



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

May 8, 1996

LICENSEE: Niagara Mohawk Power Corporation

FACILITY: Nine Mile Point Nuclear Station, Unit 1

SUMMARY: SUMMARY OF TELEPHONE CONVERSATION OF MAY 2, 1996, ON REACTOR AND
TURBINE BUILDING BLOWOUT PANELS

On May 2, 1996, the NRC staff discussed, via telephone, the design/licensing basis questions on the Nine Mile Point, Unit 1, Reactor and Turbine Building blowout panels that were enclosed with NRC Special Inspection Report No. 50-220/96; 50-410/96-05, dated March 29, 1996. Participants for the NRC staff were M. Hartzman, D. Jeng, W. Long, and D. Hood. Participants for the licensee included C. Terry and several others.

To support the discussions, the licensee faxed the enclosed information to the NRC staff.

During the call, the NRC staff provided further clarification of the questions. The licensee is performing further evaluations and anticipates further interim discussion with the staff prior to providing final written responses. Specifically:

1. The licensee is refining its modeling of the blowout panels to account for two-way action of the panels. This will include the panel membrane deformation effects on the upper-bound panel failure pressure capacity.
2. The licensee is examining the American Institute of Steel Construction design and test data that forms the basis for its shear-tension interaction formula and plans to use test based upper-bound bolt strengths, both shear and tension, in determining the upper-bound panel failure pressure. The licensee is also considering testing of several bolts to determine their upper-bound shear capacities.
3. The licensee is performing a more realistic panel failure capacity analysis that uses realistic models and takes into account the actual panel/bolt response to an increasing pressure load, as well as the panel/bolt deformation from its initial yield through redistribution of bolt loads till the final failure of the panel. Licensee acknowledges that use of an appropriate non-linear/large deformation finite element code might be needed to achieve the analysis objective.

The licensee acknowledged that some questions not included in the March 29, 1996, Inspection Report, but raised during the conference of April 12, 1996, will also be addressed in the written responses.

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The licensee currently anticipates that further telephone discussions with the staff regarding status of the evaluations may be appropriate in about 2 weeks.

Darl S. Hood

Darl S. Hood, Senior Project Manager
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Division of Reactor Projects -I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-220
and 50-410

