100 Years of Concrete Pavements In Iowa

Supplemental Appendix
Pavement Designs
for
MLR-07-01

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Ames, Iowa 50010

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PAVEMENT DESIGN DESIGNATIONS

Various designs of pavement are intended to show the cross section, the arrangement of reinforcement, and type of expansion joint to supplement the History cards. Mileage for project is total length constructed.

Regular Series Numbered 1 and Up. Normal 2 lane pavement either rural or urban may be constructed one lane at a time. May be widened by one or more "W" designs of various widths.

M Series Numbered M 1 and Up. Normal 4 lane pavement either urban or rural. Usually built 2 lanes at time on each side of center. May be widened by one or more "W" Designs of various widths.

W Series Numbered W 1 and Up. Supplimentary strips widining either regular or "M" pavement designs. Where other details are similar the variations in width will be showed as subscript letters. A,B,C, etc. Viz "W 30 A"

R Series Numbered R 1 and Up. Resurfacing Designs with either Portland Cement or Asphaltic Concrete,

A Series Numbered A 1 and Up. Type A concrete pavements.

B Series Numbered B 1 and Up. Brick Pavement.

C Series Numbered C 1 and Up. Old city designs constructed as State Aid.

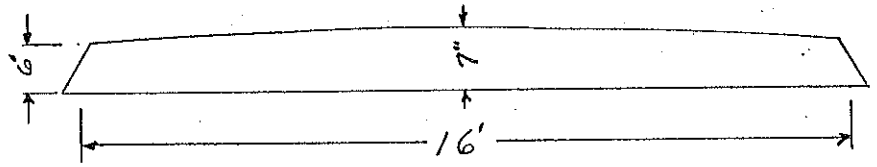
Design No. 1. Width 16 ft 6-7-6. 1

First Used in Letting of Day Labor. 1913

County	Project	Miles
Cerro Gordo	------	1.0

1

K13



Edges knocked down and finished with shovel.

No reinforcing in slab

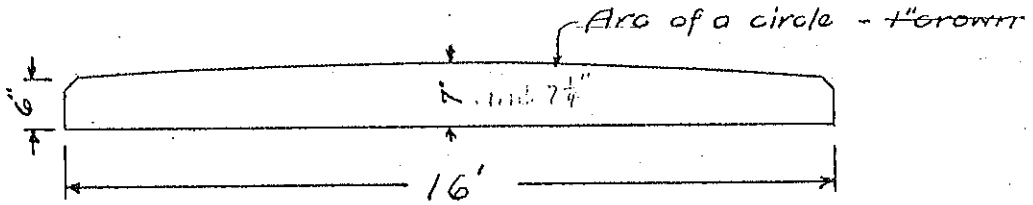
Design No. 2. Width 16 ft 6-7-6

First Used in Letting of Day labor 1914

2

County	Project	Miles
Louisa	-----	?
Muscatine	----	0.413

2
1914



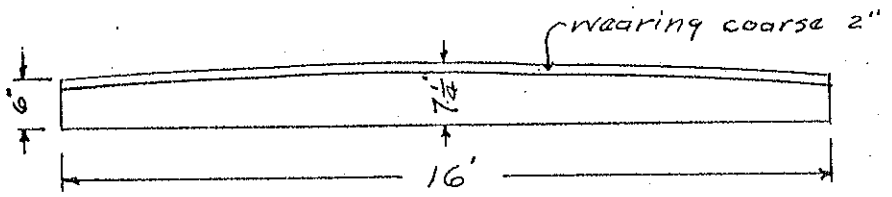
No reinforcing in slab.

Design No. 3. Width 16 ft 6-7¼-6

First Used in Letting of 1915.

Jounty	Project	Miles
Cerro Gordo	-----	1.0

9
1915



No reinforcing in slab.

Design No. 4. Width 16 ft 6-7½-6

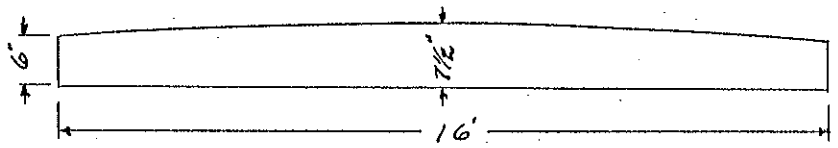
First Used in Letting of 7-26-15.

4

County	Project	Miles
Des Moines	~~F-A-[illegible]~~	1.0

4

7-26-15



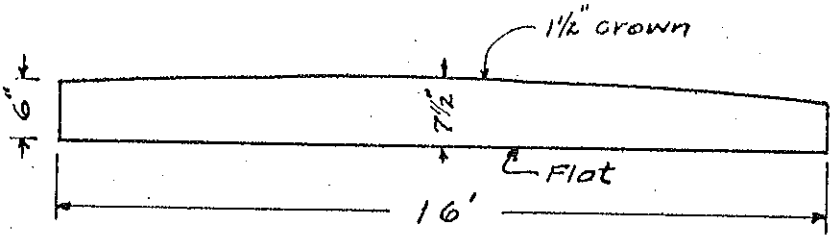
Design No. 5. Width 16 ft 6-7½-6

First Used in Letting of 7-17-18.

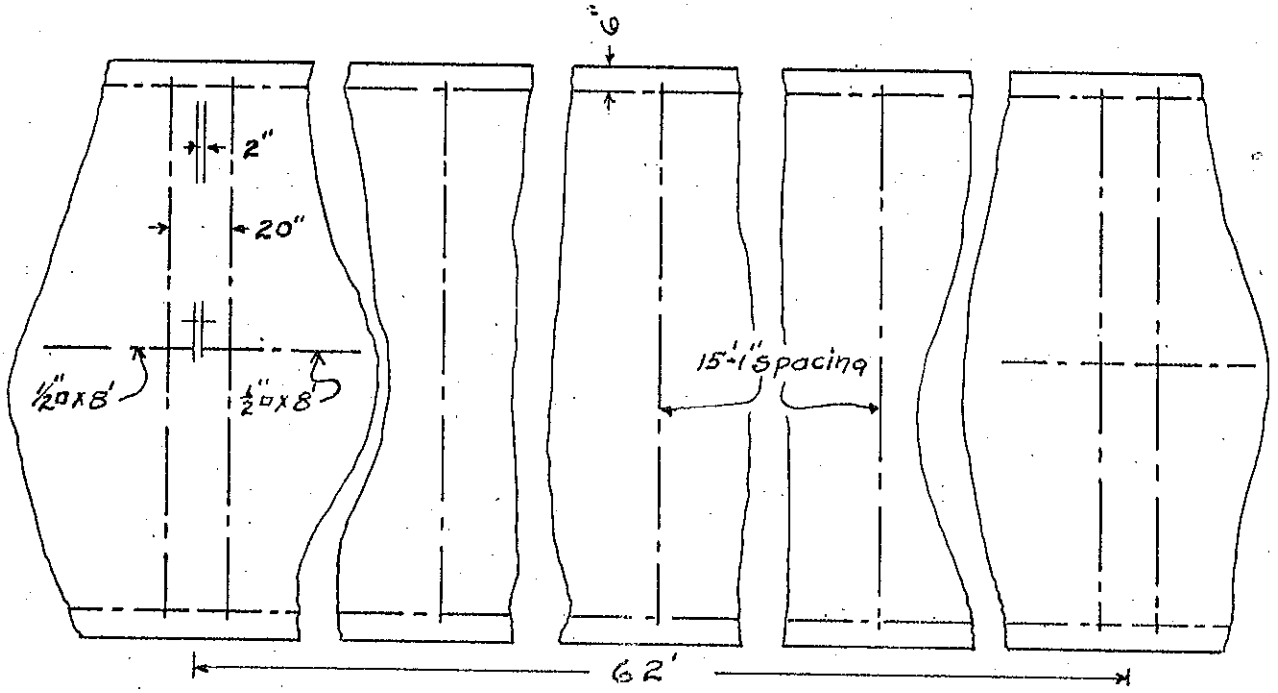
County	Project	Miles
Cerro Gordo	F-1	4.07
Linn	Seedling Mile	1.0

5

7-17-18



D



All steel ½"a bars at center of section.

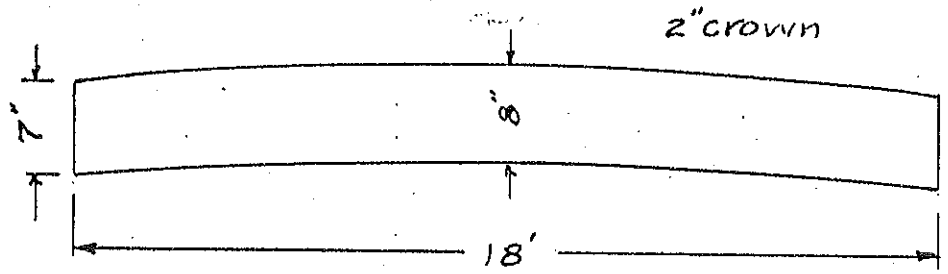
Design No. 6. Width 18 ft 7-8-7 6

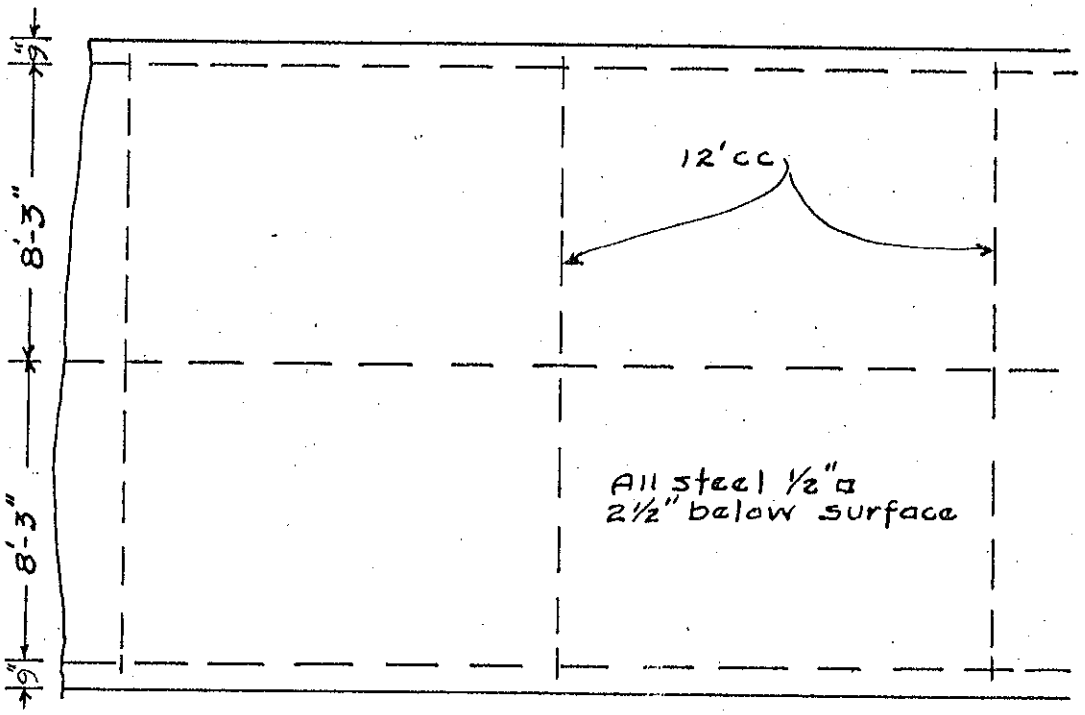
First Used in Letting of 1926

County	Project	Miles
Benton	FA-58-B	4.24
Benton	FA-58-B	0.92
Benton	FA-58-C	1.22
Benton	FA-58-C	2.50
Cerro Gordo	FA-61	2.94
Cerro Gordo	FA-61	3.11
Cerro Gordo	FA-115	4.49
Cerro Gordo	FA-115	5.14
Cerro Gordo	FA-115	12.44
Clinton	FA-18	1.750
Clinton	F-18-AD	15.17
~~Des Moines~~	~~P-53~~	~~2.336~~
Dickinson	FA-68	4.3
Floyd	FA-41	4.783
Floyd	FA-41	6.857
Greene	FA-39	2.00
Greene	FA-39	2.497
Greene	FA-39	1.963
Humboldt	FA-48	1.31
Johnson	FA-128	2.54
Linn	FA-22-A	6.50
O'Brien	FA-43	22.50
Palo Alto	FA-109	11.05
Polk	FA-89	7.22
Polk	FA-104	6.57
Sioux	P-26	2.196
Sioux	FA-84	2.94
Woodbury	P-45	14.0
Woodbury	FA-78	2.73

6

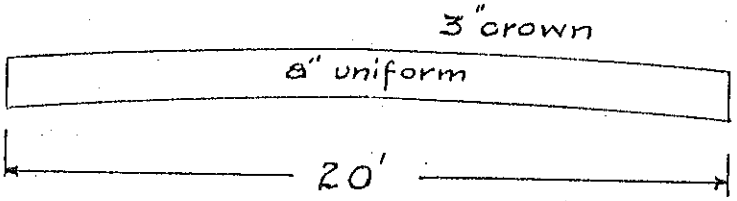
1920

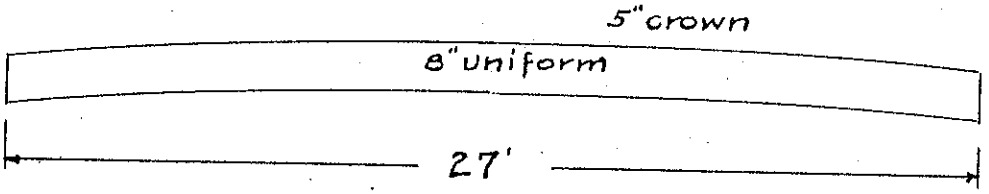


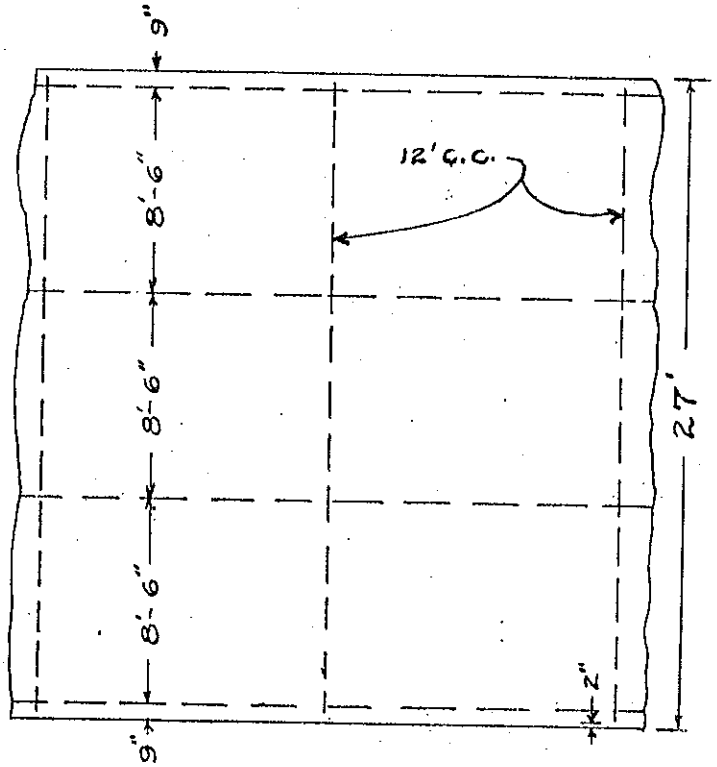


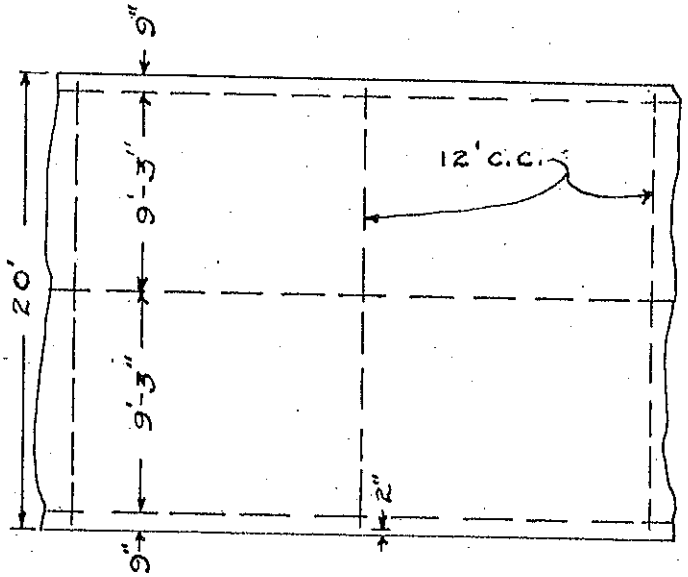
Design No. 7. Width 20 & 27 8in uniform
First Used in Letting of 1924.

