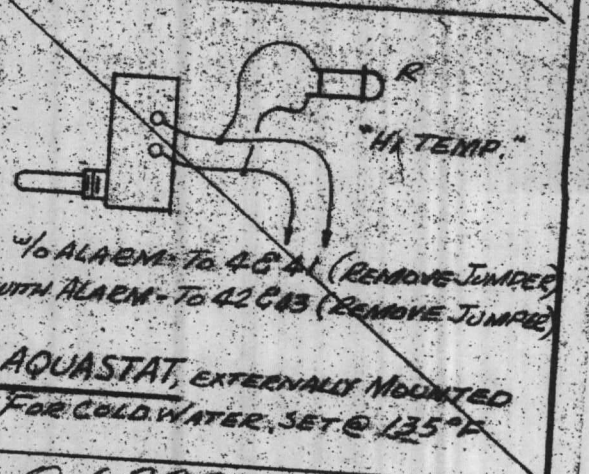
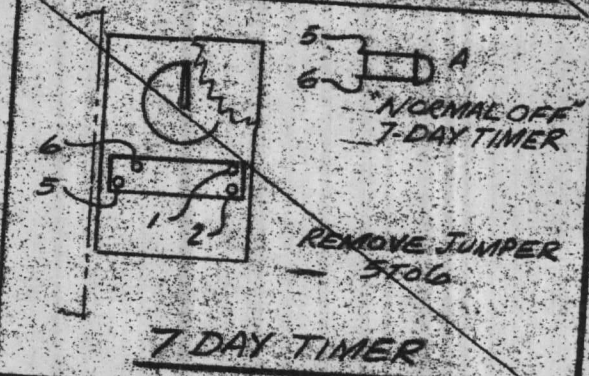
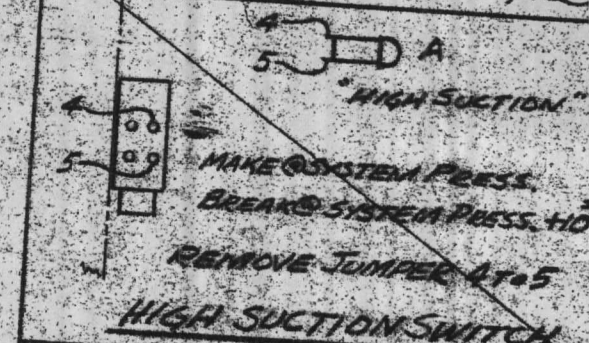
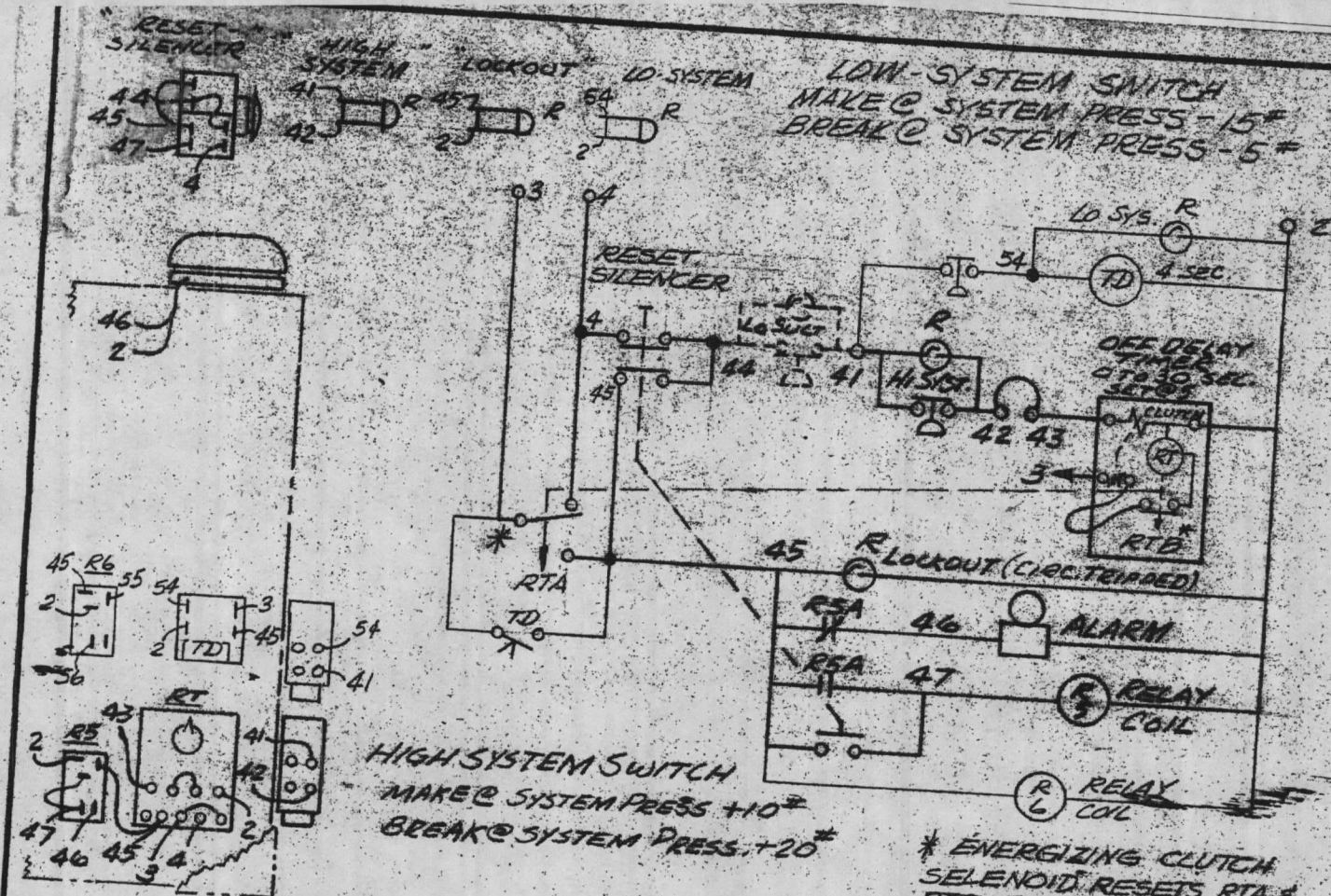
NOTE: #2 & #3 PUMP MINIMUM RUN TIMERS (T2, T3) FACTORY SET @ 15 MINUTES, FIELD ADJUSTABLE 5 TO 25 MIN.