Enclosure: As stated

cc w/encl: See next page



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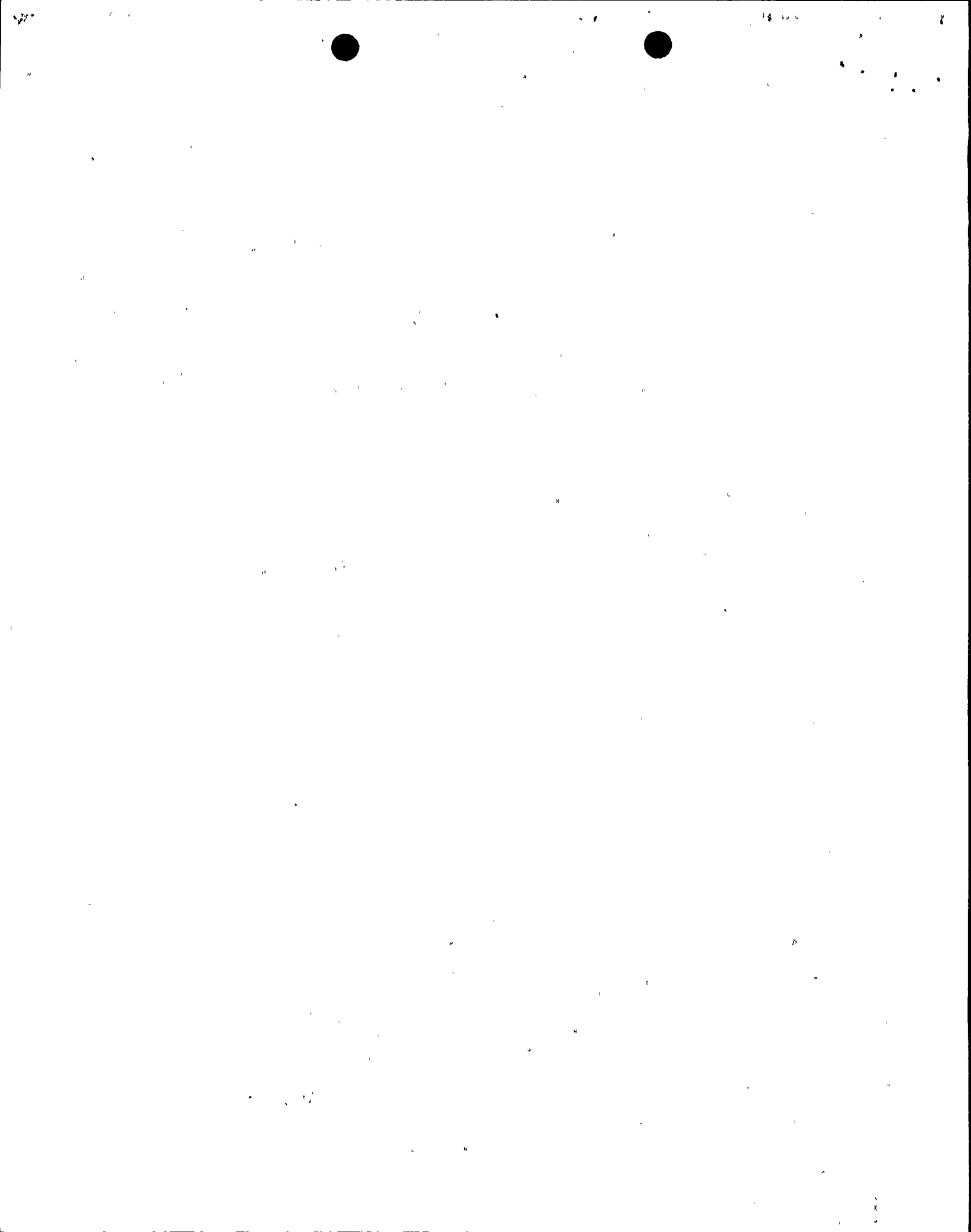
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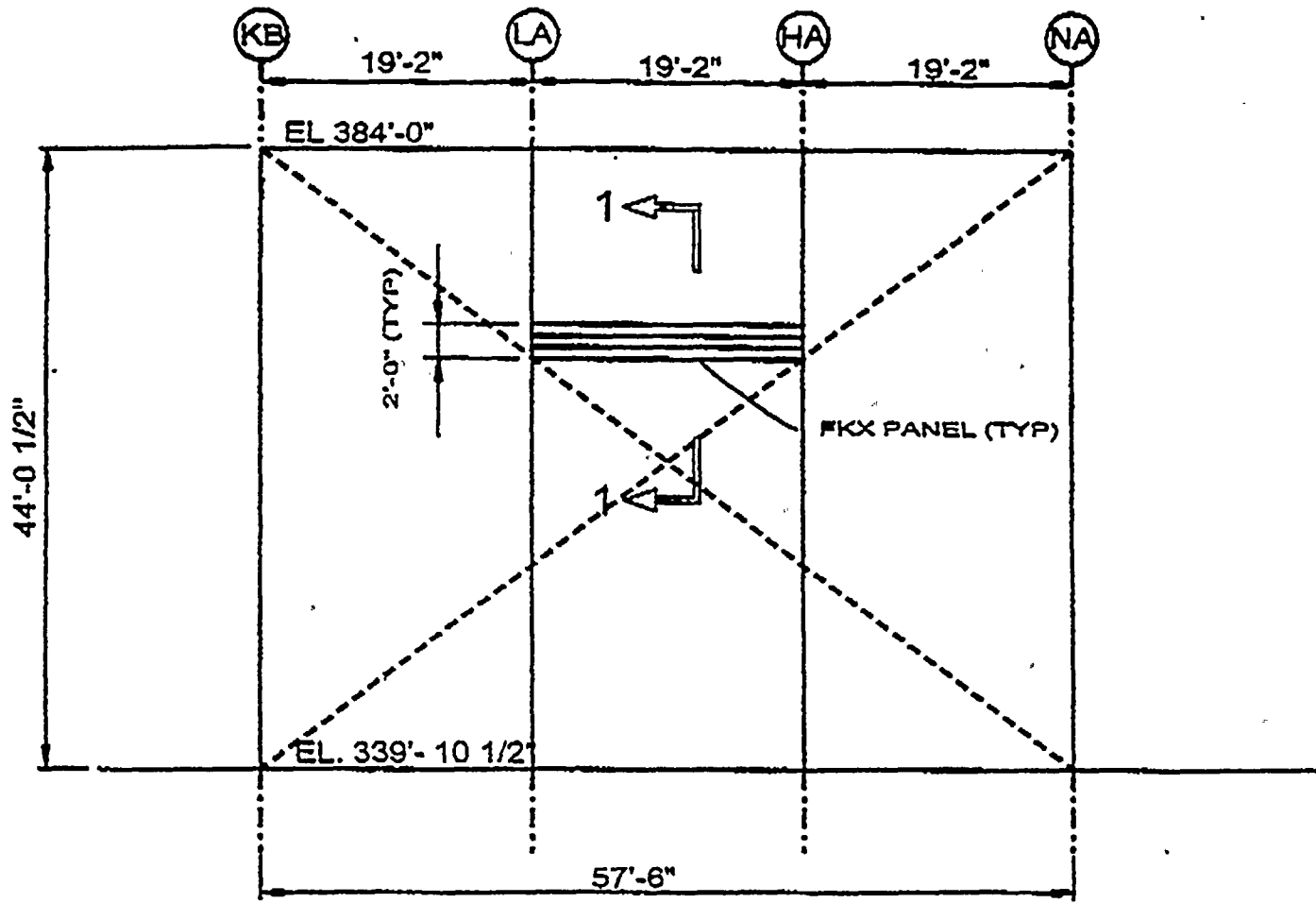