County	Project	Miles
Johnson	FA-9	1.09









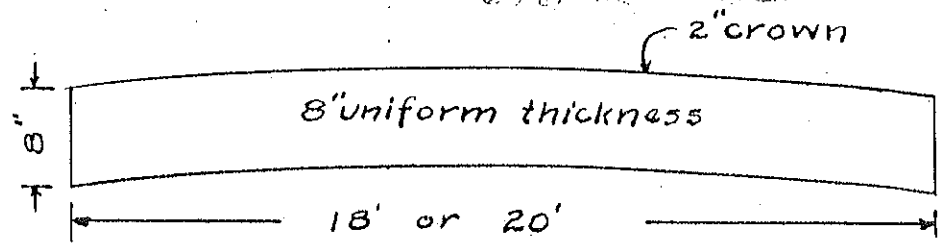
All steel ½"□ bars in center of section.

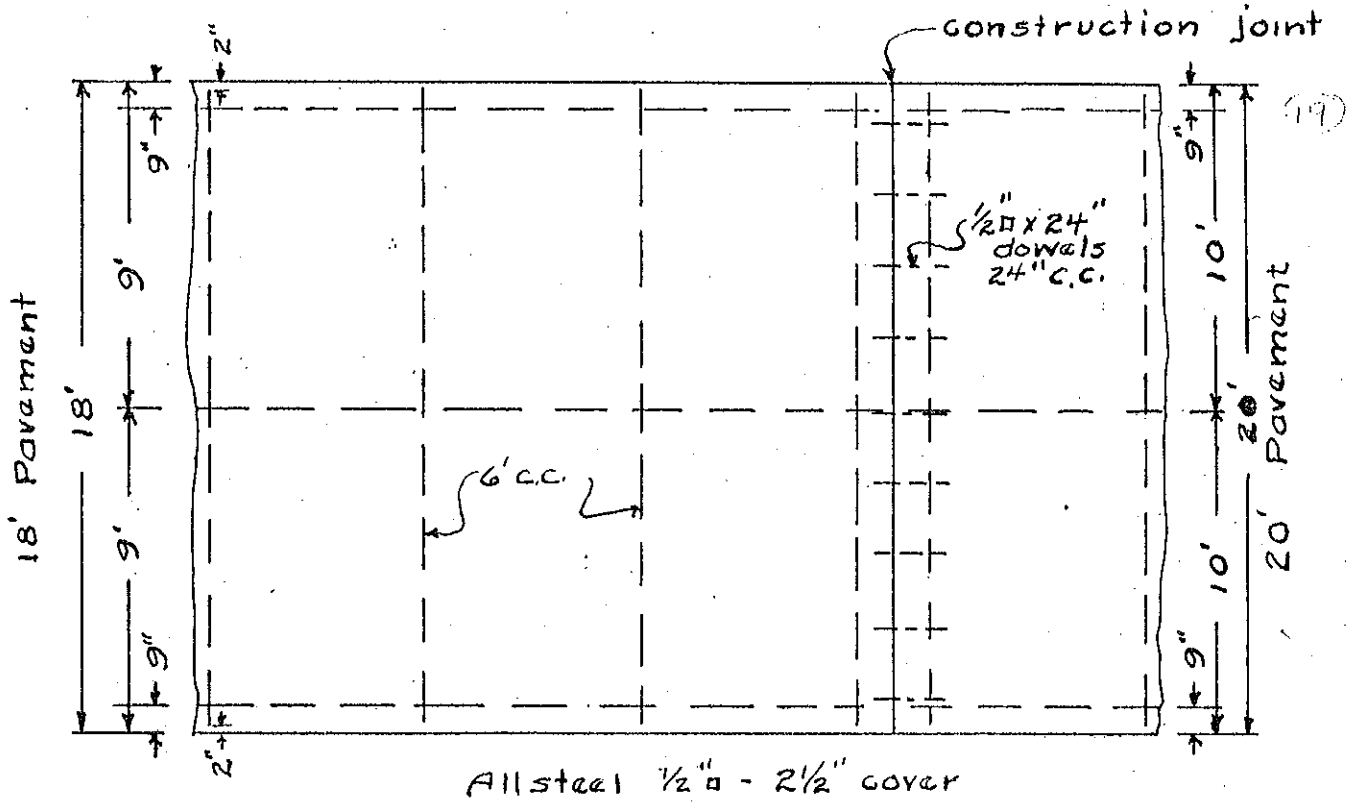
Design No. 8. Width 18 & 20 ft 8in. uniform. 8

First Used in Letting of 1921.

County	Project	Miles	County	Project	Miles
Black Hawk	FA-62	12.69	Kossuth	FA-140	11.258
Black Hawk	FA-62	4.6	Marshall	FA-23	5.928
Black Hawk	FA-200	13.35	Marshall	FA-211-ACDGI	21.237
Black Hawk	FA-201	11.455	Marshall	FA-211-F	1.073
Black Hawk	FA-202	6.89	Polk	P-1	1.5
Buchanan	P-300	2.08	Polk	P-40	4.78
Buchanan	FA-5	14.13	Polk	P-258	00.983
Clinton	P-238	0.205	Polk	FA-132	12.547
Clinton	F-147-ABC	10.31	Polk	FA-180	7.715
		6.13	Polk	FA-187	9.062
Clinton	F-205-C	1.302	Polk	FA-199	2.501
Clinton	F-186-AB	2.73	Polk	FA-206	11.125
Clinton	FA-186-BCDE	1.606	Polk	FA-220	1.495
Clinton	FA-189	2.642	Scott	P-50-A	6.25
Clinton	FA-204-C	14.52	Scott	FA-54	5.35
Des Moines	P-273	1.5	Scott	FA-55-BC	18.436
Des Moines	F-32	4.895	Scott	FA-135-A	2.947
Floyd	P-63	5.562	Scott	FA-185	5.089
Floyd	FA-157	2.571	Scott	FA-217	7.24
Greene	P-347	1.975	Woodbury	FA-2	17.678
Greene	F-203-ABCD	16.607	Woodbury	FA-136	7.02
Greene	FA-39 Amend	0.950	Woodbury	FA-188	8.0
Hancock	FA-94	8.356	DesMoines	P-53	2.336
Hancock	FA-94-CDE	15.994	Hancock	P-178	0.489
Kossuth	P-270	1.80			

8


2" crown
8"
8" uniform thickness
18' or 20'


construction joint
2"
9"
9'
9'
9"
18'
18' Pavement
2"
1/2" □ x 24" dowels 24" c.c.
6' c.c.
9"
10'
10'
9"
20'
20' Pavement
All steel 1/2" □ - 2 1/2" cover

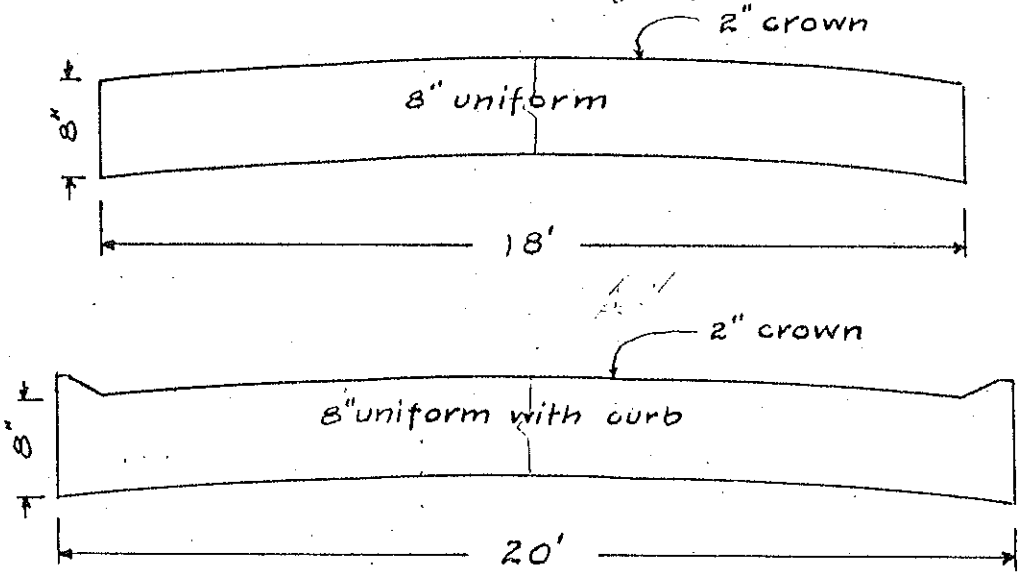
(19)

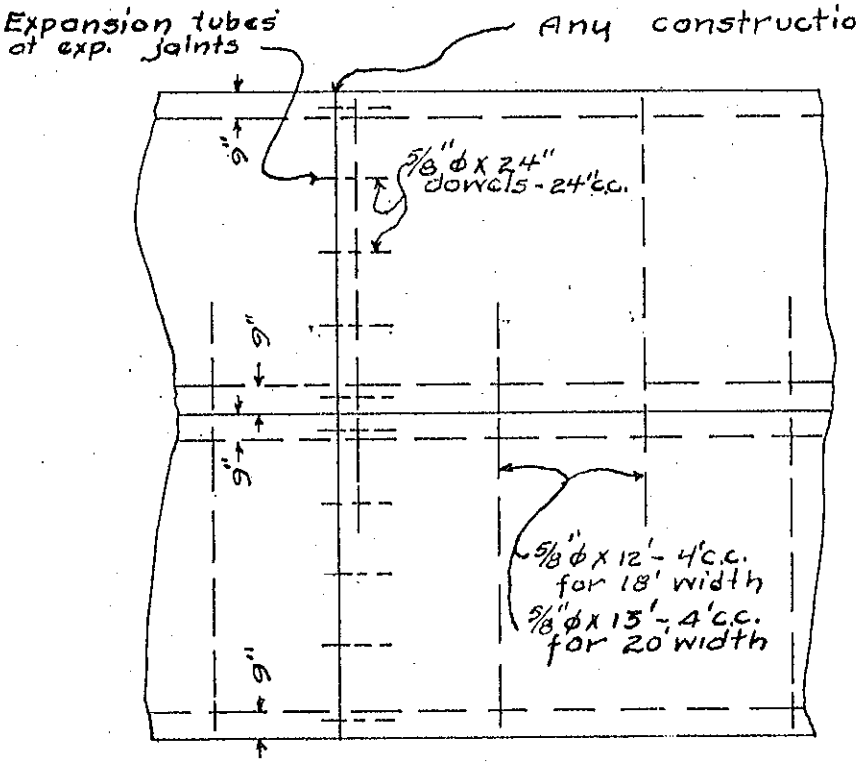
#8

Design No. 9.

First Used in Letting of 2-10-25.

County	Project	Miles	
Clinton	P-434	0.304	Width 18 and 20 ft. 8" uniform
Harrison	P-423	0.538	
Linn	FA-96-A	7.218	
Linn	FA-96-B	5.53	
Polk	P-418	2.737	
Polk	FA-215	7.324	
Polk	FA-216	9.371	
Pottawattamie	P-400	0.68	
Scott	P-405	1.436	
Scott	FA-221	9.788	
Scott	FA-243-ABC	8.142	
Winneshiek	P-121	—	



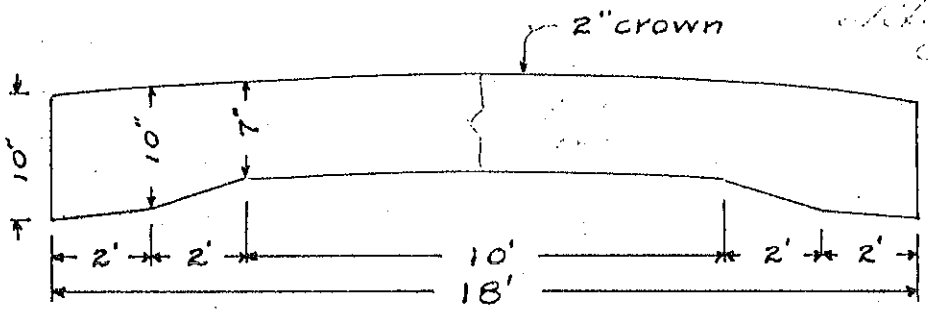


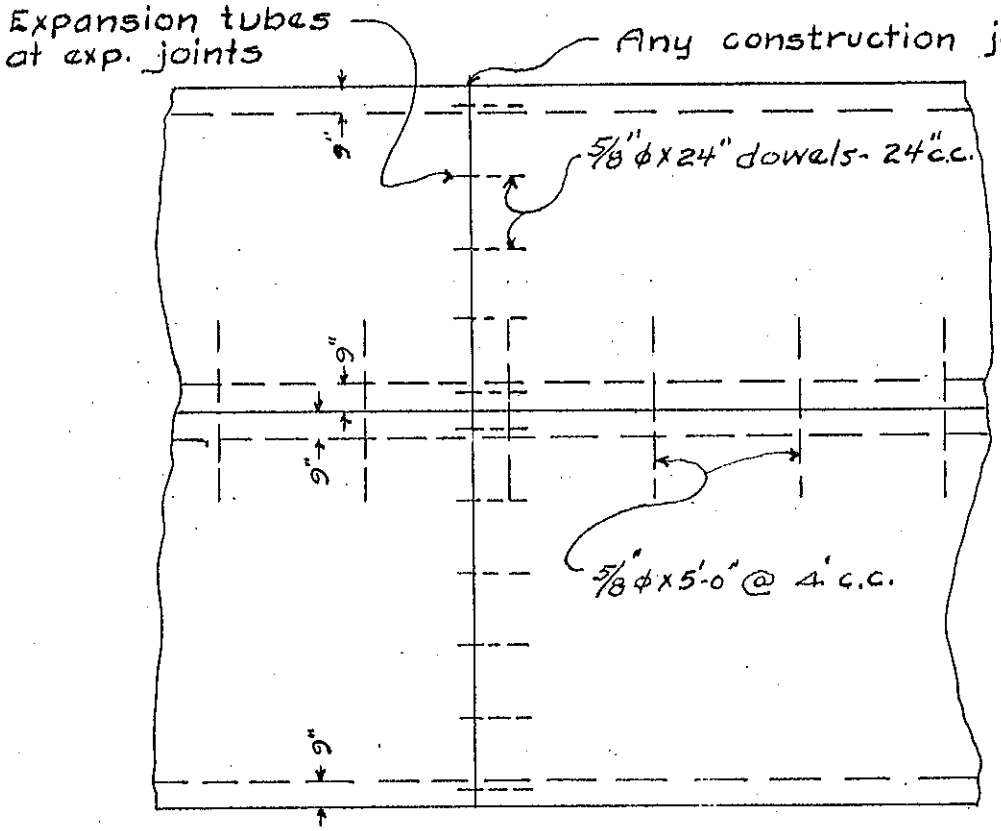
All steel 5/8"ϕ plain round
2 1/2" cover,
dowals at center of section.