WIRE NO. USED - 53
 WIRE NO. USED - 12, 13, 14, 15, 19, 20, 27 THRU 39, 49
 WIRE NO. 2 THRU 48 USED WITH ALARM
 USUAL OPENING - 1 LARGE FOR 7 1/2 HP OR LESS
 1 SMALL FOR 10 HP OR MORE
 R12U OIL.
 CR2 @ AMP (GPM), CR3 @ AMP (GPM)
 BREAK @ PSI
 FIELD INSTALLED CONTROL IF DESIRED.
 DWG. NO. 15PB35

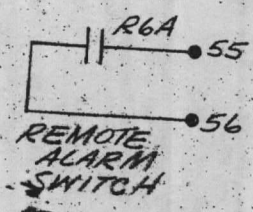
REVISION	DATE	BY	APP.	REVISION	DATE	BY	APP.	NAME	DWG. NO.
								CONTROL PANEL ASSEMBLY	25PB65
								MAT'L	SALES NO.
									132M
								DWN. H.W	CKD.
								DATE	10-5-78
								TOLERANCES UNLESS OTHERWISE SPECIFIED	
								DEC. ±	FRAC. ±
								SCALE	47
								BELL & GOSSETT MORTON GROVE, ILLINOIS, U.S.A. FLUID HANDLING DIVISION, INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION	