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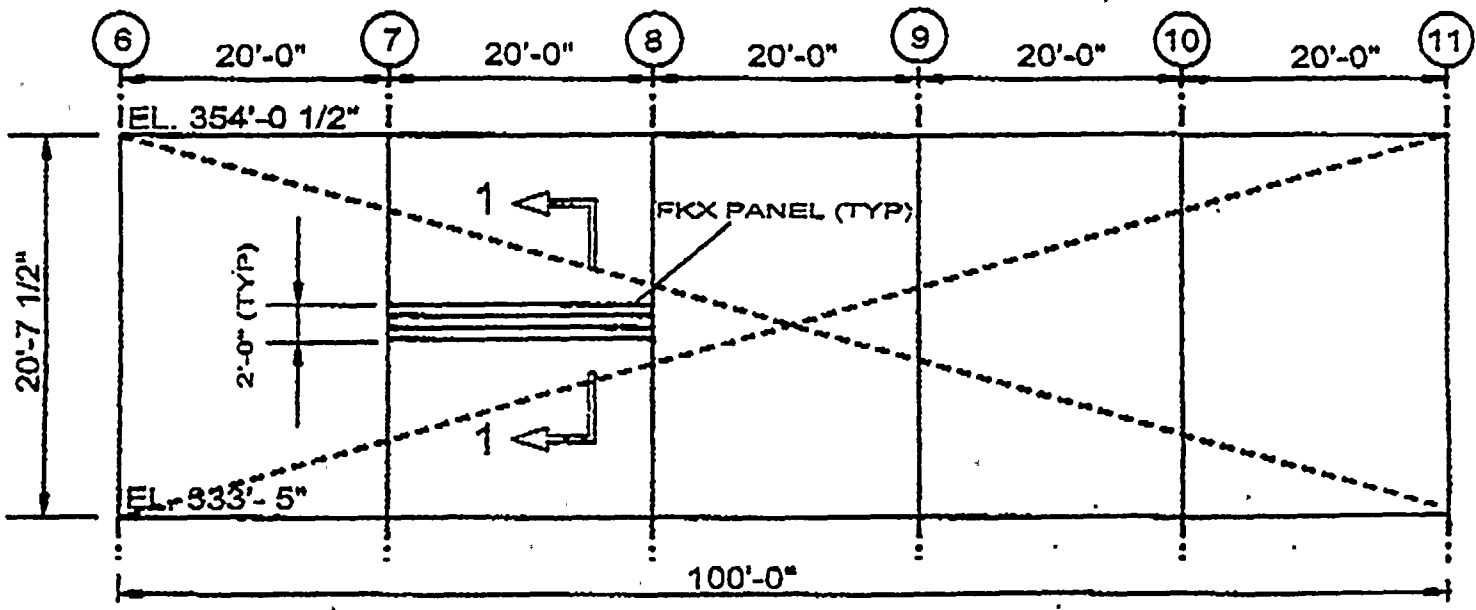
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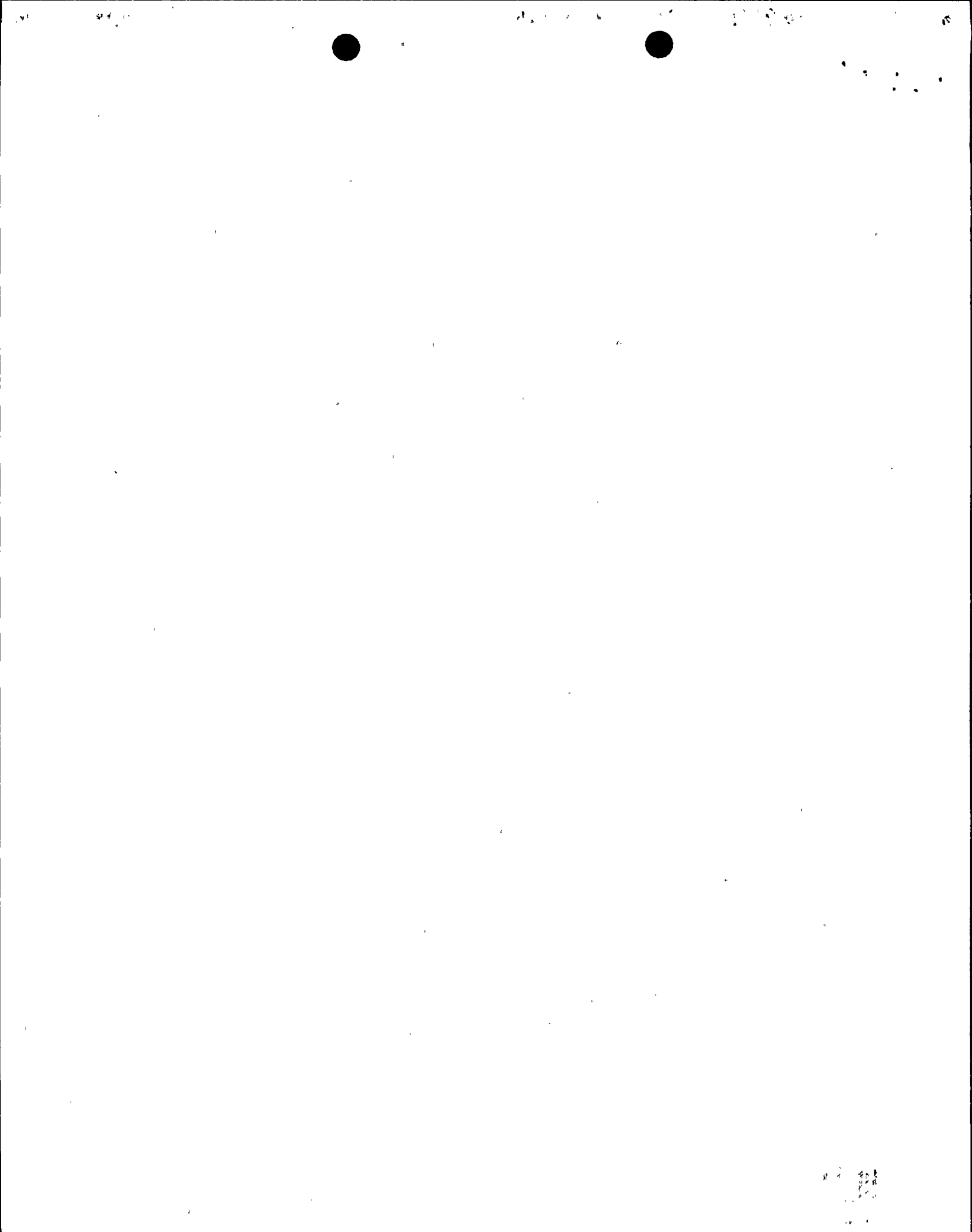