Design No. 10;
First Used in Letting of 5-11-26.

10-10

County	Project	Miles	
Des Moines	FA-282-	8.347	Width 18 ft. 10-7-10
Johnson	FA-289-A	13.49	
Linn	FA-225	6.62	
Wapello	FA-159	8.558	

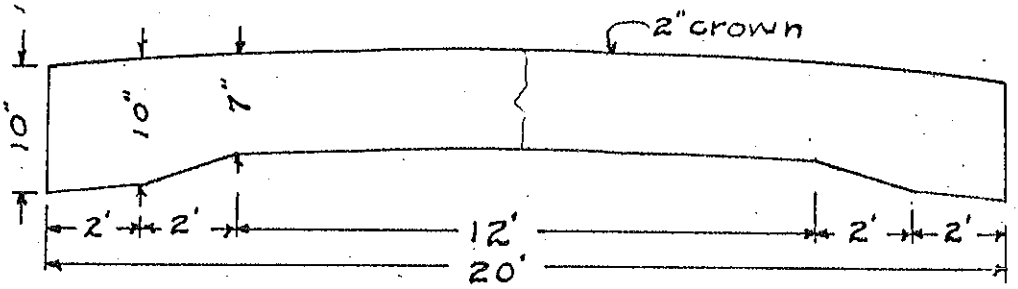


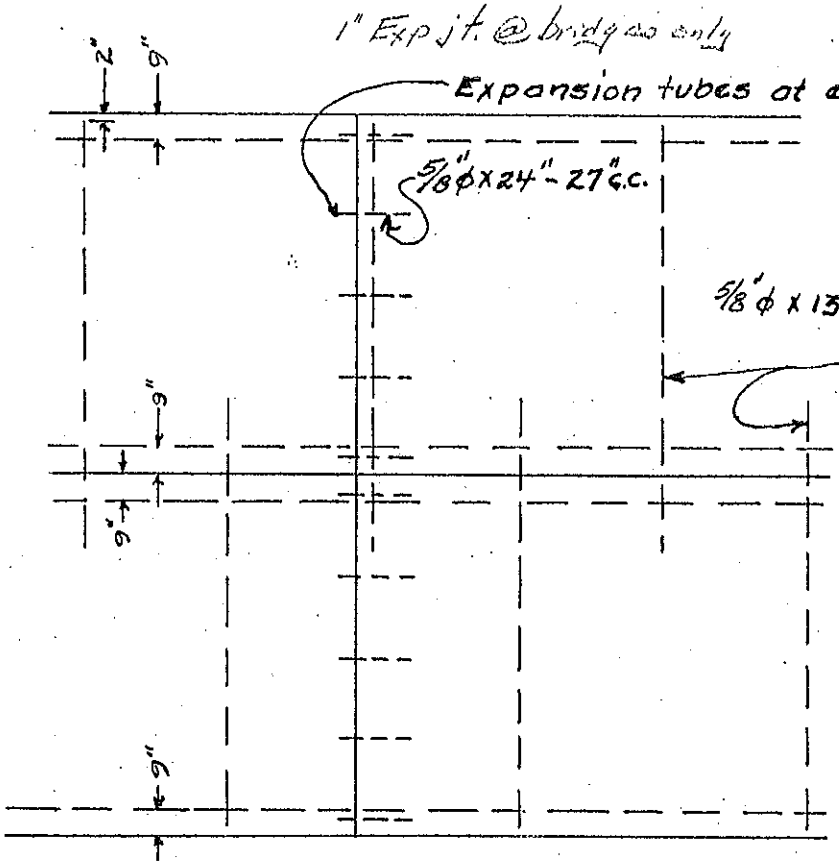


All steel 5/8" ϕ plain bars 2½" cover except dowels at center of section.

Design No. 11.
First Used in Letting of 3-8-26.

County	Project	Miles.	
Plymouth	FA-38	10.184	Width 20 ft. 10-7-10
Plymouth	FA-273	6.5	

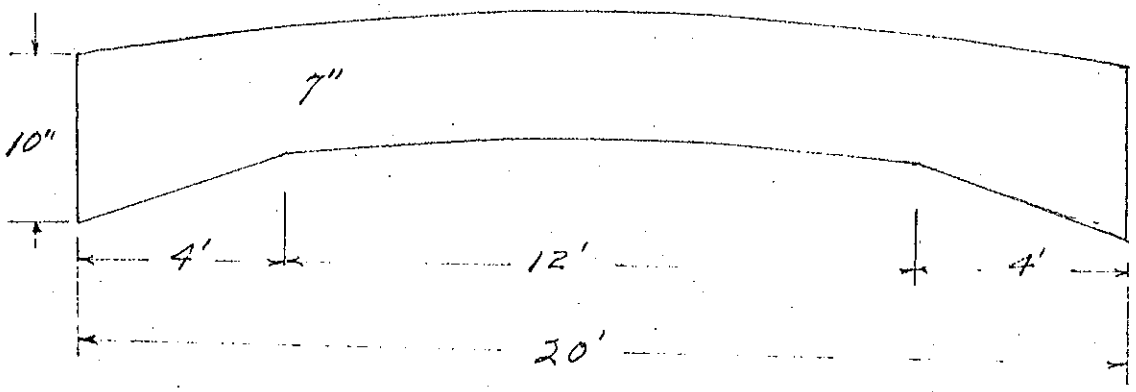

2" crown
10"
10"
7"
2'
2'
12'
2'
2'
20'


1" Exp jt. @ bridge ends only
2"
9"
Expansion tubes at exp. joints.
5/8"φ x 24" - 27" c.c.
5/8" φ x 15' - 4' c.c.
9"
9"
9"
All steel, 5/8" φ plain round
2½" cover
except dowels at center
of section.

12

Design No. 12
First Used in Letting of July 15, 1926
Width 20 ft. 10-7-10

Scott	FA 55(C)	0473 miles	1926
Dubuque	FA 148	15.277 Miles	1926-27

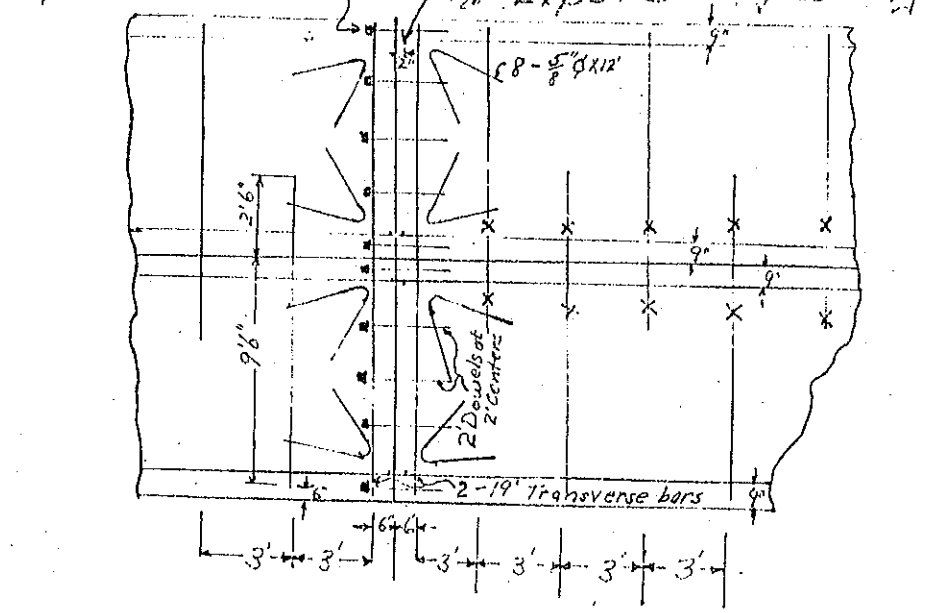


Longitudinal Reinforcing Steel ½ End 2" from Transverse Joints

All Bars Plain ⅝" ϕ

Exp. tubes at E.J.

1" Exp Jt @ bridges only



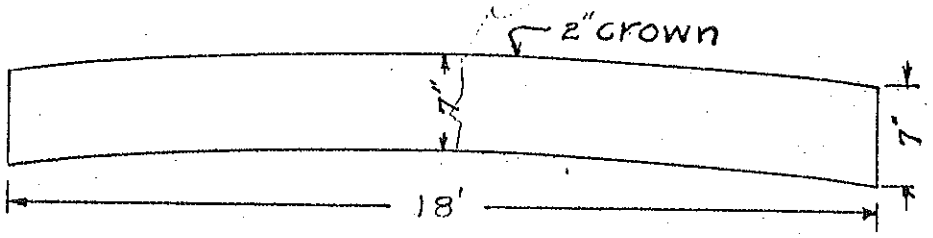
Design No. 12.

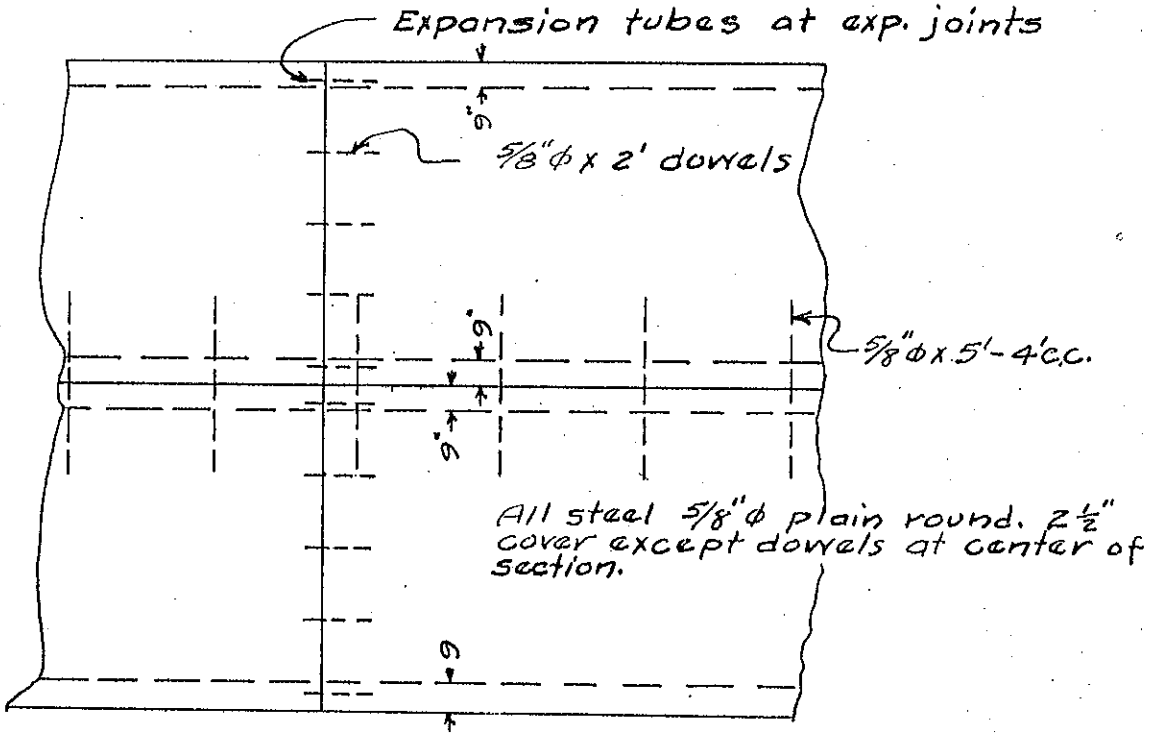
First Used in Letting of 6-8-26.

12 a

County	Project	Miles
Appanoose	FA-27	7.039
Dubuque	FA-148	15.277
Jasper	FA-64-D	4.897
Jasper	FA-64-D	5.099
Jefferson	FA-3	9.128
Jefferson	FA-294	3.063
Mahaska	FA-70-A	0.791
Mahaska	FA-70-B	12.80
Mahaska	FA-146- Ext.	4.116
Mahaska	FA-293	2.74
Scott	FA-55-C	0.473

12A

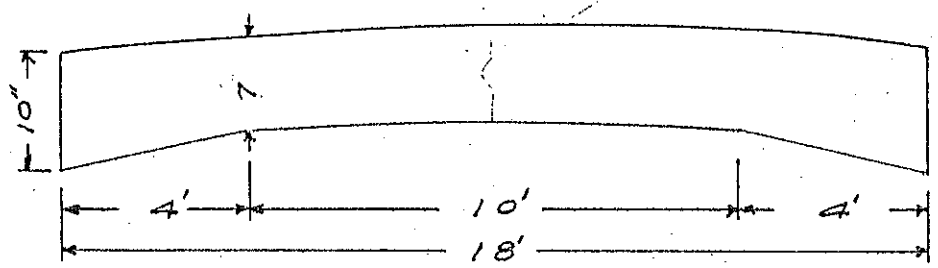

2" crown
7"
7"
18'

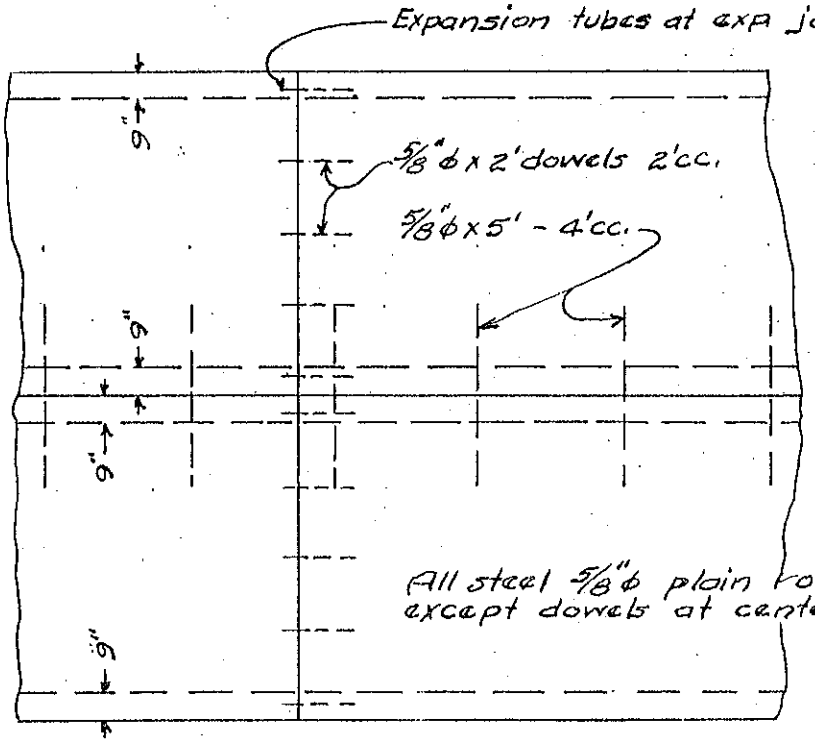

Expansion tubes at exp. joints
9"
5/8" ϕ x 2' dowels
9"
9"
5/8" ϕ x 5'-4' c.c.
All steel 5/8" ϕ plain round. 2 1/2" cover except dowels at center of section.
9"

Design No. 13.