DRG. No. Q63932-ALL

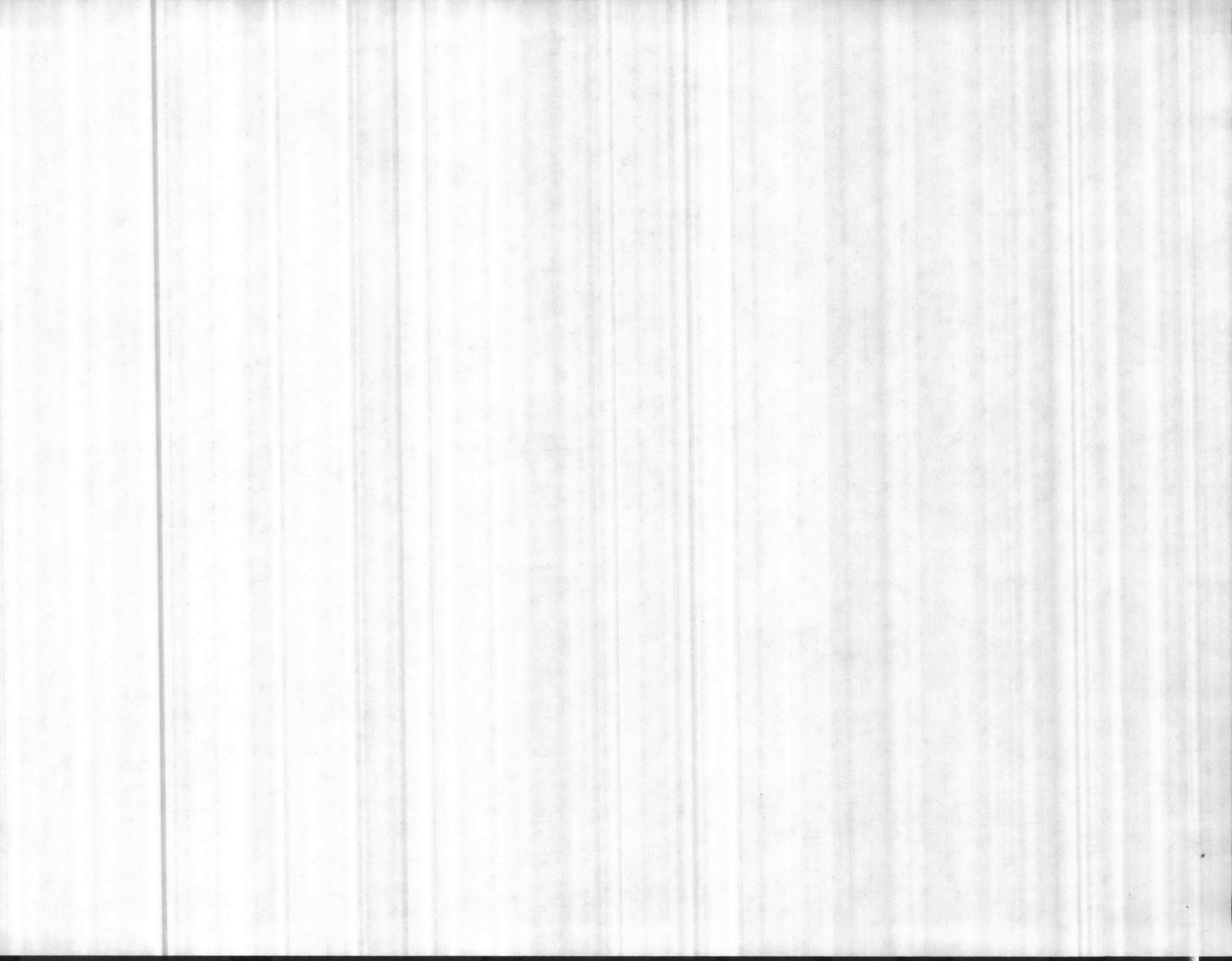


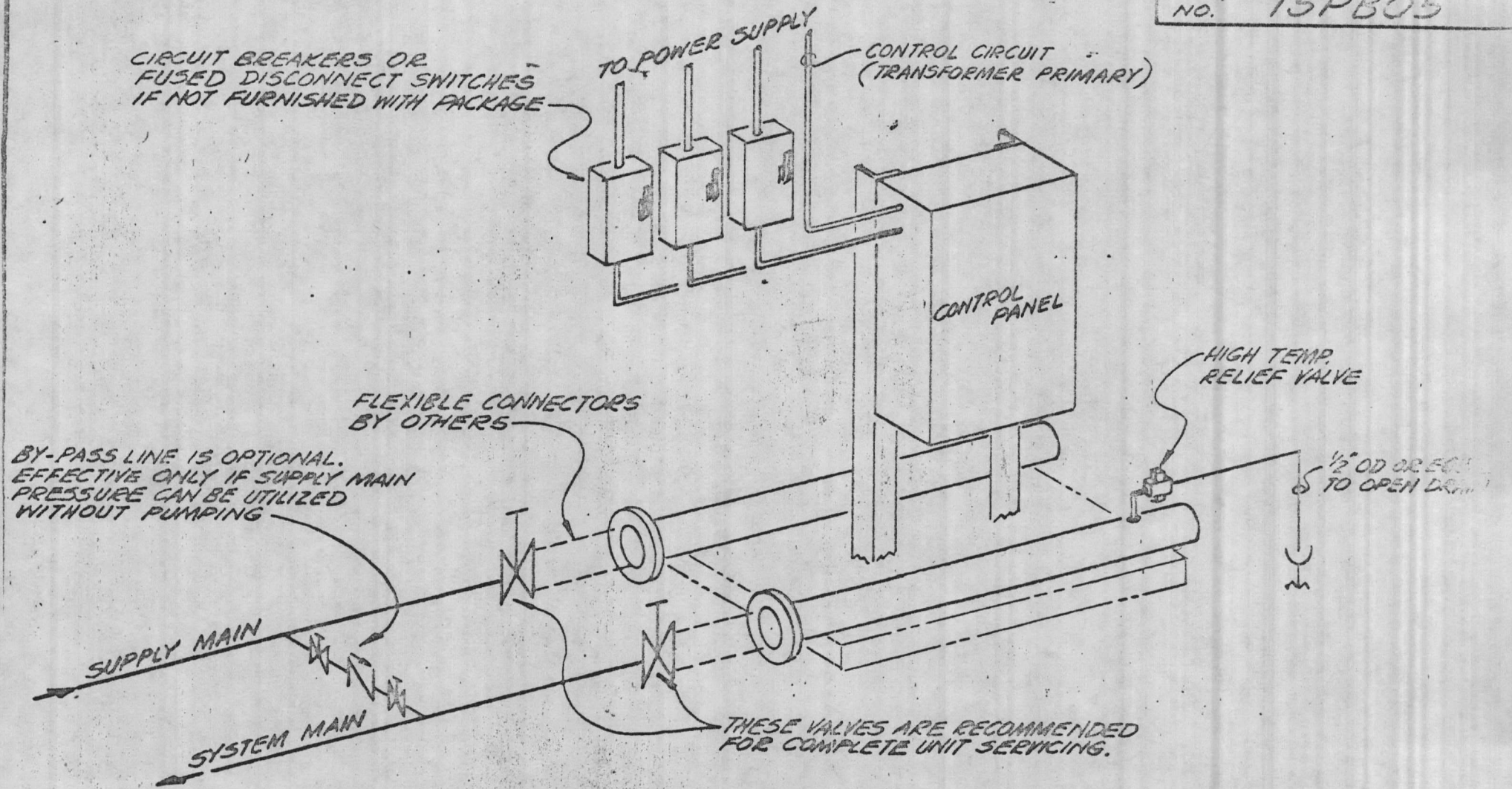
REMOVE JUMPER 41 TO 44 & 3 TO 44



4				NAME	CONTROL OPTIONS		PART NO.	Q63932-ALL
3				MAT'L				
2				DWN.	SB	CKD.	DATE	8-14-79
1				TOLERANCES UNLESS OTHERWISE SPECIFIED				
	REVISION	DATE	BY	APP.	DEC. +	FRAC. +	SCALE	
	K & E CO. 10-8153					1/16	1/32	

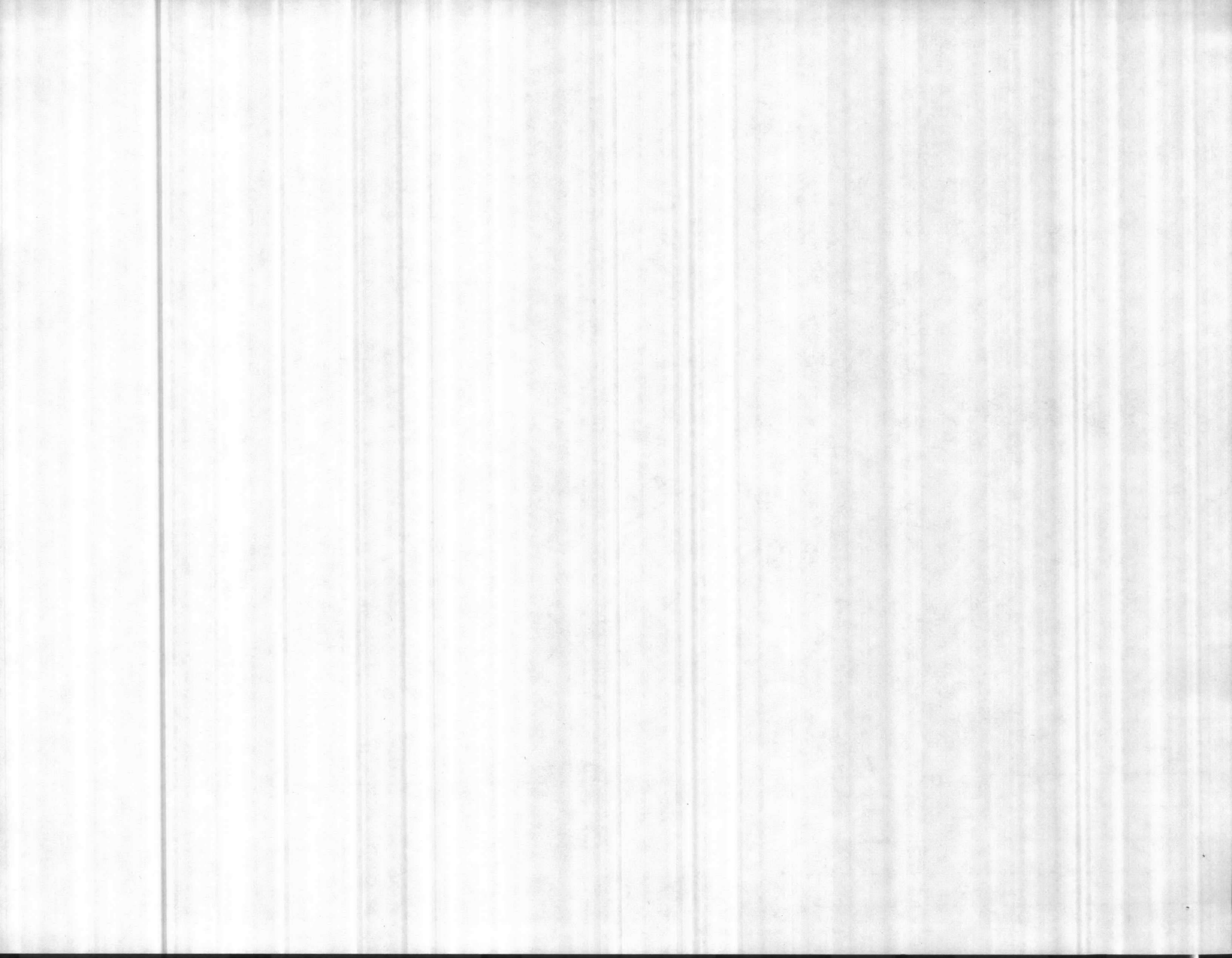
BELL & GOSSETT
MORTON GROVE, ILLINOIS, U.S.A.
FLUID HANDLING DIVISION, INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION





RECOMMENDED PIPING
 CONSULT LOCAL CODES FOR PIPING
 & WIRING INSTALLATION REQUIREMENTS.

4				NAME	FIELD CONNECTIONS 70M SERIES		PART NO.
3				MAT'L			
2				DWN.	CAN	CKD.	DATE 3-7-73
1	REVISED & REDEAWN	5/19/76	CAN	TOLERANCES UNLESS OTHERWISE SPECIFIED			BELL & GOSSETT MORTON GROVE, ILLINOIS, U.S.A. FLUID HANDLING DIVISION, INTERNATIONAL TELEPHONE AND TELEGRAPH COMPANY
	REVISION	DATE	BY	APP.	DEC. †	FRAC. †	



15401 1748-

DRAWING AND SPECIFICATION TRANSMITTAL
 LOCKWOOD GREENE ENGINEERS, INC.

SPARTANBURG, SOUTH CAROLINA 29304
 P.O. BOX 491 (803)582-2351

TO Naval Facilities Engineering
 Command
 Atlantic Division
 Norfolk, Va. 23511

DATE Jan. 16, 1980
 JOB NO. 77239.16
 JOB NAME Naval Regional Medical
 Center

TRANSMITTAL NO. 118
 SHEET 1 OF 1
 ORDER NO.