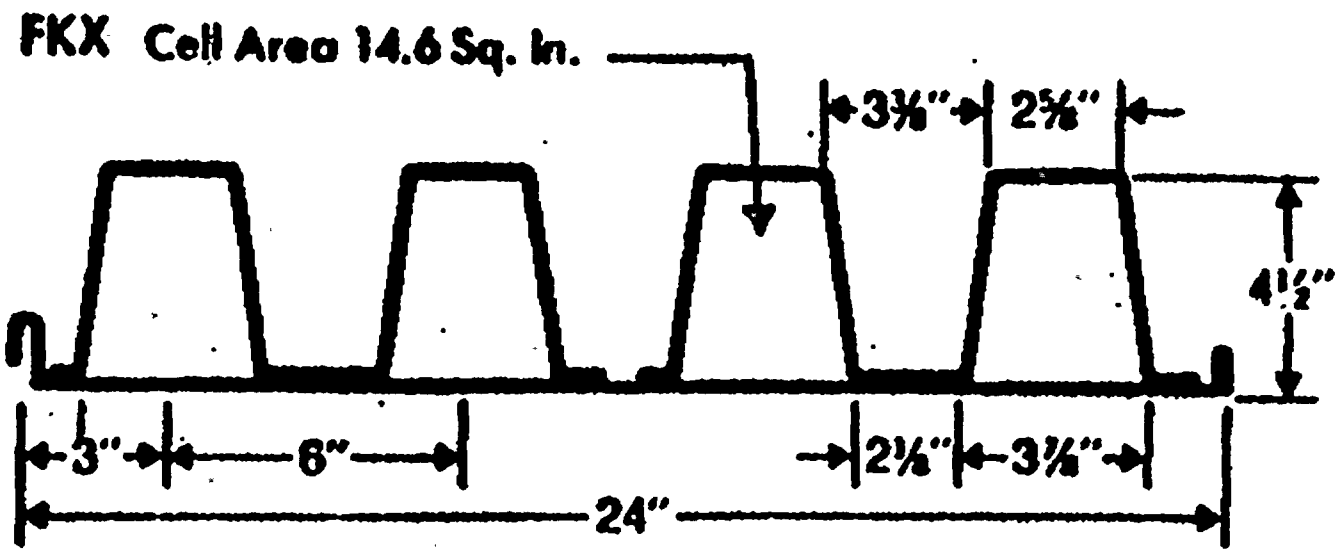
REACTOR BUILDING PRESSURE RELIEF WALL PANELS
(ELEVATION LOOKING EAST)