First Used in Letting of 8-31-26.

County	Project	Miles	County	Project	Miles
Benton	FA-58-A	8.50			
Benton	FA-233	10.145	Width 18 ft.	10-7-10	
Benton	FA-278	11.07			
Benton	FA-285	2.54			
Floyd	FA-279-A	8.905			
Harrison	FA-214	9.584			
Jefferson	FA-3	10.927			
Lee	P-480	7.589			
Mahaska	FA-70-B Ext.	0.510			
Tama	P-458	1.809			
Tama	FA-276	15.611			
Wapello	FA-246	10.885			


10"
4'
10'
4'
18'

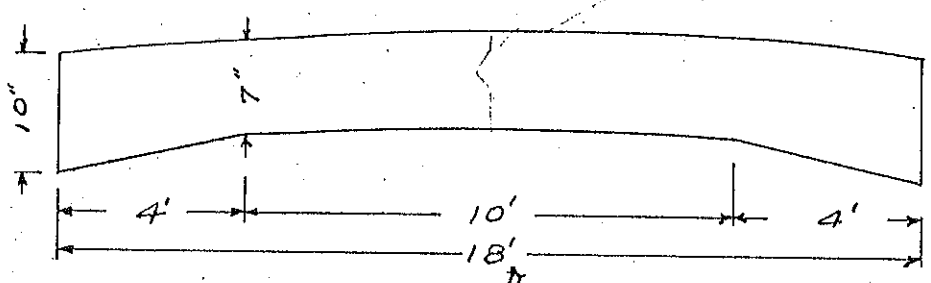

Expansion tubes at exp joints
9"
5/8"ϕ x 2' dowels 2'cc.
5/8"ϕ x 5' - 4'cc.
9"
6"
9"
All steel 5/8"ϕ plain round 2½" cover except dowels at center of section.

County	Project	Miles
Washington	P-544-A	14.418
Washington	FA-71	0.758
Winneshiek	P-177	8.42
Woodbury	B-546	0.263
Woodbury	FA-2	12.243
Woodbury	FA-2	0.184
Worth	P-555	8.135
Worth	P-555 North Wood Ext.	0.542
Clayton	P 557	0.248
Scott	FA.243 Ext.	0.192

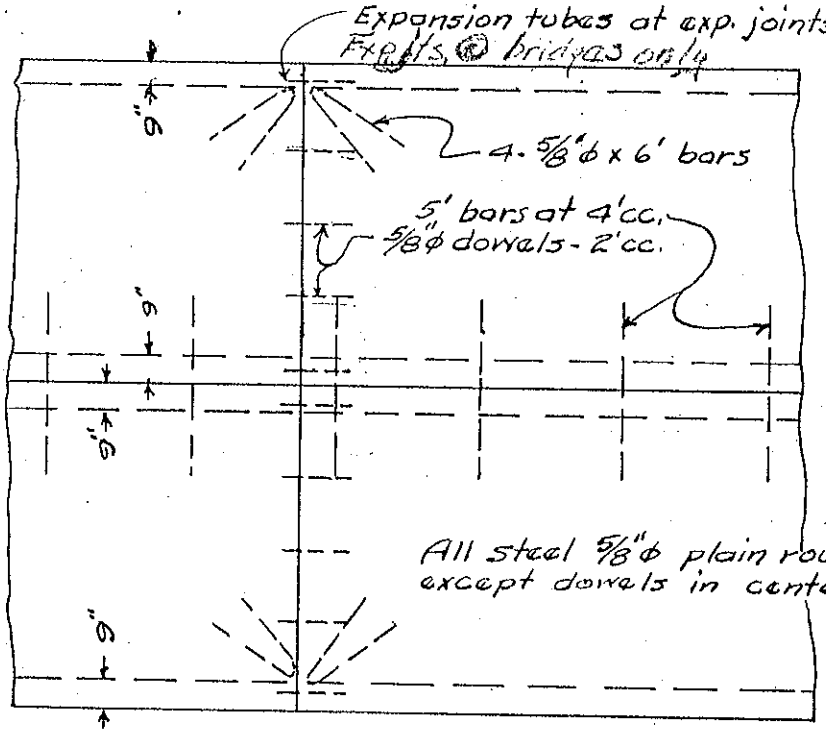
Design No. 14. Width 18ft. 10-7-10.

First Used in Letting of 12-30-26.

County	Project	Miles	County	Project	Miles
Appanoose	P-534	2.925	Dubuque	P-552	1.39
Appanoose	P-535	1.824	Dubuque	F-305	23.84
Appanoose	P-535-B	1.482	Fayette	P-553	24.943
Benton	P-504	1.173	Franklin	P-538	13.36
Benton	FA-251-A	9.44	Franklin	FA-212	10.20
Bremer	F-283	14.723	Harrison	P-563-ABC	10.970
Buchanan	P-239	6.616	Harrison	F-14	7.036
Buchanan	FA-5	1.438	Henry	FA-56	9.31
Cedar	P-114-C	8.08	Jasper	Fa-64-A	5.45
Cedar-Scott-Muscatine	P-541	6.74	Jefferson	FA-120	6.59
Cedar	FA-57- Ext.		Johnson	FA-9	2.967
Cedar	Fa-57-B	5.78	Johnson	FA-289-B	8.62
Cedar	F-57-C & F	12.960	Johnson	FA-296	11.512
Cedar	FA-57-ADEG	7.240	Keokuk	P-489	11.096
Chickasaw	FA-35-AB	7.046	Keokuk	FA-34	1.567
Chickasaw	FA-76	4.383	Mahaska	P-511-B	0.51
Clayton	FA-557-A	3.3	Mahaska	FA-70-CG	2.685
Clayton	FA-557-B	15.03	Mahaska	FA-146	3.47
linton	FA-292	16.862	Monona	FA-184	14.076
Clinton	FA-302	8.12	Monona	FA-515	18.577
Delaware	P-236	8.152	Monroe	FA-20	8.496
Delaware	F-4	15.63	Muscatine	P-523	5.805
Des Moines	F-301-B	13.08	Plymouth	FA-38	15.462
Des Moines	F-306	6.59	Pottawattamie	FA-46	2.643
			Pottawattamie	FA-280	14.214
			Poweshiek	FA-261-A	5.17



The above dimensions are 12' and 20' resp. for 20' widths.



All steel 5/8"ϕ plain round 2½" cover except dowels in center of section.

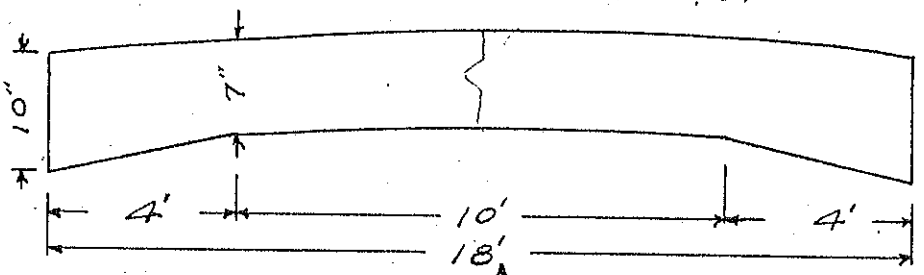
15

Design No. 15.

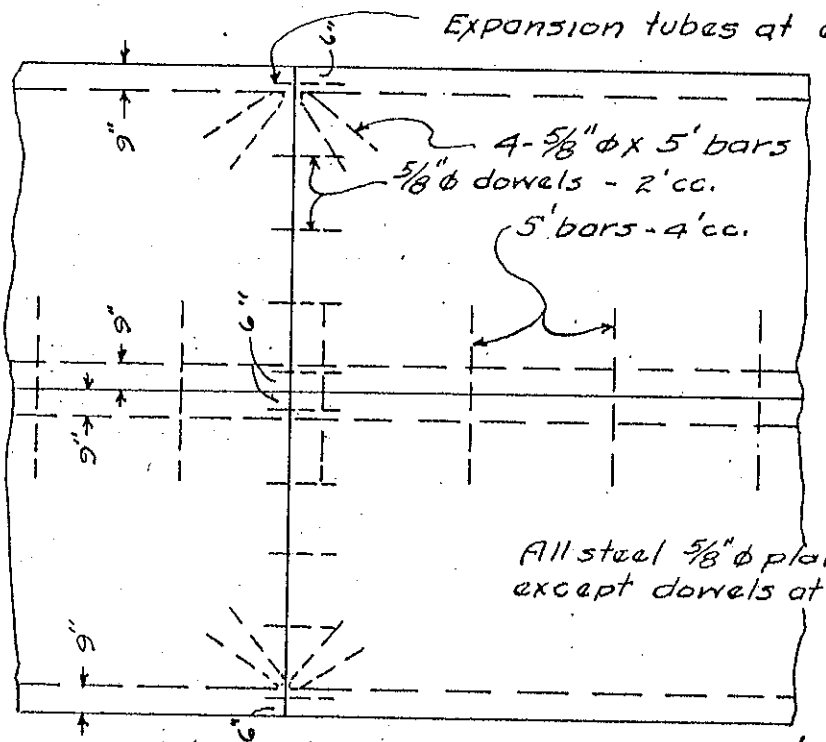
First Used in Letting of 11-15-27.

County	Project	Miles	County	Project	Miles
Adair	P-472	0.747	Fremont	FA-77	19.644
Adair	FA-173	10.320	Grundy	FA-266-A	4.876
Adams	F-152-A	5.2	Harrison	F-138	13.890
Allamakee	P-305	1.893	Harrison	F-228	11.574
Appanoose	FA-239	5.192	Henry	FA-56-DE&G	11.115
Benton	FA-251-C	8.00	Henry	FA-151	8.922
Bremer	P-334	5.091	Henry	FA-219-A to F	10.218
Bremer	P-421	4.44	Howard	P-590-A & B	21.727
Bremer	P-598	6.541	Iowa	FA-244-B	5.005
Buchanan	P-548-B	11.816	Jackson	P-600	2.316
Butler	P-167-F	9.142	Jackson	FA-21-A	1.466
Butler	P-558	19.468	Jackson	FA-21-BCD	14.127
Cerro Gordo	P-89	4.163	Jasper	FA-64	10.133
Chickasaw	P-601	10.33	Jefferson	P-220	8.846
Clayton	F-74-BCDF&G	12.784	Johnson	P-207-F	1.062
Clayton	F-166-CD	9.60	Johnson	P-589	0.544
Clarke	P-31	12.149	Jones	F-86-BC	18.514
Clarke	FA-33	8.993	Jones	FA-86-AB	6.92
Davis	FA-158	14.828	Jones	FA-163-A	17.274
Decatur	P-588-A	8.53	Keokuk	P-246-BCD	8.251
Decatur	P-588-BC	10.865	Keokuk	P-574-C	1.039
[illegible]atur	FA-122-B	2.738	Kossuth	P-6	10.787
Decatur	FA-298	7.88	Kossuth	FA-111	21.650
Dubuque	FA-17	3.332	Lee	P-149	0.965
Dubuque	FA-304	11.1	Lee	P-149-A	14.55
Fayette	FA-59-DE	15.415	Lee	P-149-CD	18.88

County	Project	Miles	County	Project	Miles
Lucas	P-551	13.79	Warren	P-580	10.45
Mahaska	P-510	16.205	Warren	P-596	4.77
Mills	P-479	8.968	Warren	F-11	4.01
Mills	P-605	1.583	Warren	FA-265-AB	6.25
Mills	FA-15	4.204	Washington	P-543-A	0.84
Mills	FA-15-AB	8.322	Washington	P-544	0.93
Mills	FA-226	8.099	Washington	P-602	9.28
Monona	FA-184 B&C	10.936	Wayne	F-91-DEF&G	7.07
Monroe	P-554	16.269	Wayne	FA-150	4.73
Montgomery	FA-16-AB	12.218	Winneshiek	P-585	9.9
Montgomery	FA-16-C	3.487	Winneshiek	FA-98-A & C	6.43
Montgomery	FA-238	5.38	Winneshiek	FA-98-B	7.36
Muscatine	P-481	13.252	Winneshiek	FA-308	7.04
O'Brien	P-335	7.257	Worth	P-555-C	2.90
O'Brien	P-545-A & B	17.94	Worth	P-555-[illegible]	8.12
Page	P-27	23.56	Lee Colman Rd Supp to P149 CD		0.33
Palo Alto	FA-307	13.147			
Plymouth	FA-275	7.976			
Polk	FA-216	0.319			
Pottawattamie	FA-280-B	5.238			
Pottawattamie	FA-309	11.068			
Pottawattamie	FA-310	6.9			
Poweshiek	P-385-A	2.173			
Poweshiek	P-385-B	14.446			
Van Buren	FA-165-A to F	17.796			
Van Buren	FA-222	1.446			
Wapello	P-326	5.429			
Wapello	P-559	11.60			



The above dimensions are 12'+20' resp. for 20' widths.