ATTN: Mr. John Grubbs Code 05

WE ARE SENDING YOU THE FOLLOWING DATA XX HEREWITH _____ UNDER SEPARATE COVER

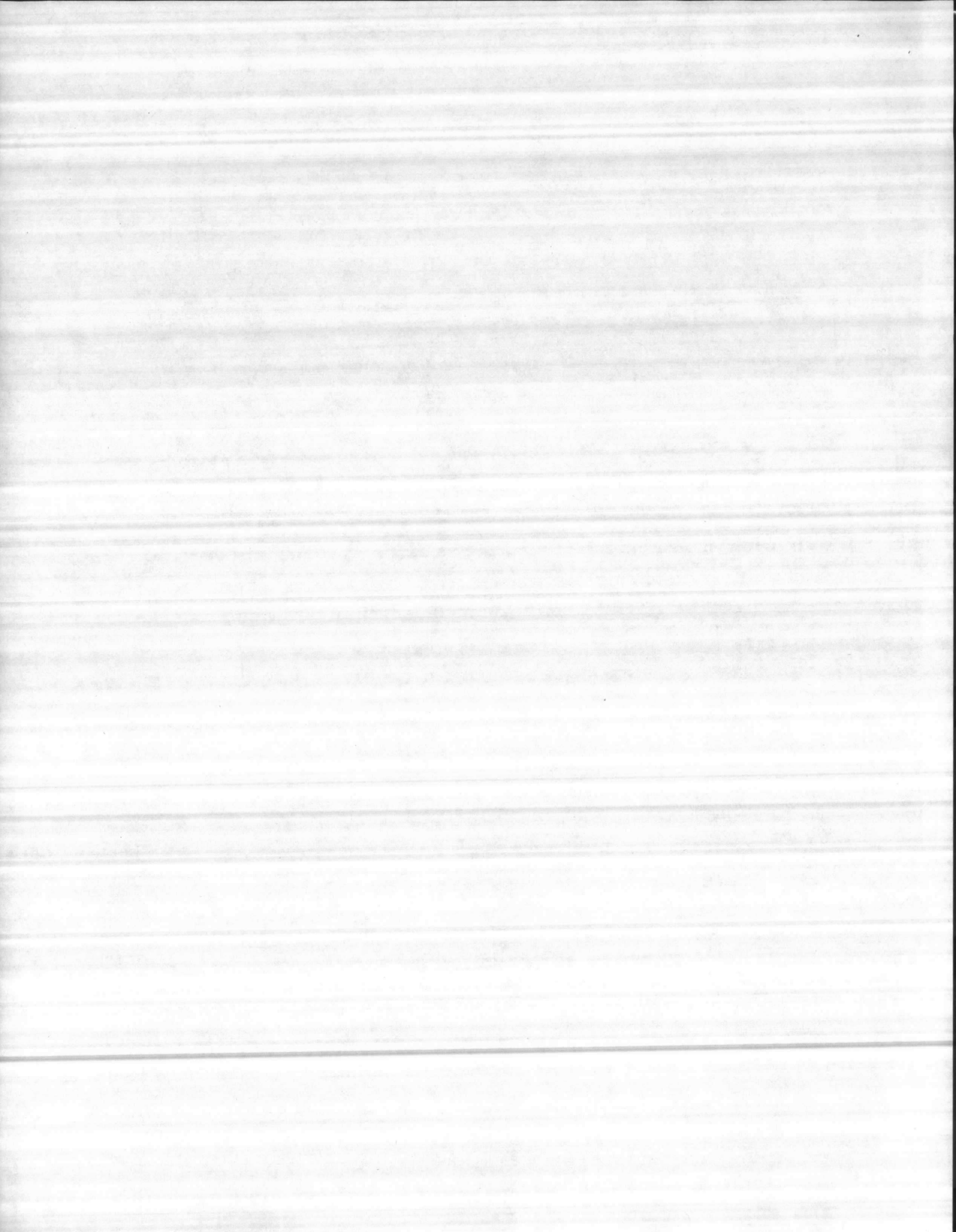
QUAN.	DOCUMENT NO.	REV. NO.	DESCRIPTION	VENDOR	CODE
1			PW Booster Pumps P-107, P-108, P-109	James M. Pleasant	A

LOCKWOOD GREENE DOCUMENTS				VENDOR DOCUMENTS			
A - INFORMATION	E - BID			K - NO CORRECTIONS NOTED			
B - REVIEW	F - CONSTRUCTION			L - MAKE CORRECTIONS NOTED			
C - APPROVAL	G - PURCHASING			M - REVISE AND RESUBMIT			
D - REVISED DWG. (SEE REVISION)	H -			N - REJECTED (SEE REMARKS)			

COPIES TO				COPIES TO			
	QUAN	TRANS ONLY	CODE		QUAN	TRANS ONLY	CODE
ROICC Cardinal Contracting	2						
	7						

REMARKS

PLEASE ACKNOWLEDGE RECEIPT BY IMMEDIATE RETURN OF SIGNED COPY OF THIS TRANSMITTAL
 RECEIVED BY _____ DATE _____ TRANSMITTED BY Richard McKnight



CONTRACTOR'S SUBMITTAL TRANSMITTAL
 5ND LANTDIV 4-4355/3 (Rev. 6/78)

SECTION 15401

FROM CONTRACTOR

CARDINAL CONTRACTING CO., INC.

TO

LOCKWOOD-GREENE ENGRS.

CONTRACT NO.

N62470-77-C-7526

TRANSMITTAL NO.

748-1

DATE

1-9-80

PROJECT TITLE AND LOCATION

NAVAL REGIONAL MEDICAL CENTER
 CAMP LEJEUNE, NORTH CAROLINA 28542

CONTRACTOR USE ONLY

*List only one specification division per form.

List only one of the following categories on each transmittal form, and indicate which is being submitted

118

Contractor Approved

OICC Approval

Deviation/Substitution For OICC Approval

REVIEWER USE ONLY

**ACTION CODES

- A-Approved
- D-Disapproved
- NA-Approved as noted
- RA-Receipt acknowledged.
- C-Comments
- R-Resubmit

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
748-1	10-10.11	Mfg.'s additional information for PW booster 11 Pumps, P-107, P-108 & P-109	11	A	1/15/80

CONTRACTOR'S COMMENTS

PLEASE RETURN A MINIMUM OF 6 COPIES WITH OWNERS APPROVAL.