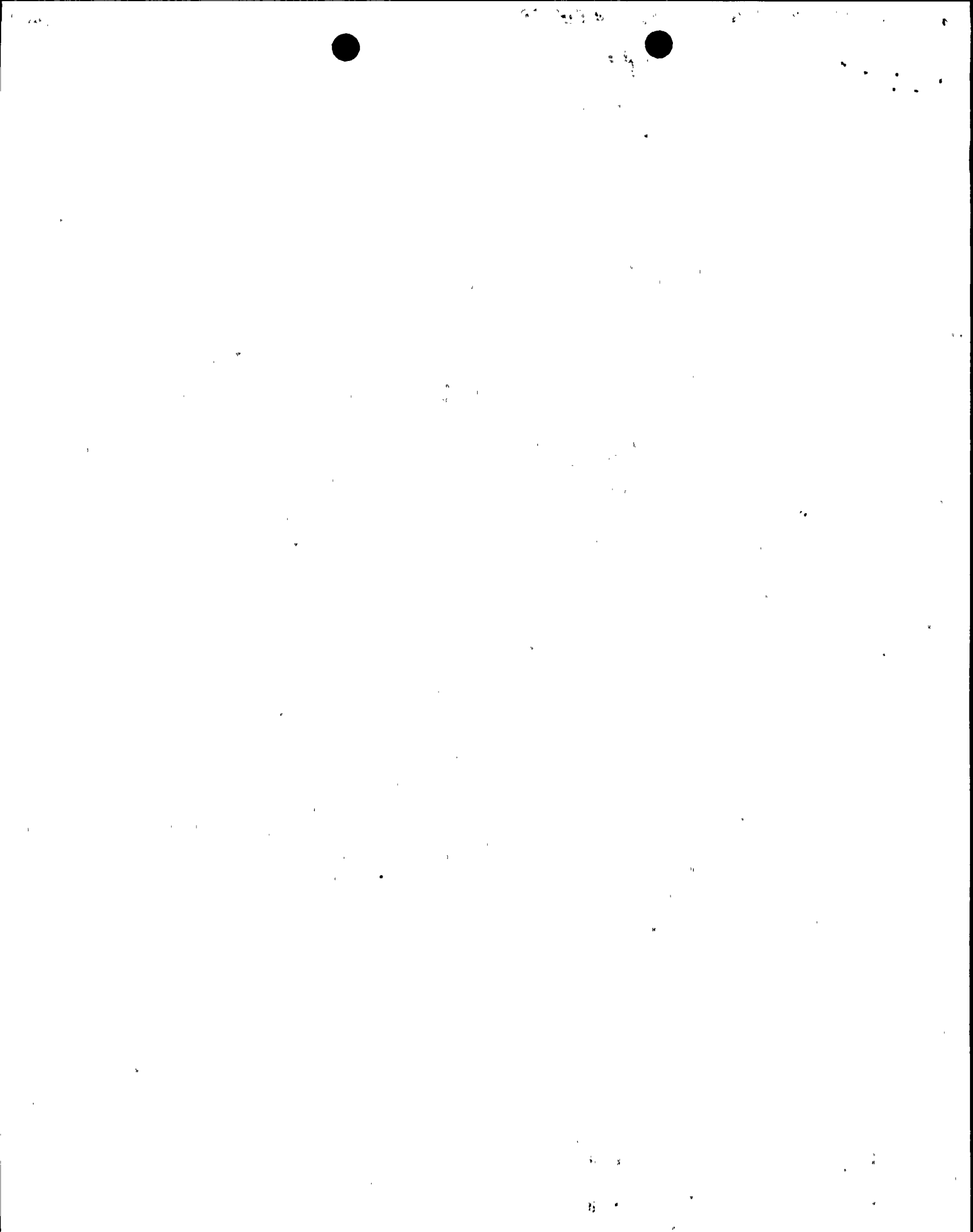
TURBINE BUILDING PRESSURE RELIEF WALL PANELS

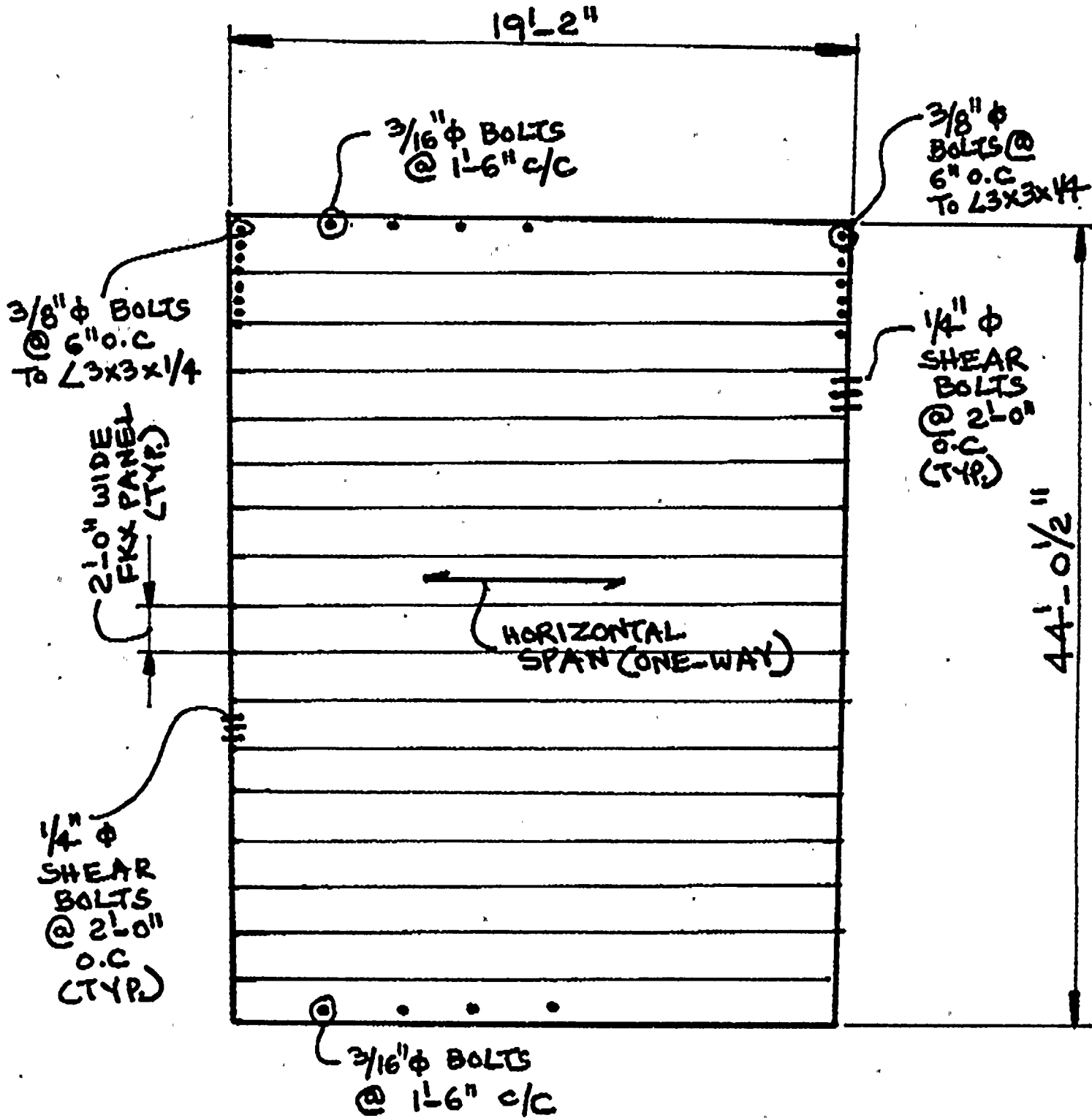
ENCLOSURE



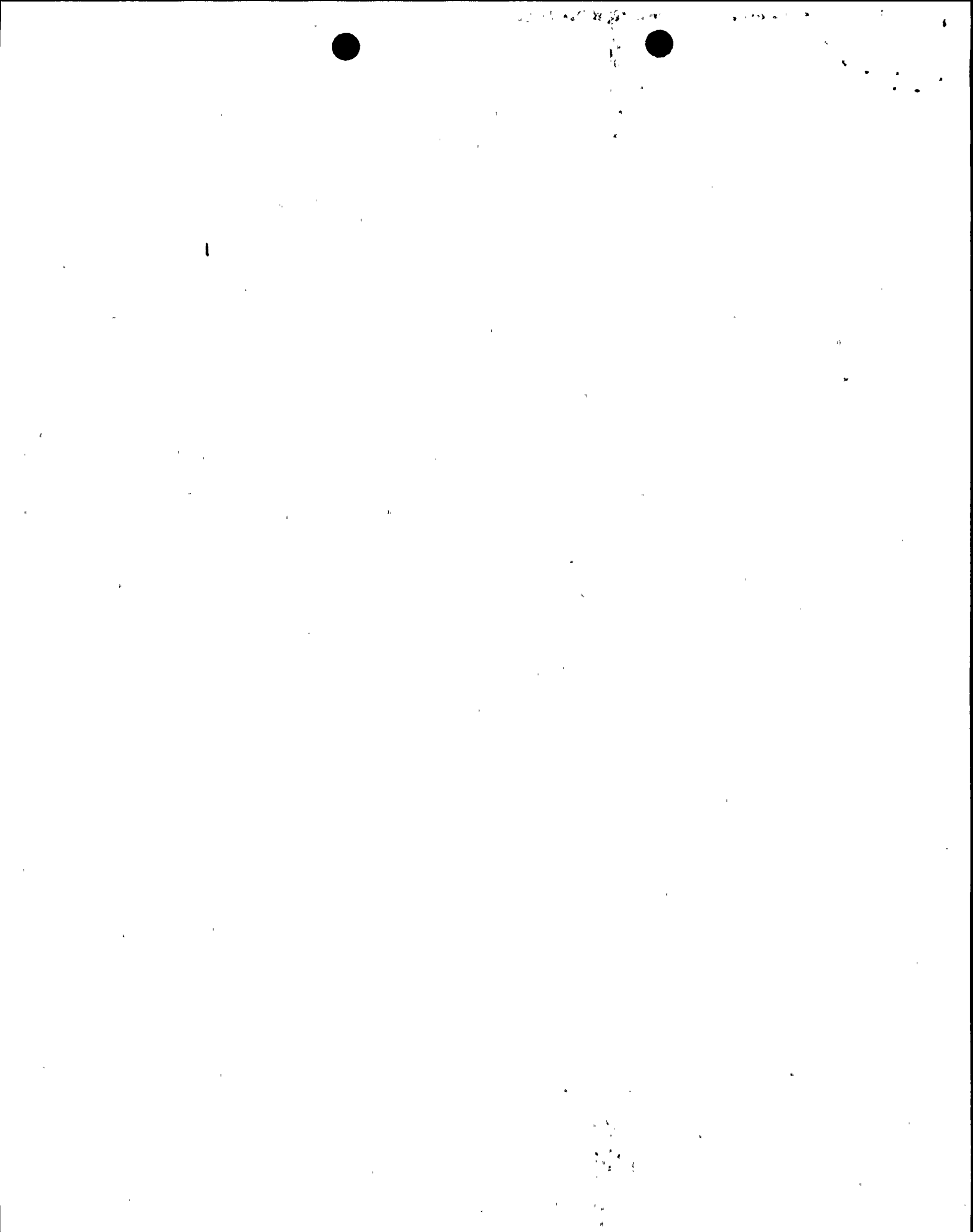


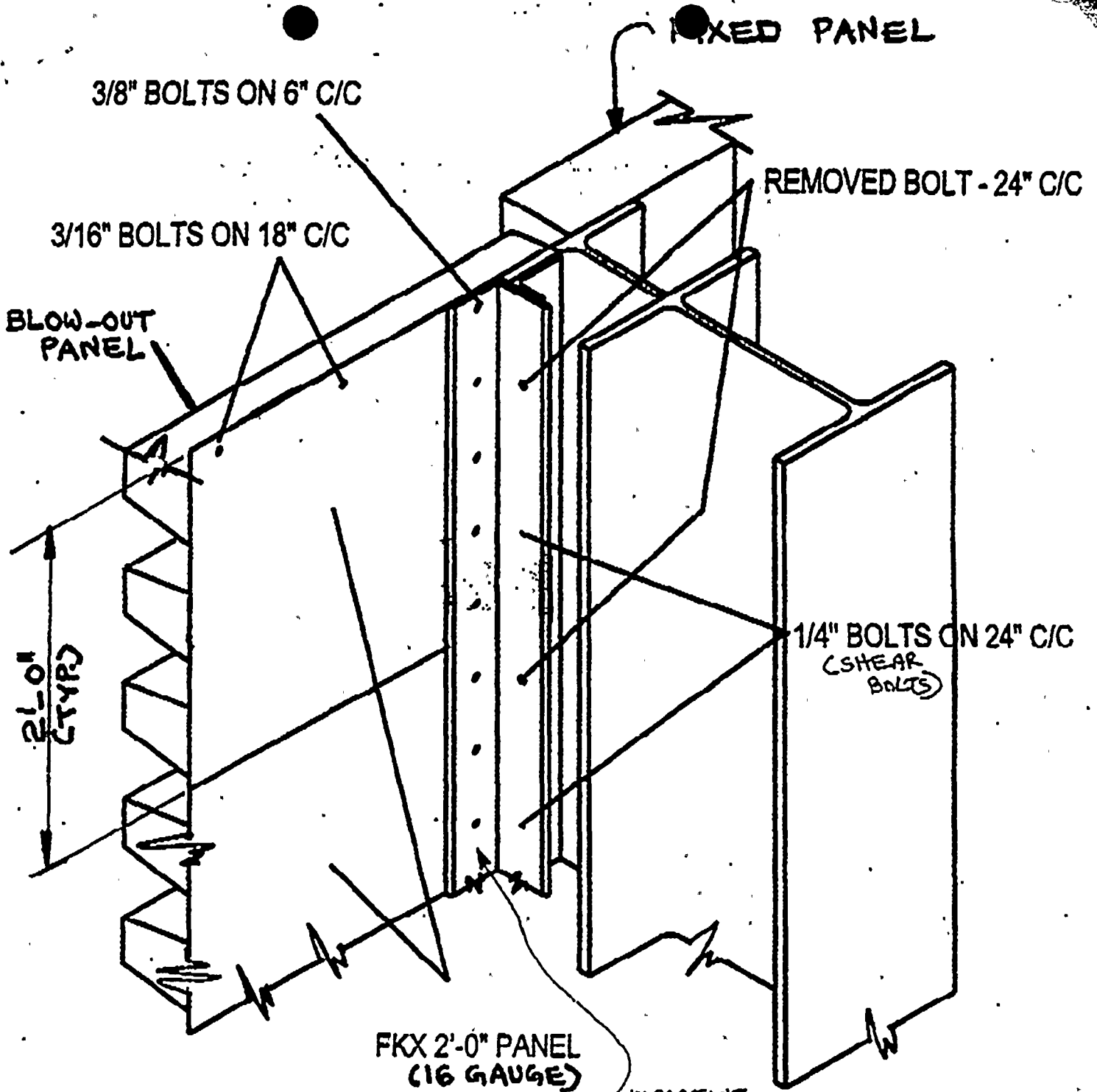
FKX PANEL SECTION 1-1