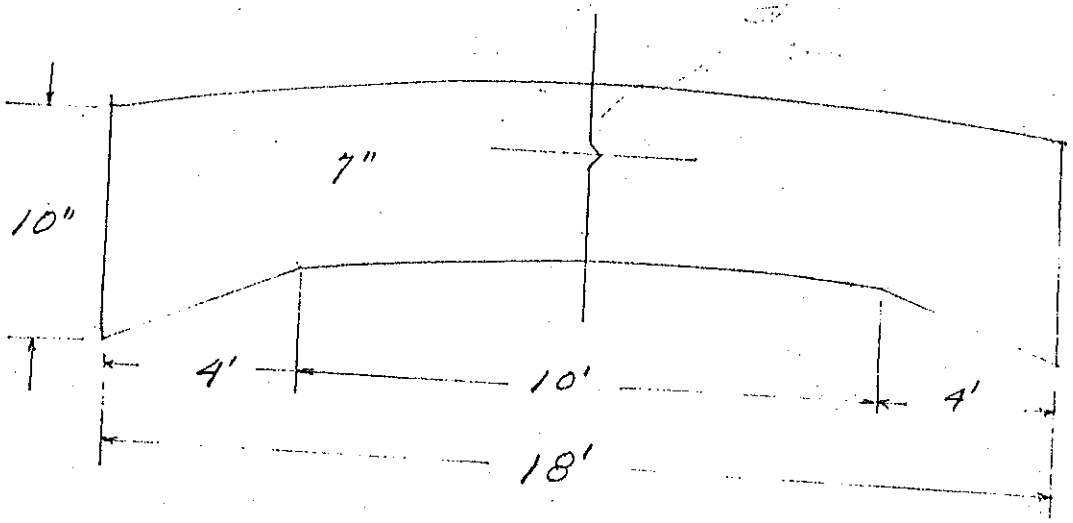


Note: This design is similiar to (14) except the "hairpins" are 5' long
This was used after 12-22-27

Design No. 15
First Used in Letting of October 16,1928
Width 18ft. 10-7-10

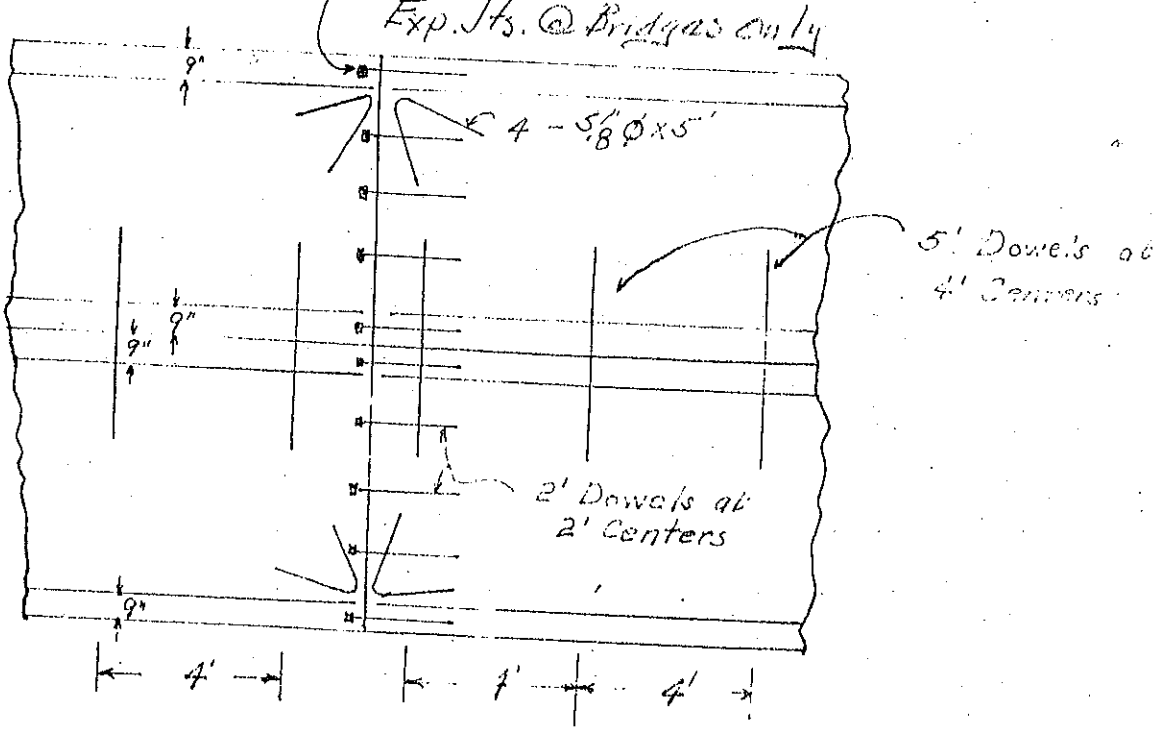
Wayne	F 150	4.739 Miles	1929
Wayne	F91 B, E, F, G	7.076 Miles	1929.

15a



All Bars Plain 5/8" Ø

Exp. Tubes at E.J. Only

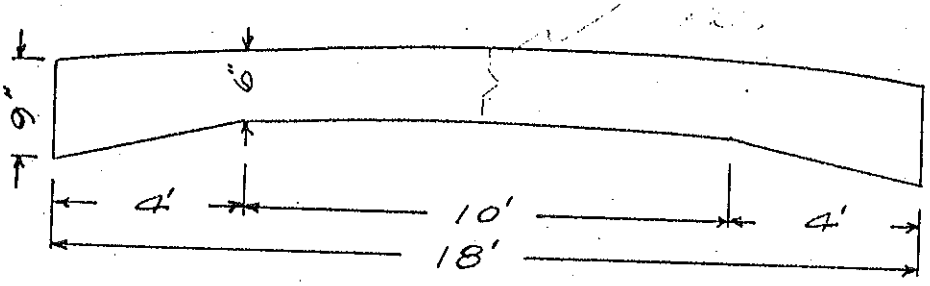


16

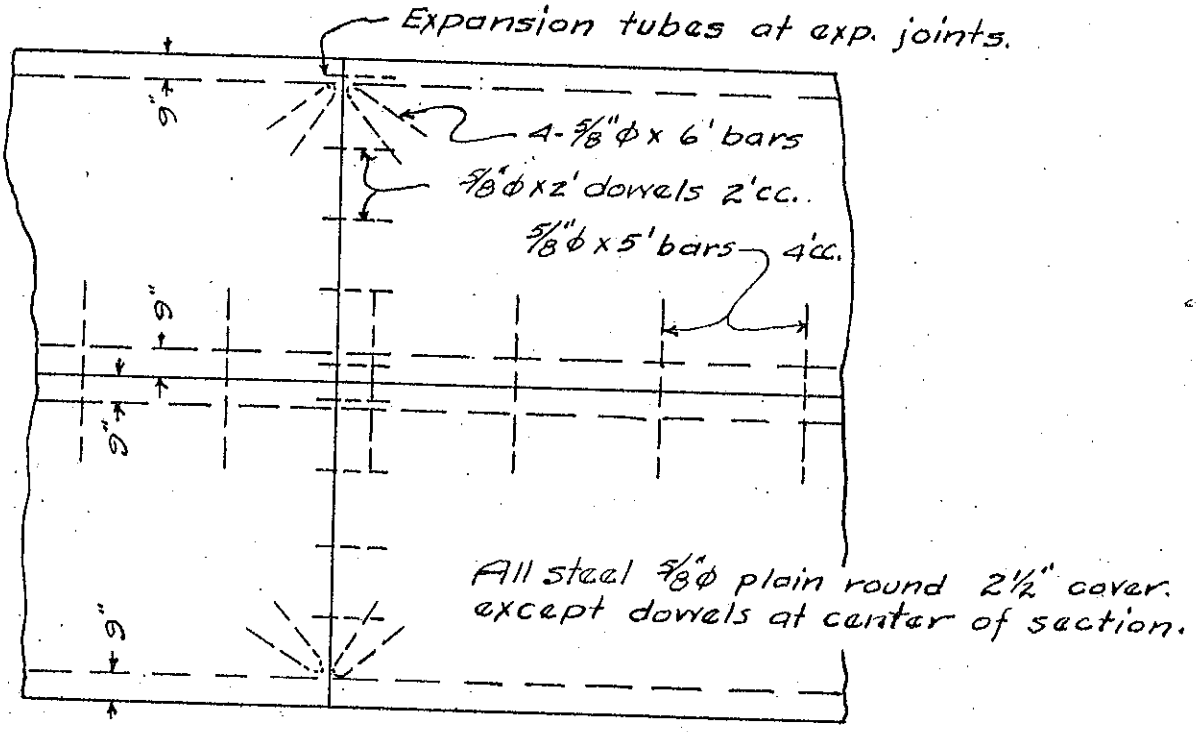
Design No. 16.
First Used in Letting of 7-12-27.

County	Project	Miles
Lee	Coleman Road	10.92

Width 18 ft 9-6-9



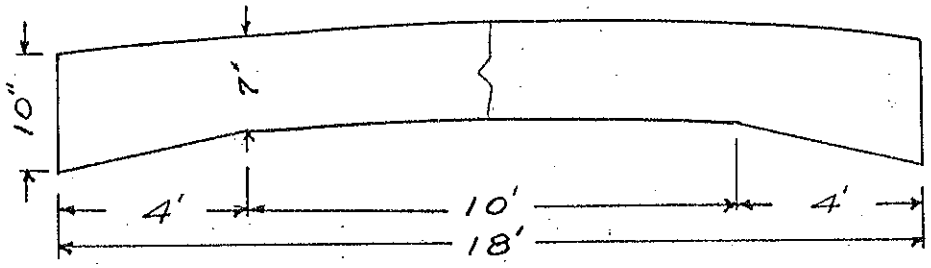
Note: This design is 1" thinner than design 14



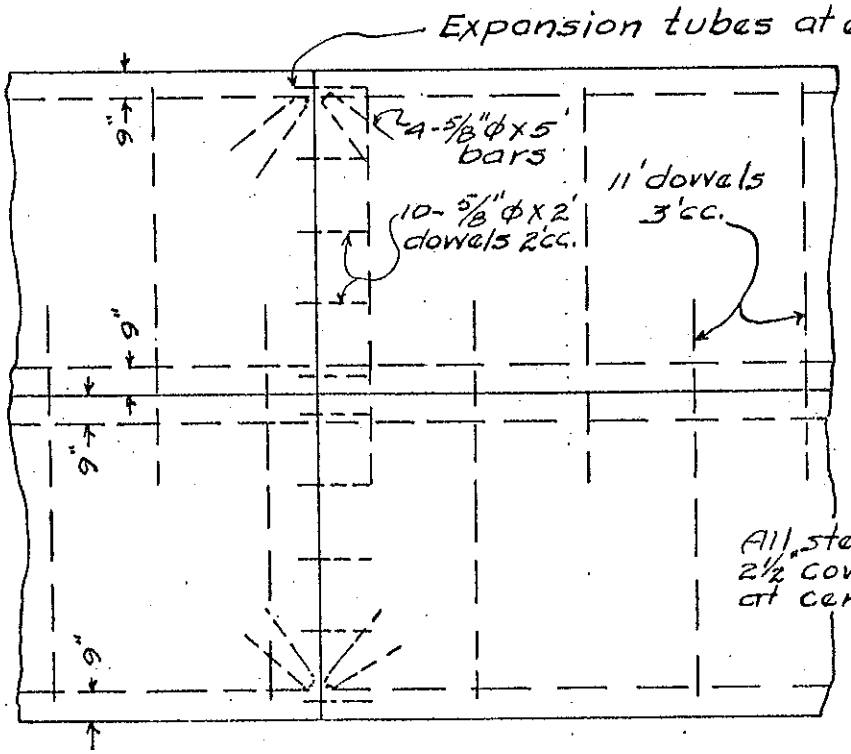
Design No. 17. Width 18ft 10-7-10
First Used in Letting of 5-14-29

County	Project	Miles	County	Project	Miles
Adair	P-162	3.982	Guthrie	FA-145-ABC	10.308
Adair	FA-173	3.021	Clay	F-218	5.017
Adams	F-26	10.129	Clayton	P-586-B	1.572
Audubon	P-503	1.16	Clinton	P-295	11.92
Audubon	FA-52	9.104	Clinton	FA-18	0.891
Audubon	FA-52-E	9.55	Crawford	P-289	13.943
Audubon	FA-208	8.54	Crawford	FA-232	8.885
Black Hawk	P-164	7.91	Crawford	FA-287-BC	7.60
Black Hawk	P-359	4.13	Davis	FA-153-AB	8.07
Black Hawk	P-359	7.13	Delaware	F-103	12.873
Black Hawk	P-625	3.52	Des Moines	F-301	4.156
Boone	P-61	10.16	Dickinson	P-23-ABCD	13.51
Boone	P-630-A	9.39	Dubuque	FA-17	20.08
Boone	P-644	14.29	Dubuque	FA-148-C	3.45
Bremer	P-483	5.997	Fayette	P-639	16.451
Bremer	F-88-A	3.894	Fayette	FA-164-ABC	8.815
Bremer	F-88-B	6.901	Fayette	F-172	7.097
Butler	P-167-A	7.085	Floyd	P-572	1.089
Butler	FA-274-BCD	10.434	Franklin	FA-105-ABCD	11.89
Buchanan	FA-262	11.31	Franklin	FA-171-AB	11.90
Carroll	P-611	12.271	Fremont	F-235	7.0933
Cass	P-150	3.116	Fremont	F-235	7.3927
Cass	FA-44-DEFG	11.456	Grundy	FA-19	12.203
Clarke	P-313	10.384	Guthrie	P-624	11.624
Clarke	FA-241	12.706	Hamilton	P-79-C	1.996

County	Project	Miles	County	Project	Miles
Hamilton	P-344-A	6.06	Union	FA-83-ABC	12.866
Hamilton	FA-67-BCD	13.202	Van Buren	FA-222-ABCD	14.762
Iowa	P-619	12.987	Wapello	FA-42-A	7.289
Iowa	F-90	12.750	Wayne	FA-91-C	6.104
Iowa	FA-244-F	8.327	Wayne	FA-150-A	6.381
Keokuk	FA-191	11.733	Webster	P-609	11.868
Linn	FA-224	12.110	Winneshiek	P-177	0.744
Lucas	P-550	10.261	Winneshiek	FA-98-A	6.456
Mahaska	P-510-A Ext.	0.992	Winneshiek	FA-284-ABC	10.804
Mahaska	P-511-A	7.704	Woodbury	P-579-A	0.11
Mahaska	FA-70	8.252			
Marion	P-315	12.935			
Montgomery	FA-238-A	10.032			
Page	FA-137	11.617			
Page	FA-178	10.8419			
Pottawattamie	P-298-B	5.259			
Pottawattamie	P-576	1.490			
Poweshiek	FA-261-B	2.624			
Scott	P-50	1.006			
Shelby	P-42	13.572			
Shelby	FA-207	9.843			
Story	P-133-ABCD	17.447			
Story	P-231	2.163			
Story	P-232	13.415			
Story	FA-311	10.638			
Tama	FA-47-A & B	25.75			
Tama	FA-303	2.875			
[illegible]	FA-81-B	12.843			



Some projects listed have joints only at [illegible]
regular intervals.



Design No. 18. Width 18 ft. 10-7-10
First Used in Letting of Feb 4 1930.