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

1/11/80

CONTRACTOR REPRESENTATIVE (Signature)

W.M.J. Haymaker

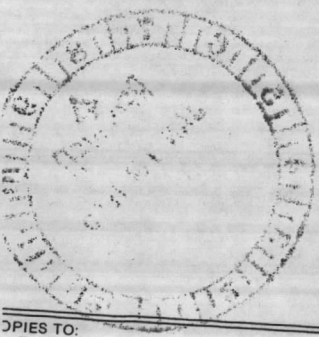
DATE RECEIVED BY REVIEWER

FROM (Reviewer)

TO

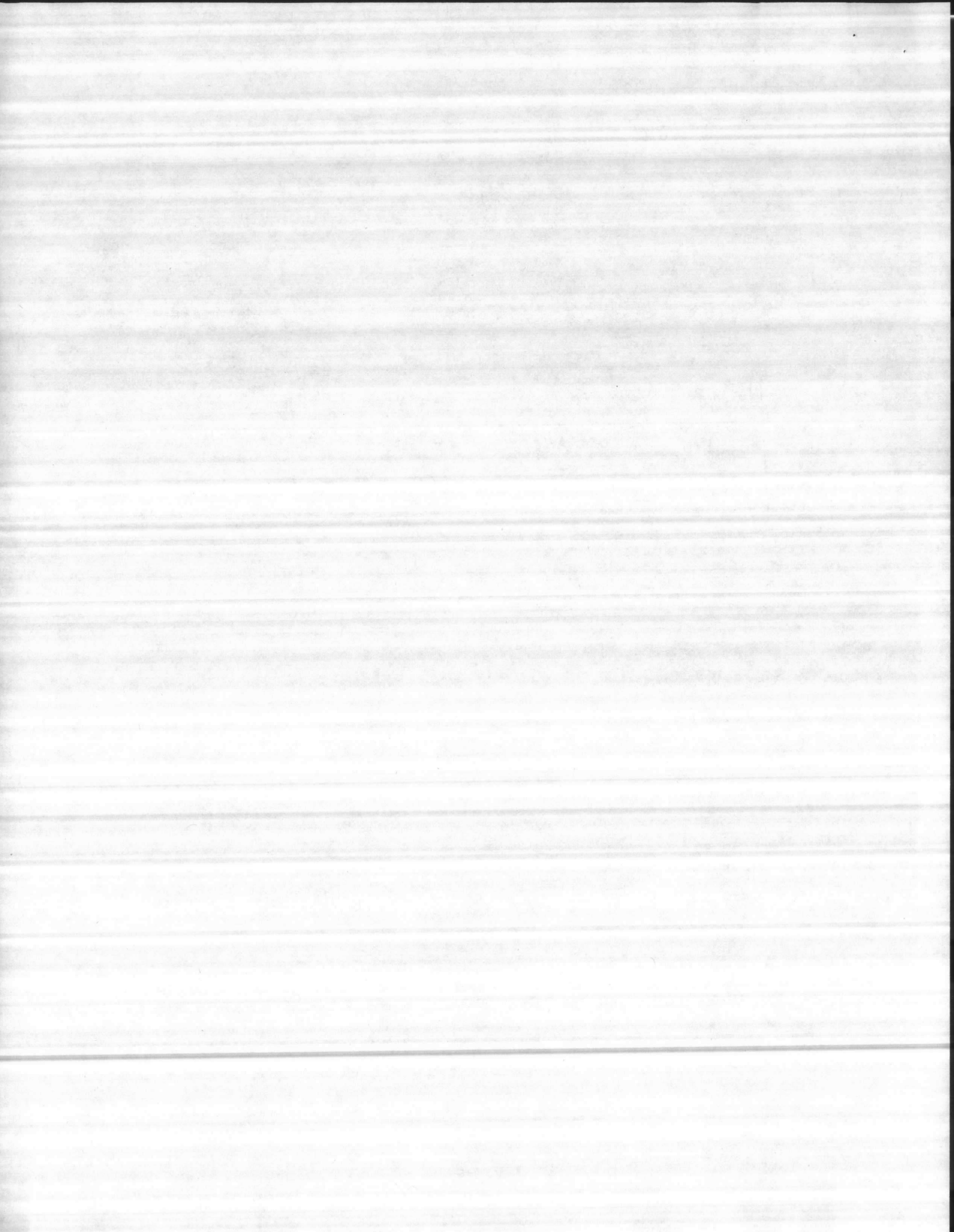
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- Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on ONE COPY of the transmittal form.

REVIEWER'S COMMENTS



file/filed
1-22-80
[Signature]

COPIES TO: ROICC (2) LANTDIV (1) A-E (1)	DATE	SIGNATURE
---	------	-----------



JAMES M. PLEASANTS COMPANY, INC.

2700 MARTINSVILLE ROAD
GREENSBORO, NORTH CAROLINA 27408

4 January, 1980

Mr. Dick Welch
Waldinger Corporation
Post Office Box 8363
Camp Lejeune, N.C. 28542

Reference: PW Booster Pumps

Dear Dick:

Your release of 31 December, 1979 for the above indicated a ship date of 1 February, 1981. Due to price increases, we will ship the unit the second quarter of this year (1980).

The Engineer questioned the motor horsepower of the lead pump on the triplex unit being only 7-1/2. The pump and motor are sized properly to meet the flow requirements. The 70M is controlled by current sensing relays to stage the three pumps. The lead pump, 7-1/2 H.P., will not overload since the current sensing relay will stage pump #2 on as the flow demand increases. A copy of Page 5, Bulletin D-306, Revision 3 is attached, explaining the full operation.

The inlet and outlet connections shall be left hand. Facing the control panel side they will be on the left.

Sincerely,

JAMES M. PLEASANTS COMPANY, INC.