RB BLOW-OUT PANEL
LOOKING INSIDE OUT





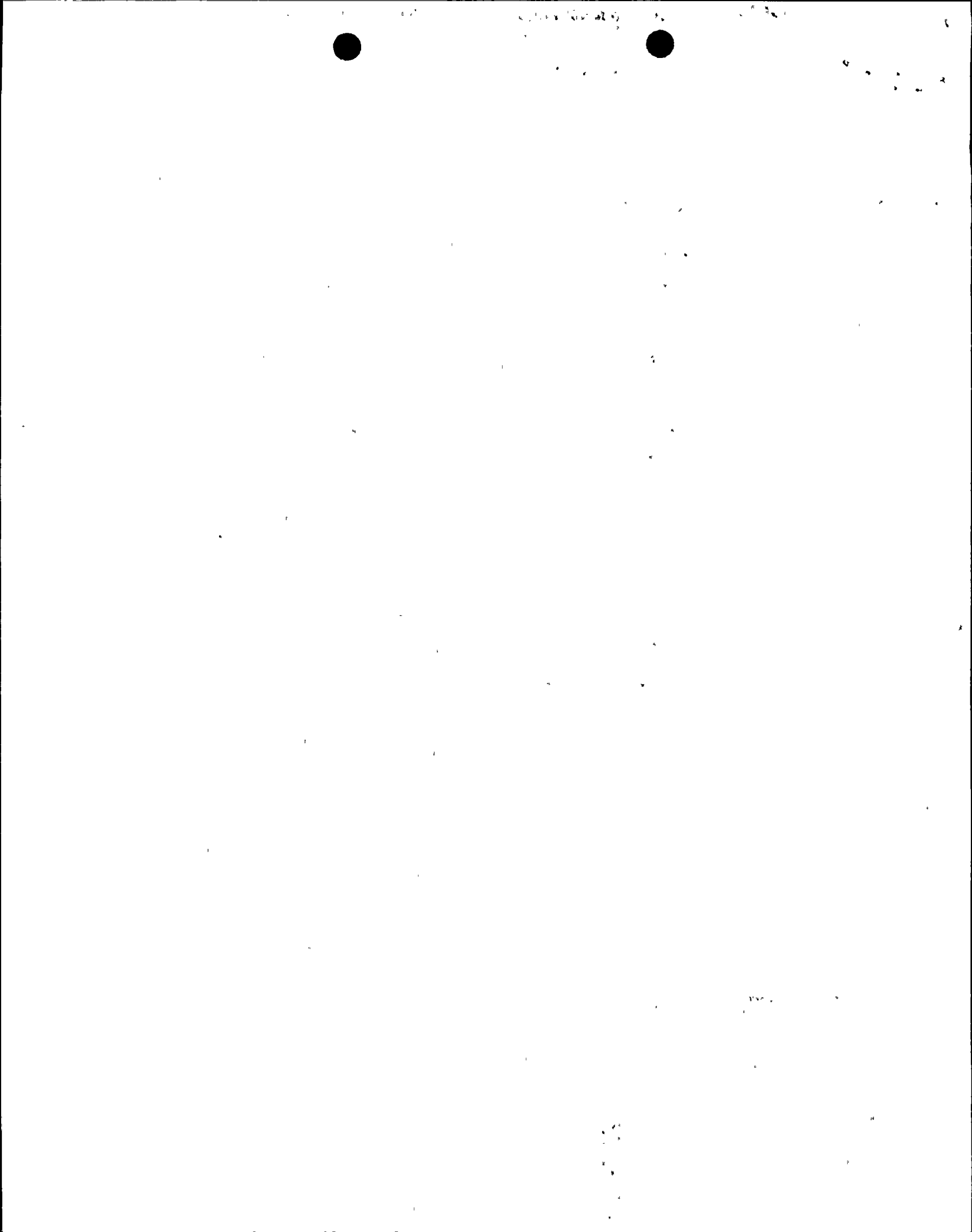
FKX 2'-0" PANEL
(16 GAUGE)

IMPORTANT

THIS L IS NOT ~~ONLY~~ OF ONE LENGTH OF 44'. IT IS 12' LONG SECTIONS AND WITH NO CONNECTION BETWEEN ONE 12' SECTION TO OTHER.