18

County	Project	Miles	County	Project	Miles
Adair	FA-256	4.387	Calhoun	P-25-A	0.999
Adams	F-152	8.933	Calhoun-Webster	P-676-A	0.435
Allamakee	P-677	10.00	Calhoun	NRH & M 370-ABCDE	10.802
Allamakee	P-677	6.595			
Allamakee	P-685-B	4.809	Carroll	P-14	0.734
Allamakee	NRH-170-AB	3.879	Carroll	P-611	11.937
Allamakee	FA-197	2.917	Carroll	P-706	0.946
Appanoose	P-648	8.182	Carroll	P-713	1.586
Appanoose	P-674-A	8.853	Carroll	F-334	6.271
Appanoose	P-674-B	1.954	Carroll	FA-154-AB Ext.	16.510
Appanoose	FA-239	0.277	Carroll	FA-154-CDE	9.796
Audubon	FA-52-A	6.774	Cass	P-571	4.470
Audubon	FA-320	9.686	Cass	F-314	7.171
Benton	P-435	2.904	Cass	FA-44-AB	6.401
Benton	P-501	3.97	Cass	FA-155	17.048
Benton	FA-58	0.354	Cedar-Muscatine	P-635-AB	5.488
Black Hawk	F-317-ABC	6.635	Cerro Gordo	P-653	8.027
Boone	FA-328	4.66	Cerro Gordo	FA-115	5.064
Boone	FA-350	12.20	Chickasaw	EF-35	4.549
Bremer	EF-367	10.89	Chickasaw	NRH-177-AB	6.271
Bremer	P-421	1.673	Clay	P-256	14.485
Bremer	P-763-A	3.331	Clay	P-256	0.698
Buena Vista	FA-355	2.561	Clay	P-259	4.638
Butler-Hardin	P-267	4.366	Clay	P-259-CD	12.709
Butler	P-558	0.173	Clay	F-218	2.969
Buena Vista-Sac	FA-333-B	4.50	Clay	EFA-361-A	6.353

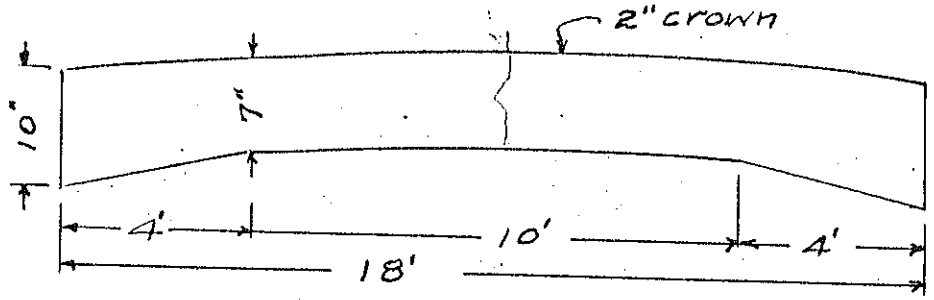
County	Project	Miles	County	Project	Miles
Clay	NRH-361-B	5.652	Fayette	P-553	1.172
Clayton	P-70	9.355	Floyd	P-269-A	5.27
Clayton	P-549	0.686	Floyd	EF-41	1.163
Clayton	F-74	12.12	Floyd	EF-369-ABC	6.59
Clayton	F-323	8.368	Fremont	P-136	1.789
Clayton	NRH & M-371-AB	10.9	Fremont	P-136	9.440
Clinton	P-272-B	0.284	Fremont	P-562-	1.793
Clinton	F-147	1.316	Grundy	FA-315	9.229
Clinton	NRH-419-AB	4.196	Grundy	FA-319-ABC	16.203
Crawford	P-8-B	6.230	Grundy	FA-332-B	10.401
Crawford	P-289-B	0.695	Guthrie	P-537	3.835
Crawford	FA-321	10.255	Guthrie	F-145	0.137
Crawford	NRH-& M-412	4.512	Guthrie	FA-51-A	12.333
Crawford	P-670-ABC	13.851	Guthrie	FA-179	7.378
Dallas	P-623-A	2.225	Guthrie	FA-624	0.65
Dallas	P-623-B	8.331	Hamilton	P-344-B	0.720
Dallas	P-640-AB	16.814	Hamilton-Hardin	FA-67-EFG	16.627
Dallas	P-641	24.198	Hamilton	FA-316	6.843
Dallas	P-648	5.653	Hamilton	FA-318	16.454
Dallas	F-330	13.772	Hardin	P-642	23.55
Davis	F-209-AB	11.038	Hardin	P-642-FGHI	12.48
Davis	FA-153-A	3.978	Hardin	P-642-H	0.34
Davis	NRH-& M-50-ABC	10.67	Hardin	P-642-J	0.701
Delaware	P-103-D	0.09	Hardin	P-642-K	0.730
Delaware	P-236	10.01	Hardin	F-139-B	9.252
Emmet	P-702-ABCD	23.55	Hancock	FA-79-ABC	11.383
Emmet	EF-363-BC	6.430	Hardin	EF-139-A	3.996
Emmet	NRM-363-D	0.319	Hancock		

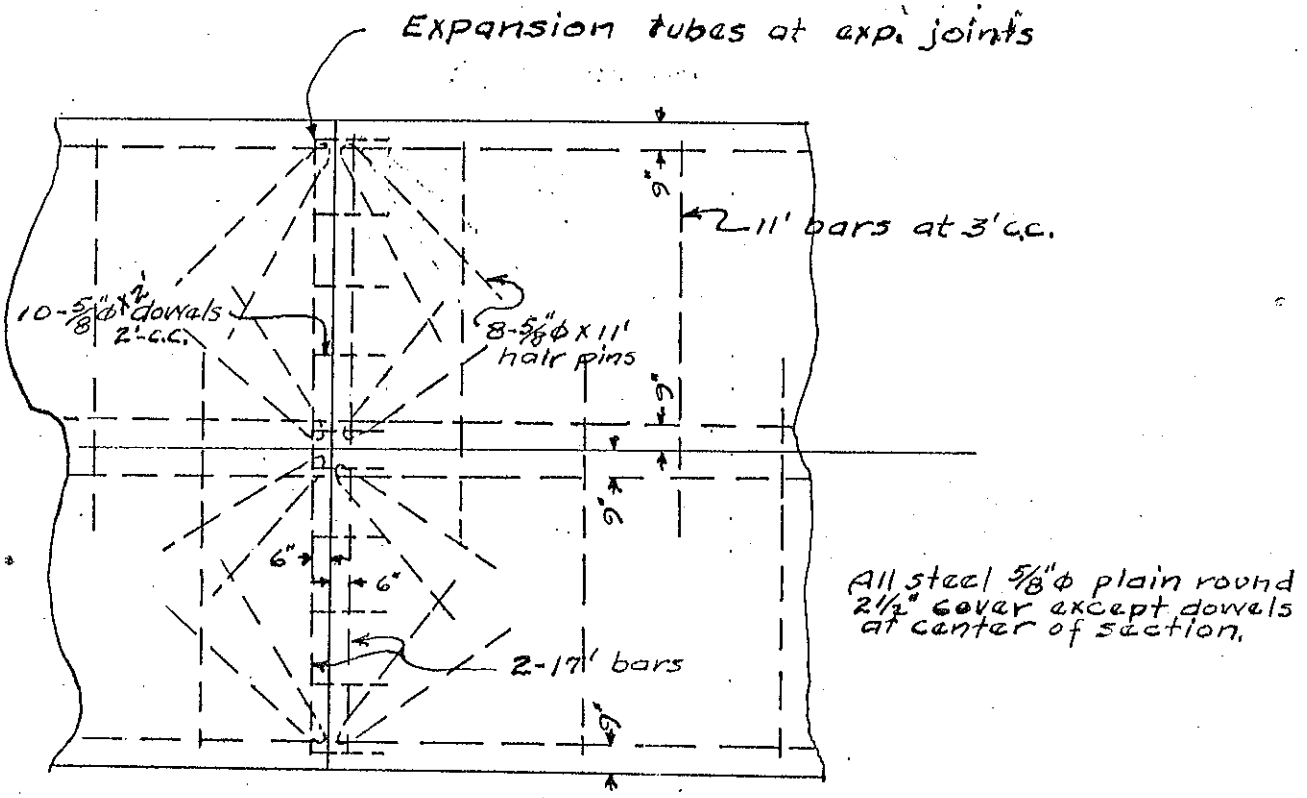
Second Sheet Design 18

County	Project	Miles	County	Project	Miles
Hancock-Winnebago	EF-139-BCD	11.86	Kossuth	P-667	11.999
Ha son	P-563-AE	1.628	Kossuth	P-667	6.155
Howard	FA-190-ABCD	12.129	Kossuth	FA-66-B	6.189
Howard	NRH & M-93	1.443	Lee	P-467-A	8.58
Humboldt	NRH & M-117 ABC	5.020	Lee	P-480	0.969
Ida	FA-248-A	7.811	Lee	FA-346	9.428
Iowa	FA-294-AB	8.793	Linn	P-443	9.403
Iowa	F-194	7.14	Linn	F-230	11.698
Jackson	P-448	2.205	Linn	FA-22	0.613
Jackson	P-532	0.43	Linn	FA-229-ABC	24.451
Jackson	FA-143-A	11.643	Linn	NRH-NRM-255-A	6.118
Jasper	P-77	16.354	Linn-Benton	NRH-255-A	3.693
Jasper	P-520	0.6825	Lucas	P-550	0.27
Jasper	FA-64-BC	4.05	Louisa	FA-299	18.045
Jefferson	FA-3	0.327	Lyon	NRH-M-420-AB	5.524
Johnson	P-311	0.305	Madison	P-764	12.814
Johnson	P-412	3.003	Madison	FA-169-B & E	5.023
Johnson	P-658	6.163	Madison	FA-325	8.098
Johnson	F-296	0.617	Madison	FA-327-A	11.795
Johnson	FA-9	0.444	Madison	NRM-327-B	0.603
Jones	P-687	0.688	Mahaska	P-686	7.858
Jones	F-86	0.392	Mahaska	EF-364	6.622
Jones	FA-86-B	0.354	Marion	P-253-C	5.154
Jones	FA-163-C	4.224	Marion	P-663	15.204
Keokuk	FA-34	10.025	Marion	FA-7	4.561
Keokuk	FA-191	3.990	Marion	FA-75-B	3.874
Ke k	FA-331	12.257	Marion	FA-253-ABC	10.238
Kossuth	P-6	1.439	Marion	FA-335-D	3.925

Design No 18

County	Project	Miles
Ma..on	FA-336	3.331
Marshall	F^A-211-B	1.809
Marshall	FA-211-E	0.253
Marshall	FA-211-H	0.224
Marshall	FA-332	8.313
Mills	P-512	6.464
Mills	FA-15	0.552
Mitchell	FA-45-A&B	14.41
Mitchell	FA-45-B	4.823
Mitchell	FA-368	7.102
Mitchell	EF-45-C	4.266
Mitchell	EF-45-C	5.320
Monroe	P-649	8.132
Monroe	P-294-A	1.2653
Monroe	P-294-B	1.704
Monroe	P-294-C	7.090
Montgomery	P-607	7.609
Montgomery	FA-73-A	8.077
Muscatine	P-523	0.275
Muscatine	P-523-B	0.322
Muscatine-Cedar	P-635 A & B	5.488
Muscatine	P-635- D & G	0.685
Muscatine	P-635-CEFH	13.274
Muscatine	FA-87	9.109
Mu..atine	NRH-372	9.124
O..len	NRH-M-43	2.044
Osceola	P-725-ABCD	15.369
Osceola	NRH-M-329	6.816
Palo Alto	FA-362	12.169
Page	P-264	13.514
Pocahontas	NRH-M 421	4.886
Pottawattamie	P-576	6.589
Pottawattamie	P-576-A	8.877
Pottawattamie	FA-46	0.431
Pottawattamie	FA-310-C	14.766
Pottawattamie	FA-310-D	1.067
Pottawattamie	F^A-312	11.862
Poweshiek	F-261	0.324
Poweshiek	F^A-313	8.380
Sac-Buena Vista	FA-333-A	7.120
Sac	NRH-M 333-C & D	9.749
Shelby	FA-322	14.475
Sioux	NRH-281-BC	4.064
Story	P-700	1.082
Story	FA-72-B	12.124
Tama	F^A-257	0.093
Tama	FA-257	9.100
Tama	FA-257	1.185
Tama	FA-276	0.406
Tama	F-276	0.767
Ta	FA-303	1.677
Taylor	FA-149-A & B	14.154
Taylor	NRM-81-C	0.093
Union	P-664-ABC	6.709
Union	P-664-ABC	3.155
Union	FA-83-DEGHIJ	13.731
Union	FA-326	9.548
Warren	P-569	9.008
Warren-Polk	P-662	12.129
Warren	EFA-335-ABC	8.108
Warren	EFA-335-C	3.956
Warren	FA-365	2.807
Washington	P-578-A	8.893
Washington	P-578-G	2.618
Washington	F^A-324	8.885
Washington	FA-324	6.207
Wayne	FA-237	1.694
Webster-Calhoun	P-25-ABC	11.394
Webster	P-184	2.418
Webster	P-643	10.020
Webster	P-673-A	16.215
Webster	P-673-BCD	4.409
Webster-Calhoun	P-676-ABC	12.264
Webster	FA-272	4.127
Winnebago	P-750-A & C	9.561
Winnebago	P-750-A & C	8.589
Winnebago	P-750-D	2.954
Winnebago	P-752-E & F	0.907
Winnebago	FA-30-A	5.871
Winneshiek	FA-98	0.094
Winneshiek	FA-98-D	4.617
Winneshiek	FA-98-E	1.587
Winneshiek	F^A-284-D	4.043
Worth	P-555-B	0.360
Wright	F^A-29-A-B	14.424
Wright	FA-29-C	6.275
Wright	F^A-29-DEF	4.433
Wright	FA-267-C	12.051
Wright	FA-267-D	0.246
Wright	FA-267-E	12.174
Wright	FA-267-F	0.152
Wright	F^A-343-ABCD	7.746
Wright	FA-360-AB	6.829
Henry	FA-56-F	1.712

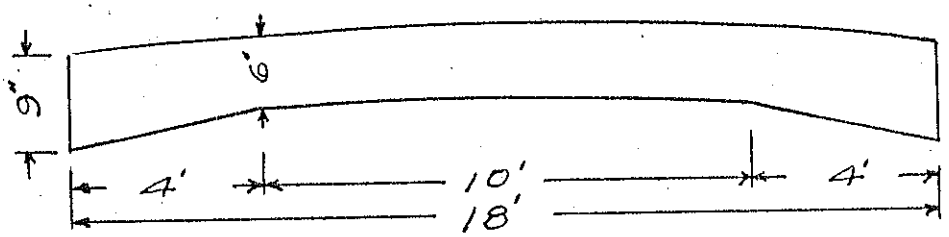

2" crown
10"
7"
4'
10'
4'
18'


Expansion tubes at exp. joints
9"
11' bars at 3' c.c.
10-5/8"φ x 2' dowels 2'-c.c.
8-5/8"φ x 11' hair pins
9"
9"
6"
6"
2-17' bars
9"
All steel 5/8"φ plain round
2½" cover except dowels
at center of section.