Barry Briles
Barry Briles

118

BB:lv

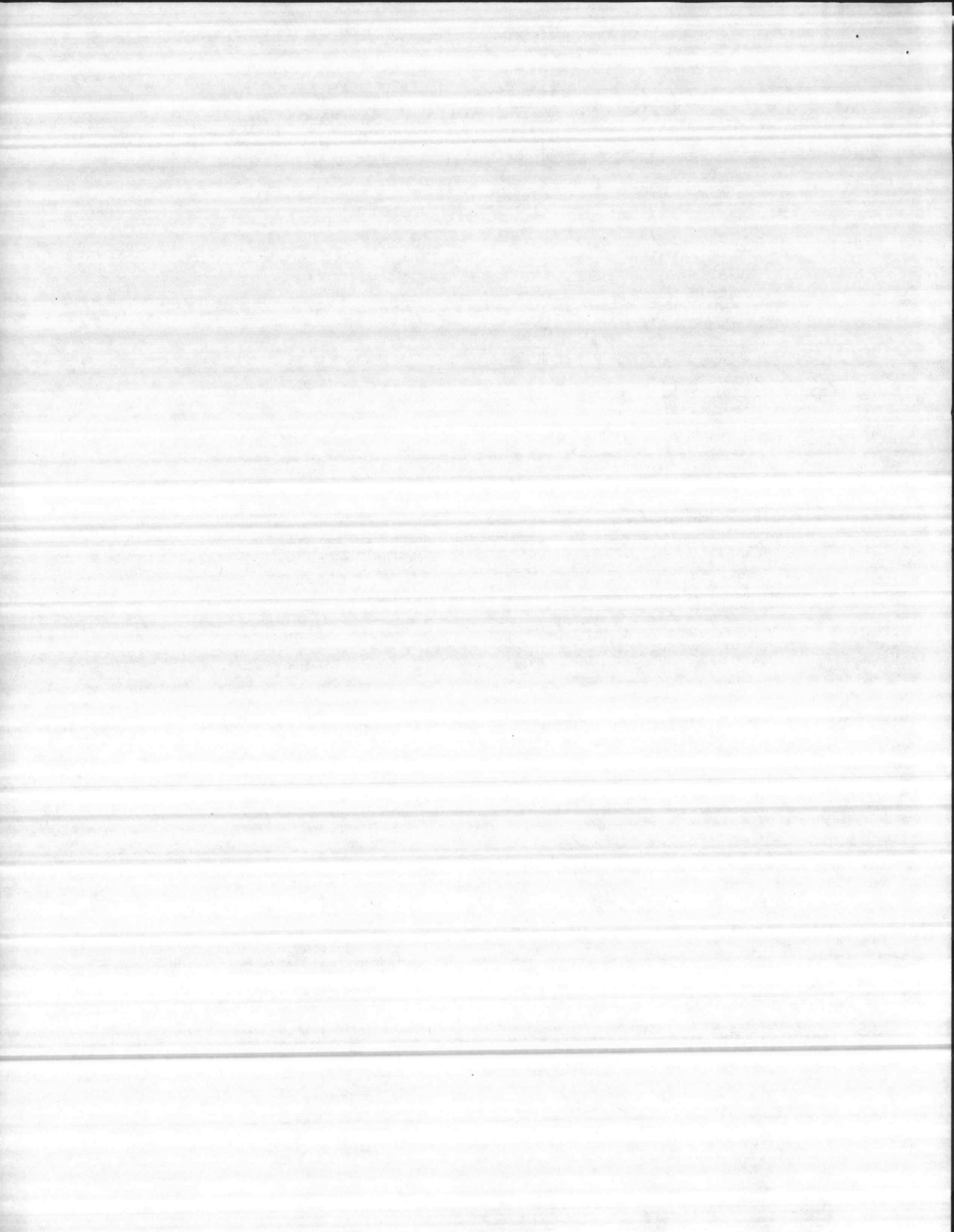
c.c. JCS-944-BB

"It is hereby certified that the material/equipment shown and marked in this submittal is that approved to be incorporated into Contract Number N62470-77-B-7526, is in compliance with the contract drawings and specifications, and can be installed in the allocated spaces, and is approved for use.

THE WALDINGER CORPORATION

Authorized Reviewer *[Signature]* Date 1-9-80

Signature CQC Rep *[Signature]* Date 1/11/80



In a typical 70M Pressure Booster system, when the Hand-Off-Automatic switches on the panel are moved from 'off' to 'automatic', Pump #1 (P₁) starts—providing all pressure switches (left side of panel) are satisfied. P₁, through its Pressure Reducing Valve (PRV), begins supplying water at a preset constant pressure to the system. As the system demand increases P₁ works harder—drawing more amperage. When this current draw reaches a preset level, a Current Sensing Relay (CR)* is triggered—energizing another Motor Starter (M), starting the next pump to share the pumping load. Minimum Run Timers (MRT) keep P₁ and/or P₂ running for a preset period of time, eliminating short cycling, thereby prolonging equipment life. Continuity of pumping is assured by starter failure interlocks with discriminating time delays.

Thermal protection for the Pressure Booster is provided by sampling the water temperature from each operating pump, bleeding as necessary to prevent over-temperature.

Suction underpressure protection is provided by a pressure switch (LSPS) automatically resetting when pressure in the main is restored to a safe value.

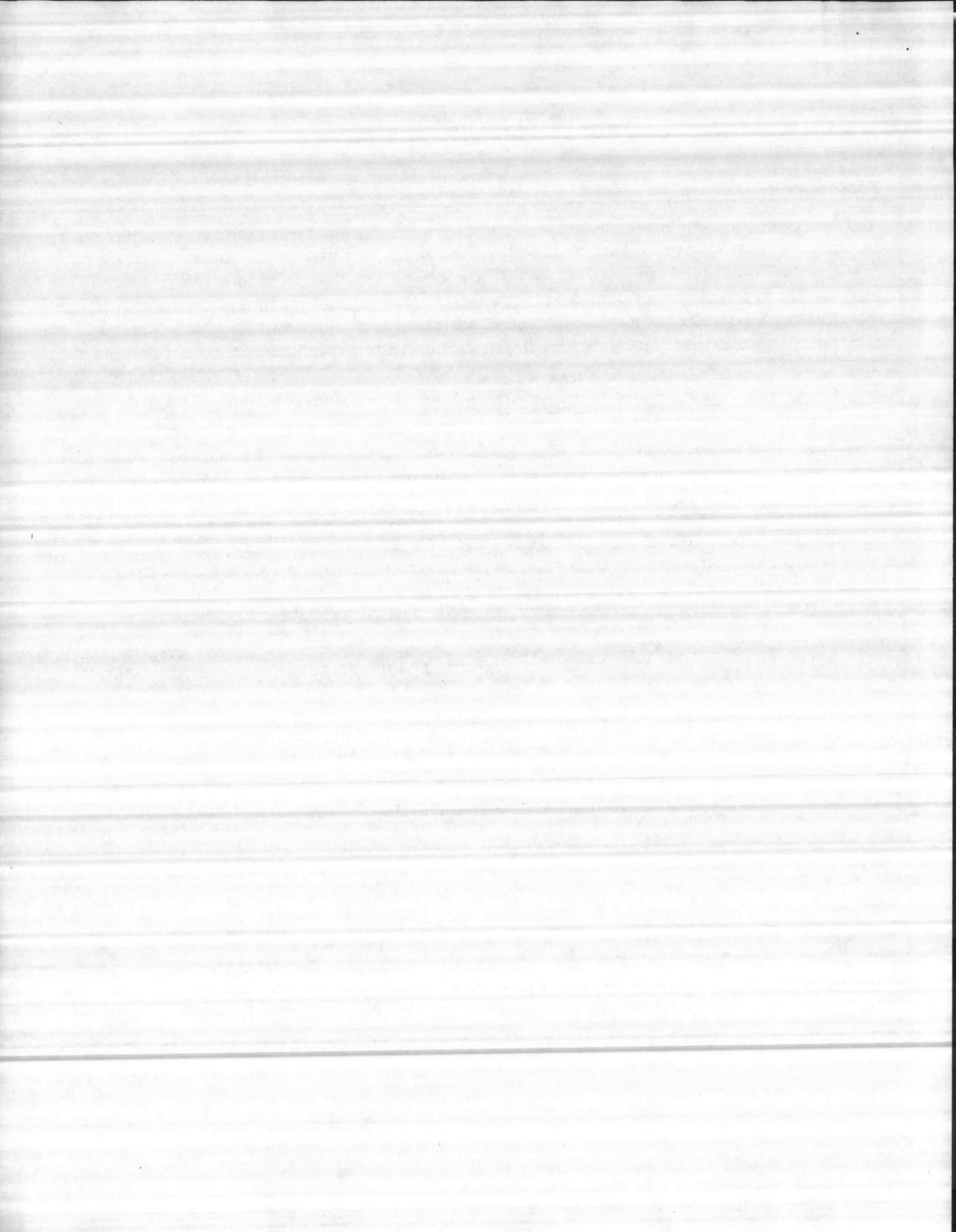
Electrical protection is provided by 'Current Relays'* and overload trip relays (heaters) in each phase to each motor.

Panel lights indicate system and booster conditions at all times.

Refer to page 7 for options available, augmenting the standard equipment described.