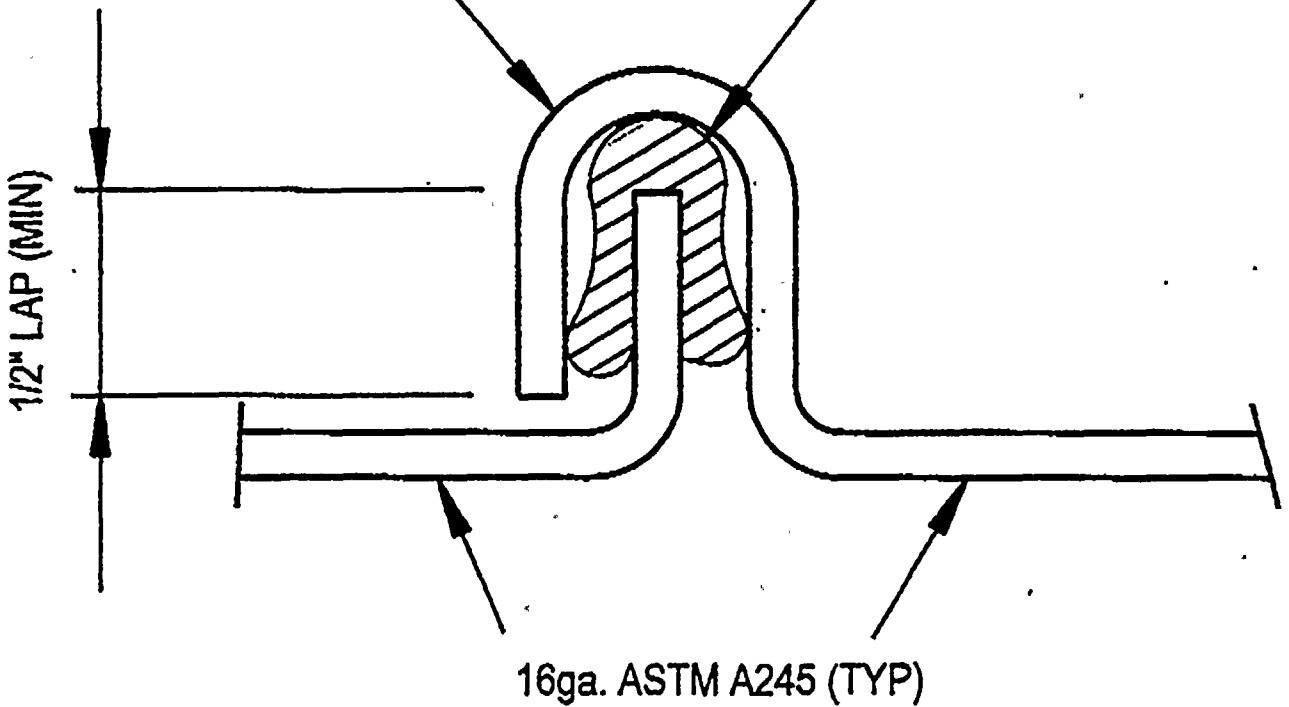
TYP ISOMETRIC FOR BLOWOUT PANELS

LOOKING INSIDE OUT

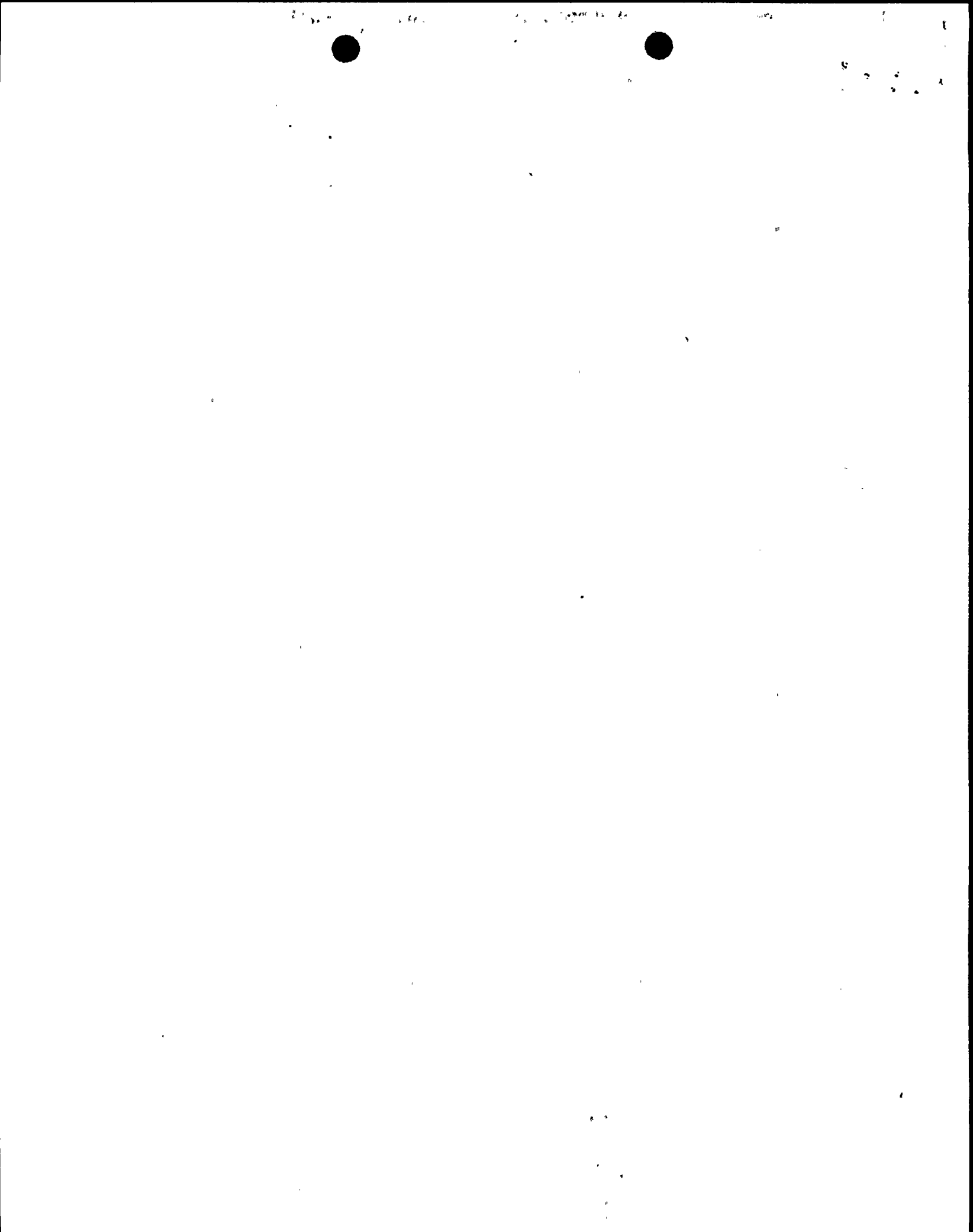


INTERLOCKING SIDE JOINTS
SHALL CONSIST OF 3/4" MALE
AND 15/16" FEMALE SECTIONS
FEMALE LIPS SHALL OVERLAP
MALE LIPS BY 1/2" (MIN).
PANELS SHALL BE CRIMPED
ON 18" CENTERS (MIN)