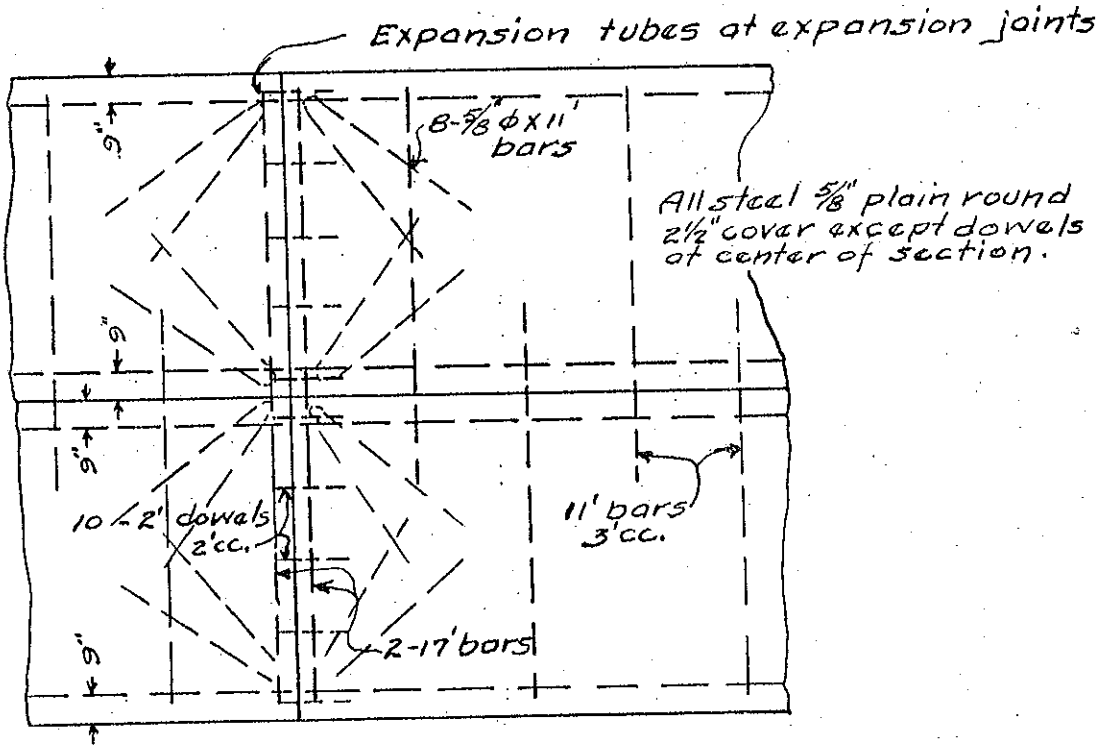
Design No. 19. Width 18 ft. 9-6-9
First Used in Letting of 6-8-32.

19

County	Project	Miles
Franklin	NRS-407-AB	2.076
Kossuth	FA-66-B	0.675



Note: This section is 1" thinner than section - 18'

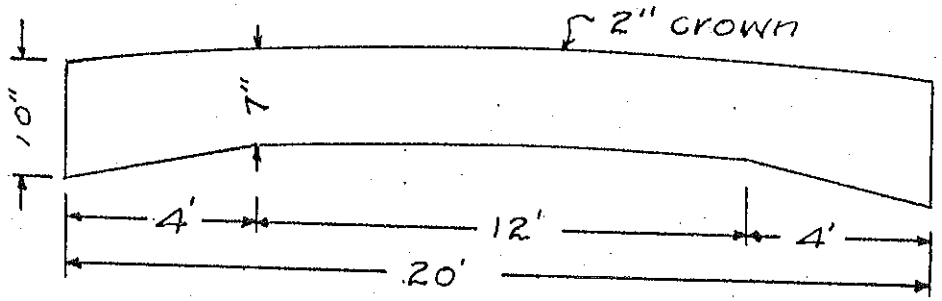


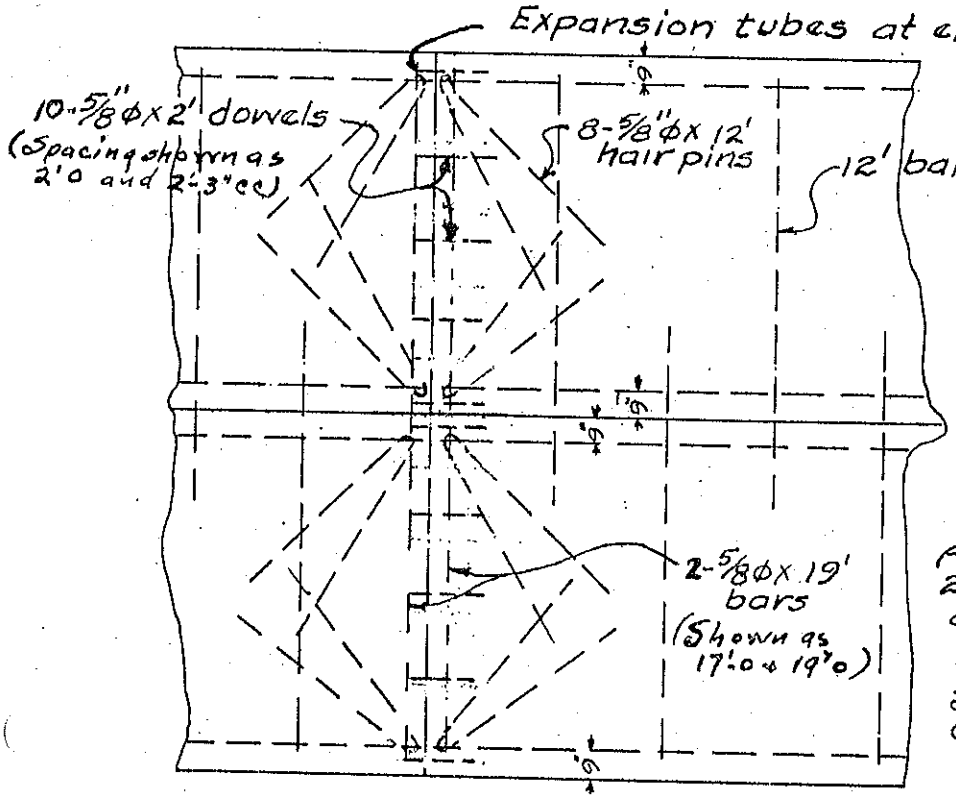
Design No. 20. Width 20 ft. 10-7-10

First used in Letting of 6-23-30.

20

County	Project	Miles
Adams	NRM-348	0.315
Cerro Gordo	NRH-1-B	1.059
Clayton	P-671	1.13
Clinton	P-748	1.818
Des Moines	F-306	0.893
Dubuque	FA-148-D	8.365
Johnson	P-766	1.018
Lee	FA-149	0.260
Mahaska	NRM-293-C	0.457
Polk	P-758-ABC	5.727
Polk	FA-206-E	0.231
Polk	FA-340-A	4.007
Pottawattamie	State Institution 8-31	0.489
Scott	P-762	1.108
Woodbury	P-45	1.8015
Woodbury	P-45-A & B	0.578
Woodbury	P-767-ABC	4.865
Woodbury	NRS-104-A	7.569



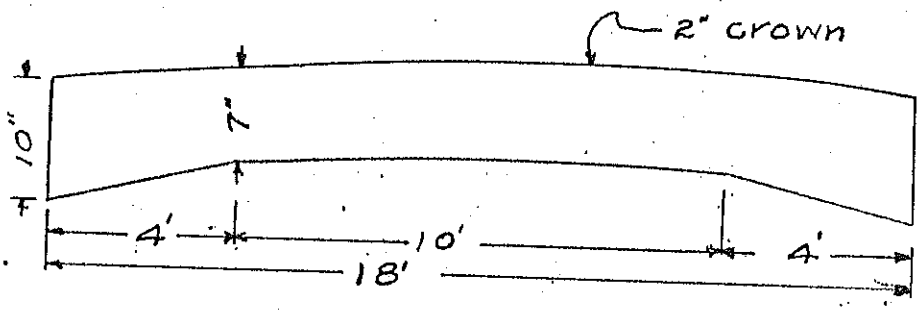


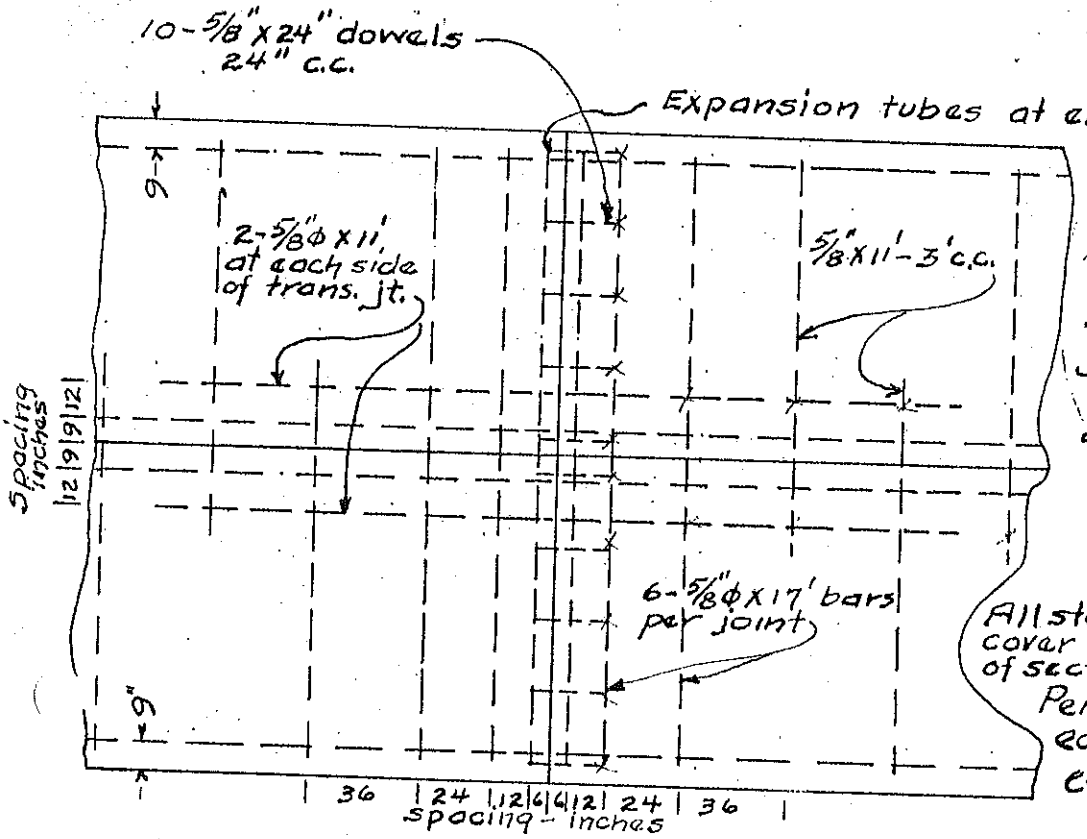
All steel 5/8" ϕ plain round
2½" cover except dowels
at center of section
Rigid support of steel required.
Some plans show permanent
stairs on Dowels and Hairpins.

Design No. 21. Width 18 ft. 10-7-10 21

First Used in Letting of 11-21-33.

County	Project	Miles
Appanoose	NRM-27-CD	0.983
Bremer	NRH-367-B	0.3947
Cerro Gordo	NRH & M-61	1.017
Delaware	NRM-249	1.272
Floyd	NRH-& M-41 D & E	0.328
Hancock	NRM-94	0.196
Handock	NRH-139	0.346
Jasper	NRH & M-425	6.447
Jones	FA-163-EF	0.259
Lee	NRH & M-416 AB	1.875
Mahaska	NRM-427	0.736
Marshall	FA-23-CD	0.340
O'Brien	NRH-446	0.265
Scott	NRS-481-A	0.312
Sioux	NRH-M 28-ABC	7.462
Warren	NRH-M 415-ABC	11.008
Webster	NRH-422	0.307





Expansion Joints to be Spaced 60 ft-¾" with Gravel aggregate and 1" @ 80 ft with Stone

If Bit Curing is used Joints to be 1" @ 80 cc With 1 Contraction Joint Midway between

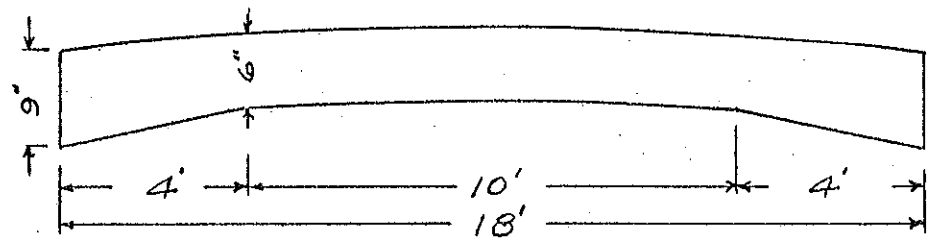
All steel 5/8"φ plain round 2½" cover except dowels in center of section.