***CURRENT RELAYS .**

The Current Relays are reliable—calibrated staging devices with a very high degree of repeatability, enabling full utilization of connected motor horsepower with resulting power conservation. These units, by detecting and reacting to current changes, prevent motors from overloading by staging in additional pumps to share the pumping load. Motor overloading may also occur with a change in supply voltage, intended or unintended. The Current Relays react unerringly to this condition. Further power savings are achieved by accurately staging out superfluous pumping horsepower as system demand decreases.



DRAWING AND SPECIFICATION TRANSMITTAL
LOCKWOOD GREENE ENGINEERS, INC.

SPARTANBURG, SOUTH CAROLINA 29304
 P.O. BOX 491 (803)582-2351

747A
 file 7/29/80
 1526
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TO Naval Facilities Engineering
 Command Bldg. N-26
 Atlantic Division
 Norfolk, Va. 23511

DATE 7/7/80
 JOB NO. 77239.16
 JOB NAME Naval Regional Medical Center

TRANSMITTAL NO. 1526
 SHEET OF
 ORDER NO.
 Contract No:
 N-62470-77-C-7526

ATTN: Mr. John Grubbs Code 05

WE ARE SENDING YOU THE FOLLOWING DATA _____ HEREWITH _____ UNDER SEPARATE COVER

QUAN.	DOCUMENT NO.	REV. NO.	DESCRIPTION	VENDOR	CODE
1	Set		Back Flow Preventor	Neptune	AN

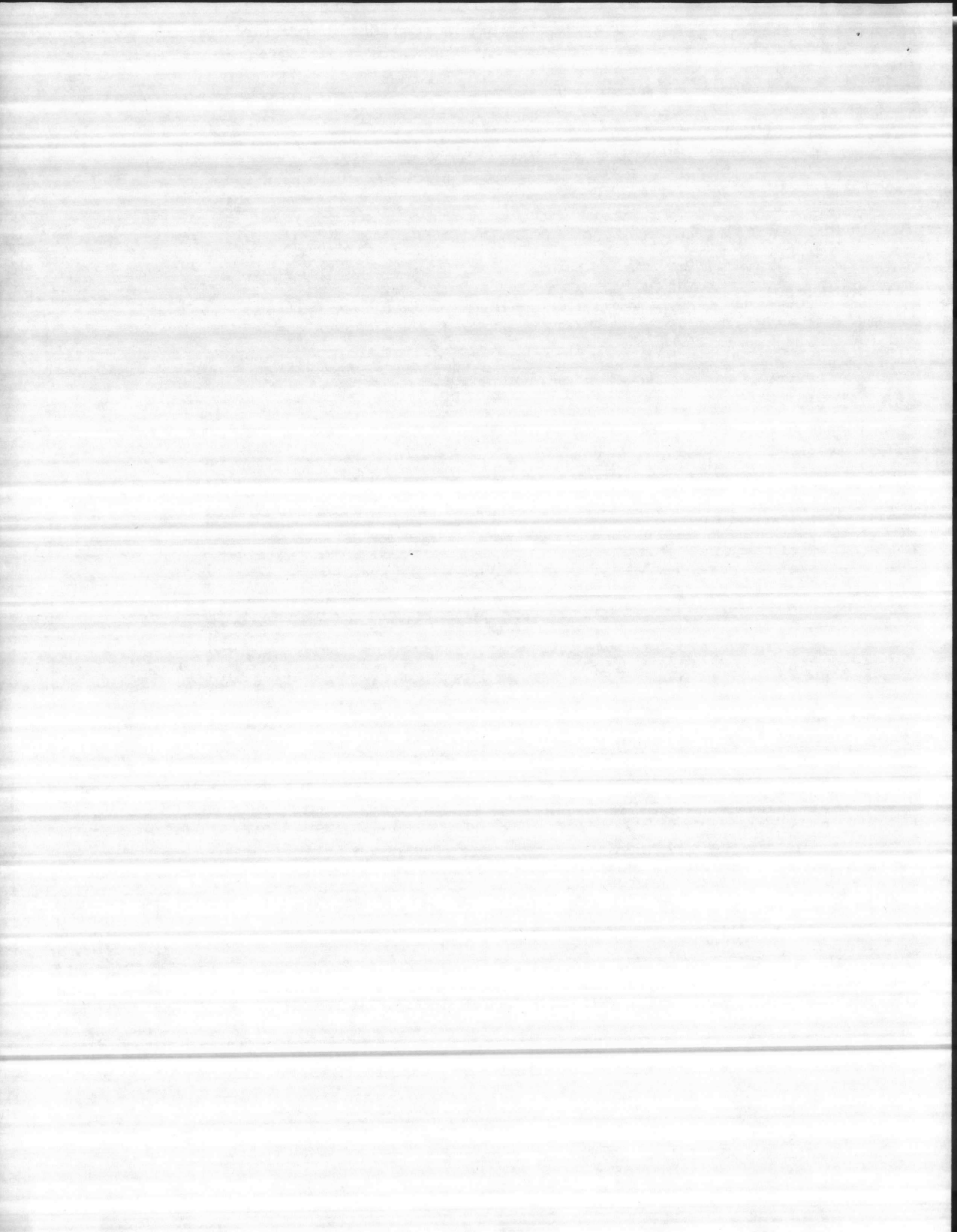
LOCKWOOD GREENE DOCUMENTS		VENDOR DOCUMENTS	
A - INFORMATION	E - BID	K - NO CORRECTIONS NOTED	
B - REVIEW	F - CONSTRUCTION	L - MAKE CORRECTIONS NOTED	
C - APPROVAL	G - PURCHASING	M - REVISE AND RESUBMIT	
D - REVISED DWG. (SEE REVISION)	H -	N - REJECTED (SEE REMARKS)	

COPIES TO		QUAN	TRANS ONLY	CODE	COPIES TO		QUAN	TRANS ONLY	CODE
ROICC		2							
Cardinal Contracting Co.		7							



REMARKS

PLEASE ACKNOWLEDGE RECEIPT BY IMMEDIATE RETURN OF SIGNED COPY OF THIS TRANSMITTAL
 RECEIVED BY _____ DATE _____ TRANSMITTED BY Richard McKnight



CONTRACTOR'S SUBMITTAL TRANSMITTAL
5ND LANTDIV 4-4355/3 (Rev. 6/76)

2

SECTION 15401

CONTRACT NO. N62470-77-C-7526	TRANSMITTAL NO. 747-A	DATE 6/24/80
PROJECT TITLE AND LOCATION NAVAL REGIONAL MEDICAL CENTER CAMP LEJEUNE, NORTH CAROLINA 28542		

FROM CONTRACTOR
CARDINAL CONTRACTING CO., INC.
TO
LOCKWOOD-GREENE ENGRS.

CONTRACTOR USE ONLY

REVIEWER USE ONLY

*List only one specification division per form.

- **ACTION CODES**
A-Approved
D-Disapproved
AN-Approved as noted
RA-Receipt acknowledged.
C-Comments
R-Resubmit

List only one of the following categories on each transmittal form, and indicate which is being submitted

- Contractor Approved
 OICC Approval
 Deviation/Substitution For OICC Approval

ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
747-A		Back Flow Preventor	11	AN	<i>[Signature]</i> 7/7/80

1526

CONTRACTOR'S COMMENTS

PLEASE RETURN A MINIMUM OF 6 COPIES WITH OWNERS APPROVAL.