FIELD INSPECTED
AND CAULK WITH
RP-545 TO ASSURE
100% CAULKING



TYPICAL "FKX" LINER LIP JOINT DETAIL



SECTION MODULUS

Gauge	Wt.	Dens	Area	In.	In.	In.	In.	In.	In.	In.
SEC. 3										
3-22	1.8	1.53	0.53	.026	.203	2,705	7,900	655		
3-20	2.3	1.53	0.63	.004	.230	3,530	10,070	1,294		
3-18	3.1	1.55	0.86	.764	.337	398	5,310	14,700	2,240	
3-14	3.8	1.56	1.07	.732	.442	506	6,750	19,350	3,337	
	4.7	1.58	1.35	.712	.562	633	8,445	24,575	4,516	
	6.5	1.61	1.84	.745	.756	880	11,725	33,000	6,648	
UKX										
UKX 18-18	5.1	1.40	1.50	1.105	.566	.472	6,290	24,700	2,240	
UKX 18-16	5.6	1.61	1.65	1.152	.603	.481	6,420	26,350	2,260	
UKX 16-16	6.3	1.63	1.85	1.089	.763	.654	8,700	33,350	3,357	
UKX 16-14	6.9	1.64	2.03	1.144	.820	.667	8,900	35,850	3,357	
UKX 14-14	7.9	1.66	2.32	1.078	1.011	.893	11,900	44,200	4,916	
UKX 12-12	11.0	1.72	3.24	1.085	1.373	1.353	18,000	60,000	6,648	
RK										
RK 18-18	5.9	3.10	1.74	1.630	1.899	1.104	14,725	83,000	2,240	
RK 18-16	6.7	3.12	1.96	1.726	2.128	1.168	15,525	93,000	2,240	
RK 16-16	7.7	3.13	2.18	1.606	2.497	1.482	19,775	109,100	3,357	
RK 14-14	9.2	3.16	2.71	1.611	3.304	1.982	26,425	144,400	4,916	
RK 12-12	12.4	3.22	3.65	1.584	4.446	2.865	38,200	194,500	6,648	
RKC										
RKC 16-16	6.73	3.12	1.94	1.840	2.238	1.140	15,200	97,200	1,379	
RKC 14-14	8.41	3.16	2.42	1.800	3.009	1.560	20,770	131,500	2,459	
RKC 12-12	11.78	3.22	3.39	1.750	4.729	2.520	33,650	206,675	4,224	
SEC. 21										
21-22	2.3	3.030	0.63	1.623	.675	.386	5,150	29,500	450	
21-20	2.8	3.036	0.78	1.595	.855	.500	6,660	37,100	766	
21-18	3.7	3.048	1.04	1.530	1.258	.755	10,100	55,000	1,442	
21-16	4.6	3.060	1.31	1.462	1.703	.982	13,100	74,400	2,266	
21-14	5.8	3.075	1.63	1.393	2.264	1.261	16,000	69,000	3,409	
21-12	8.1	3.105	2.29	1.313	3.381	1.823	24,300	147,000	6,191	
NKX										
NKX 18-18	5.7	3.096	1.69	2.149	2.125	.909	12,120	92,900	1,442	
NKX 16-16	6.3	3.103	1.86	2.214	2.226	.923	12,300	97,300	1,442	
NKX 14-14	7.2	3.120	2.11	2.109	2.889	1.260	16,000	126,200	2,766	
NKX 12-12	7.9	3.134	2.32	2.204	3.084	1.285	17,140	134,800	2,266	
NKX 10-10	9.0	3.149	2.64	2.068	3.903	1.745	23,300	170,500	3,409	
NKX 8-8	12.6	3.209	3.66	2.014	6.049	2.833	37,800	264,200	6,191	
NKC										
NKC 16-16	6.35	2.995	1.89	2.18	2.05	.85	11,330	89,750	1,510	
NKC 14-14	7.20	3.010	2.14	2.04	2.67	1.18	15,720	116,550	2,270	
NKC 12-12	7.94	3.024	2.35	2.14	2.86	1.20	16,000	124,750	2,270	
NKC 10-10	8.64	3.054	2.86	1.91	4.16	1.97	26,450	181,750	4,127	
NKC 8-8	11.10	3.084	3.29	2.07	4.67	2.04	27,230	203,250	4,127	
SEC. 12										
12-20	3.7	4.53	1.01	2.494	2.933	1.176	15,000	129,170	940	
12-18	4.9	4.55	1.35	2.447	4.078	1.410	21,460	178,200	1,922	
12-16	6.0	4.56	1.67	2.419	5.195	2.107	28,100	217,000	3,026	
12-14	7.5	4.58	2.11	2.410	6.180	2.694	35,915	270,100	4,608	
12-12	10.4	4.61	2.89	2.501	8.537	3.433	45,775	375,300	8,266	
FKX										
FKX 18-18	6.7	4.60	1.97	3.01	5.93	1.90	25,330	259,000	1,922	
FKX 16-16	7.2	4.61	2.12	3.13	6.30	1.94	25,685	275,400	1,922	
FKX 14-14	8.4	4.63	2.47	2.98	7.57	2.49	33,160	331,100	3,026	
FKX 12-12	9.1	4.64	2.68	3.11	8.06	2.54	33,900	332,200	3,026	
FKX 10-10	10.4	4.66	3.06	2.98	9.02	3.18	42,470	394,200	4,608	
FKX 8-8	14.5	4.72	4.26	3.07	12.59	4.10	54,660	530,600	8,266	
CK										
CK 18-18	7.0	6.10	2.02	3.38	8.28	2.32	31,000	302,000	1,442	
CK 16-16	7.9	6.11	2.26	3.57	9.24	2.45	32,700	403,500	1,442	
CK 14-14	7.9	6.11	2.28	3.13	9.81	2.95	39,400	423,700	1,442	
CK 12-12	8.8	6.12	2.52	3.33	10.94	3.11	41,500	478,000	2,266	
CK 10-10	9.9	6.13	2.83	3.52	12.20	3.28	43,700	533,000	2,266	
CK 8-8	9.9	6.13	2.85	3.07	12.97	3.97	52,900	567,000	2,266	
CK 6-6	11.0	6.15	3.16	3.77	14.40	4.18	55,700	620,000	3,409	
CK 4-4	13.1	6.18	3.76	3.57	17.00	4.51	60,100	743,000	3,409	
CK 2-2	13.3	6.10	3.81	2.86	18.32	5.51	70,700	800,300	3,409	
CK 1-1	15.4	6.21	4.42	3.19	21.67	6.50	86,600	945,000	6,191	



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May 8, 1996

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The licensee currently anticipates that further telephone discussions with the staff regarding status of the evaluations may be appropriate in about 2 weeks.

ORIGINAL SIGNED BY:

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Office of Nuclear Reactor Regulation

Docket Nos. 50-220
and 50-410

Enclosure: As stated

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