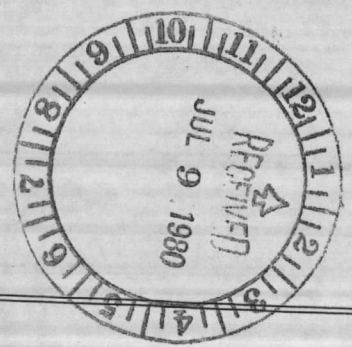
COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC

DATE RECEIVED BY REVIEWER: 6-28-80 FROM (Reviewer) TO

CONTRACTOR REPRESENTATIVE (Signature): *Wm. J. Haymaker*

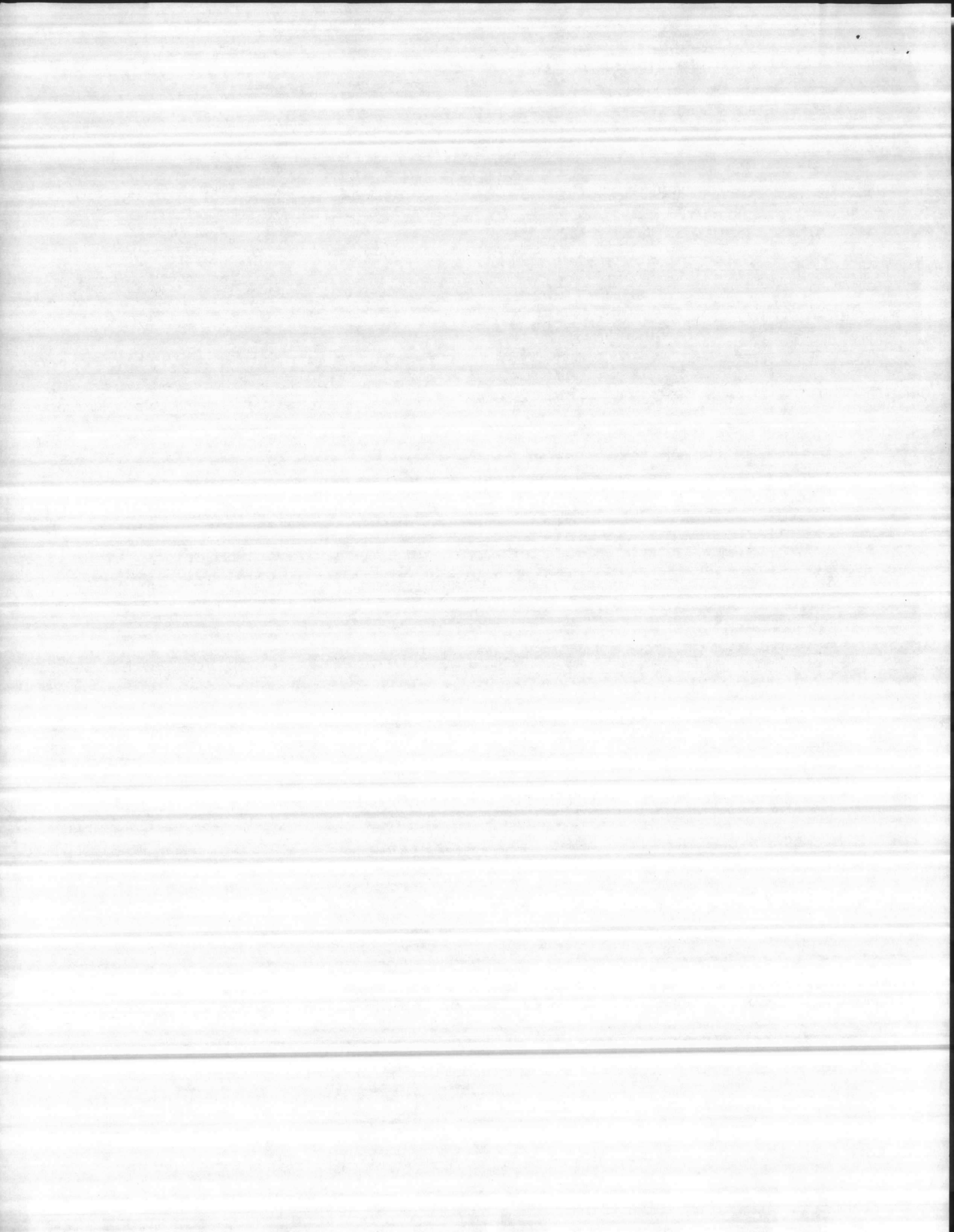
- Submittals are returned with action indicated. Approval of an item does not include approval of any deviation from the contract requirements unless the contractor calls attention to and supports the deviation.
- Submittals are forwarded to LANTDIV with A-E recommendations indicated in REVIEWER USE ONLY Section and in comments below on ONE COPY of the transmittal form.

REVIEWER'S COMMENTS



COPIES TO: ROICC (2), LANTDIV (1), A-E (1)

DATE: _____ SIGNATURE: _____



CONTRACTOR'S SUBMITTAL TRANSMITTAL
5ND LANTDIV 4-4355/3 (Rev. 6/76)

SECTION 15401

FROM CONTRACTOR

CARDINAL CONTRACTING CO., INC.

TO

LOCKWOOD-GREENE ENGRS.

CONTRACT NO. N62470-77-C-7526	TRANSMITTAL NO. 747-A	DATE 6/24/80
PROJECT TITLE AND LOCATION NAVAL REGIONAL MEDICAL CENTER CAMP LEJEUNE, NORTH CAROLINA 28542		

CONTRACTOR USE ONLY

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List only one of the following categories on each transmittal form, and indicate which is being submitted

Contractor Approved

OICC Approval

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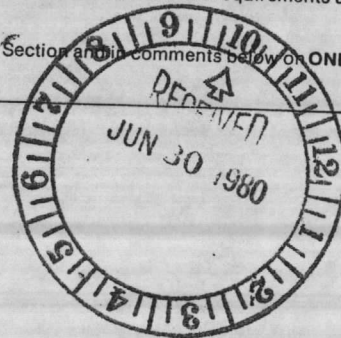
ITEM NO.	PROJ. SPEC. SECT. & PARA. and/or PROJ. DWG. NO. *	ITEM IDENTIFICATION (Type, size, model no., Mfg. name, dwg. or brochure number)	NO. OF COPIES	ACTION CODES **	REVIEWER'S INITIALS CODE AND DATE
747-A		Back Flow Preventor	11		
CONTRACTOR'S COMMENTS					

PLEASE RETURN A MINIMUM OF 6 COPIES WITH OWNERS APPROVAL.

COPY OF TRANSMITTAL AND SUBMITTALS TO ROICC		CONTRACTOR REPRESENTATIVE (Signature)
DATE RECEIVED BY REVIEWER	FROM (Reviewer)	TO
6-28-80		<i>WJA</i>

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REVIEWER'S COMMENTS



COPIES TO: ROICC (2) LANTDIV (1) A-E (1)	DATE	SIGNATURE