Permanent Chairs at each dowel and 2 on each Transeerse Bar

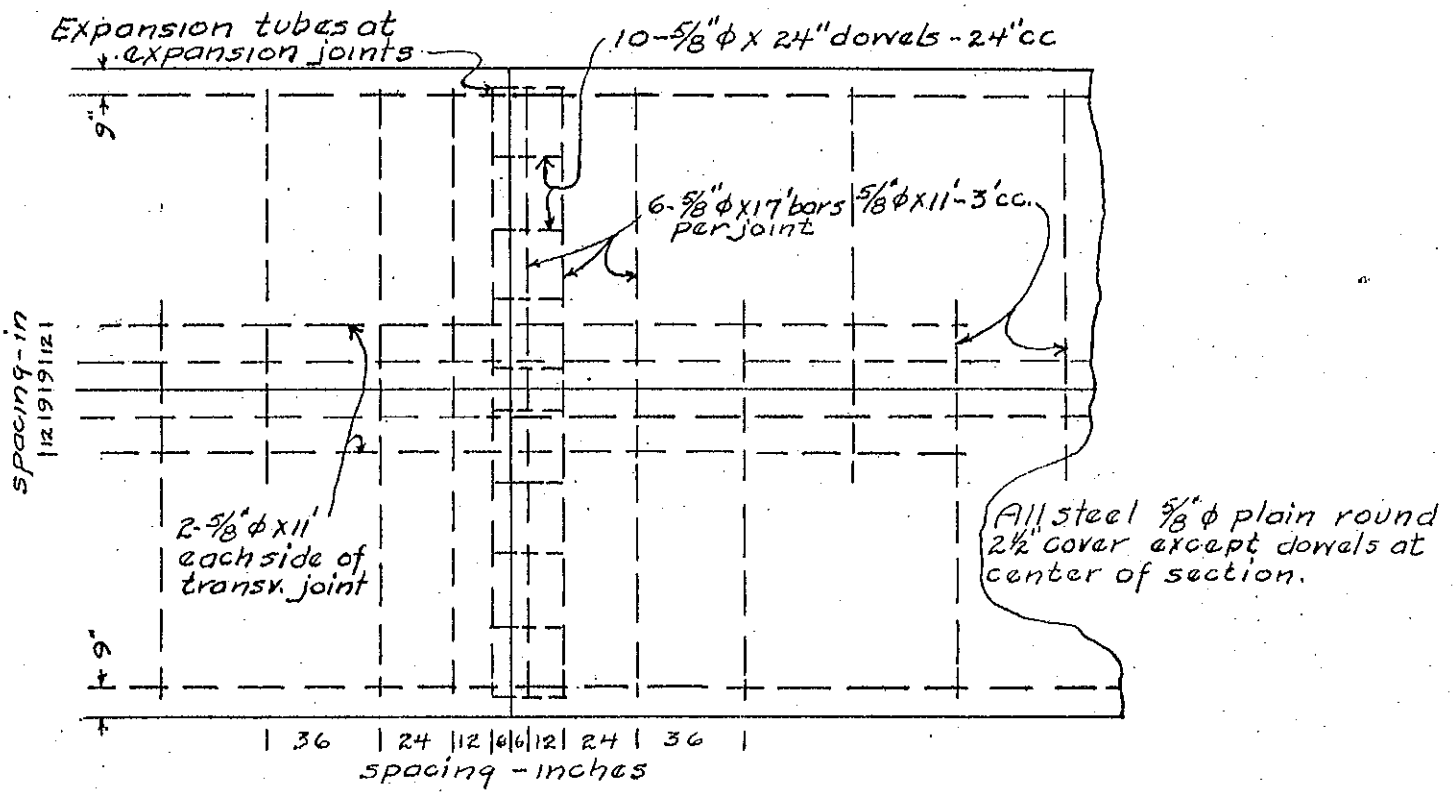
Design No. 22. Width 18 ft. 9-6-9

First Used in Letting of 11-21-33.

County	Project	Miles
Audubon	NRM-52-F	0.490
Franklin	NRM-212-F	0.749



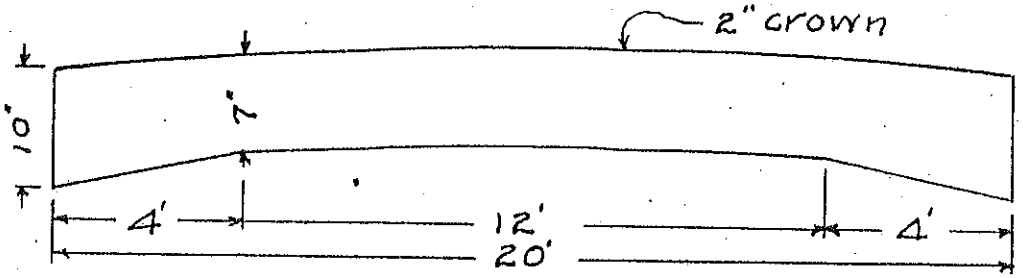
Note: This section is 1" thinner than section 21

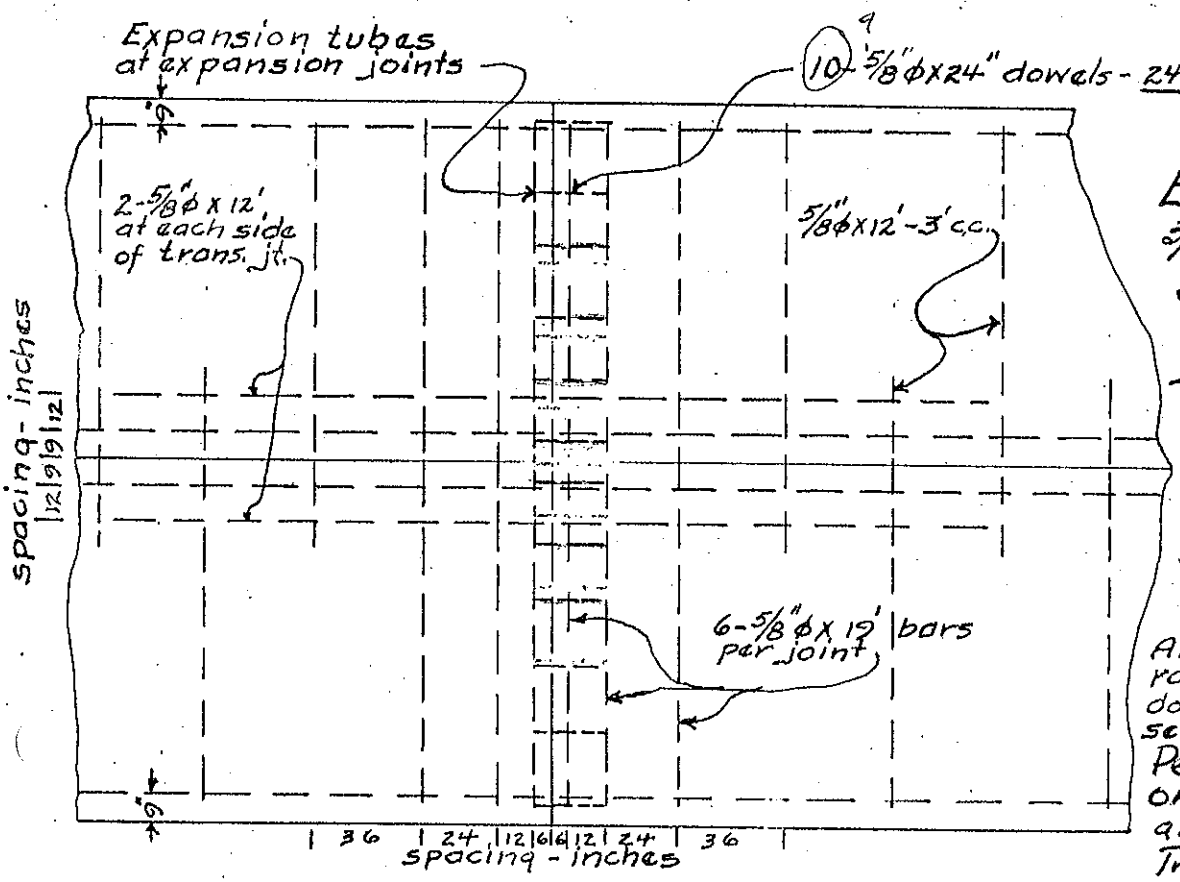


Design No. 23. Width 20 ft. 10-7-10

First Used in Letting of 12-5-33 .

County	Project	Miles
Floyd	NRM-41-C	0.6259
Hamilton	NRM-67-D	0.602
	NRM-67-J	0.227
Hamilton	NRM-450	0.484
Jefferson	NRM-120-B & C	0.568
Kossuth	NRM-111C-D	0.956
~~Lucas~~	~~NRM-63-GH~~	~~0.468~~
Polk	FA-199-A & C	0.519
Pottawattamie	NRM-280-E	0.484
Scott	NRM-114-E & F	2.030
Scott	NRM-185-B	0.688
Union	NRM-83-K	0.151





Expansion Joints 3/4" @ 60' with Gravel or 1" @ 80' with Stone Coarse Aggregate. If Bit Curing is used. Joints to be 1" @ 80 ft with 1 Contraction Joint Midway between

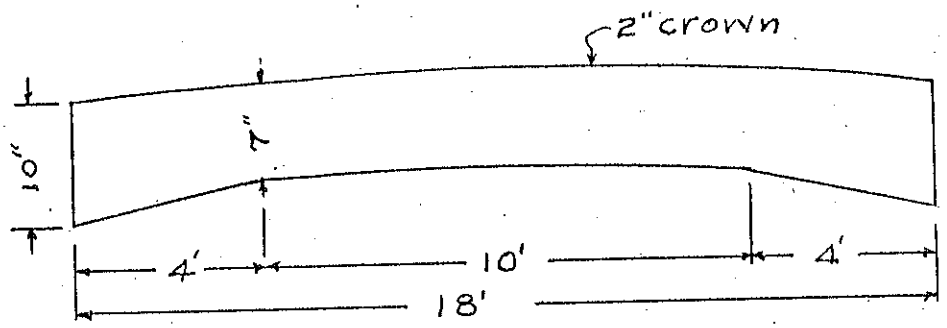
All steel 5/8" ϕ plain round - 2½" cover except dowels in center of section.
Permanent Chairs on each dowell and 2 on each Transverse bar

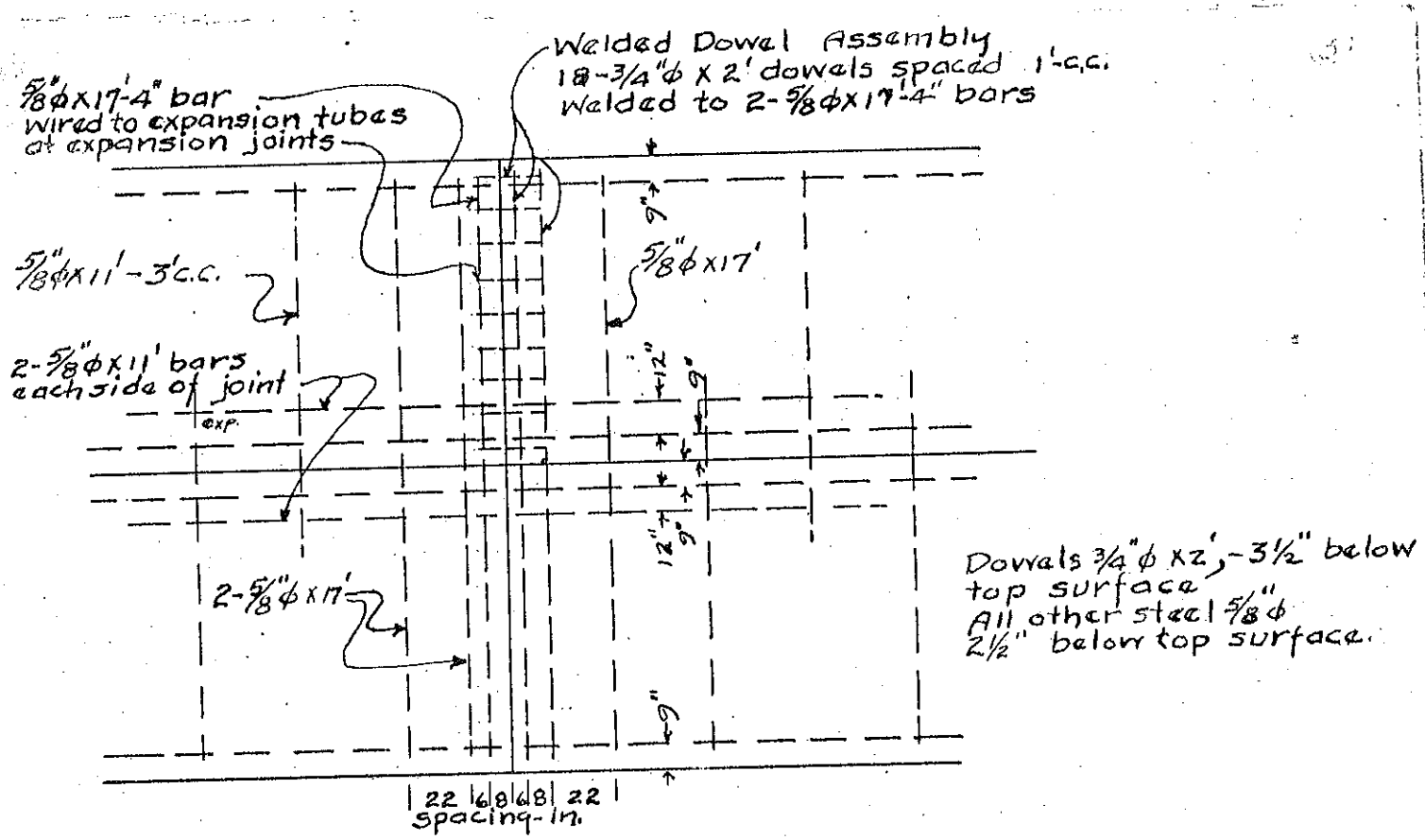
Design No. 24 Width 18 ft. 10-7-10 24

First Used in Letting of Sept 12 1934.

County	Project	Miles
Allamakee	NRH-543A	2.765
Blackhawk	NRS-487A	2.53
Buena Vista	NRH-M37CD	3.964
Carroll	NRH-538A	2.899
Chickasaw	NRH-M-76BDE	3.917
Dallas	NRH-M-557AB	0.854
Franklin	WPSO-M-S529AB	1.55
Hancock	WPSSMS571AB	0.751
Harrison	NRS-528-A	4.781
~~Jasper~~	~~WPGM-64H~~	~~0.231~~
Jefferson	NRH-120E	0.356
Kossuth	NRH-504A	3.997
Mitchell	NRH-259	0.415
Mitchell	NRH-368A	6.593
Osceola	P-296-A	5.249
Page	NRH-M524D&F	1.230
Palo Alto	NRH-421DE	6.122
(Pocahontas)		
Plymouth	NRH-342-A	6.156
Plymouth	FA-342-AB	7.912
(Sioux)		
Pocahontas	NRH-421DE	6.122
(Palo Alto)		

County	Project	Miles
Scott	FA-55C	0.145
Scott	FA-114C	0.391
Sioux	FA-342BA	7.912
(Plymouth)		
~~Sioux~~	FA-342CD	~~0.941~~


2" crown
10"
7"
4'
10'
4'
18'

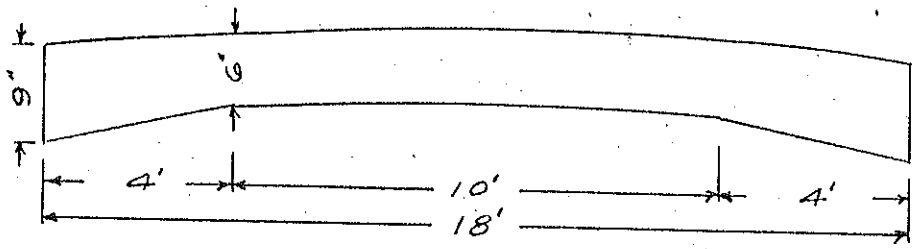

Welded Dowel Assembly
18-3/4"ϕ X 2' dowels spaced 1'-c.c.
Welded to 2-5/8ϕX17'-4" bars
5/8"ϕX17'-4" bar
wired to expansion tubes
at expansion joints
5/8"ϕX11'-3'c.c.
5/8"ϕX17'
2-5/8"ϕX11' bars
each side of joint
EXP.
2-5/8"ϕX17'
9"
12"
9"
12"
9"
9"
22 6 8 6 8 22
spacing-in.
Dowals 3/4"ϕ X2', -3½" below
top surface
All other steel 5/8ϕ
2½" below top surface.

Design No. 25 Width 18 ft. 9-6-9

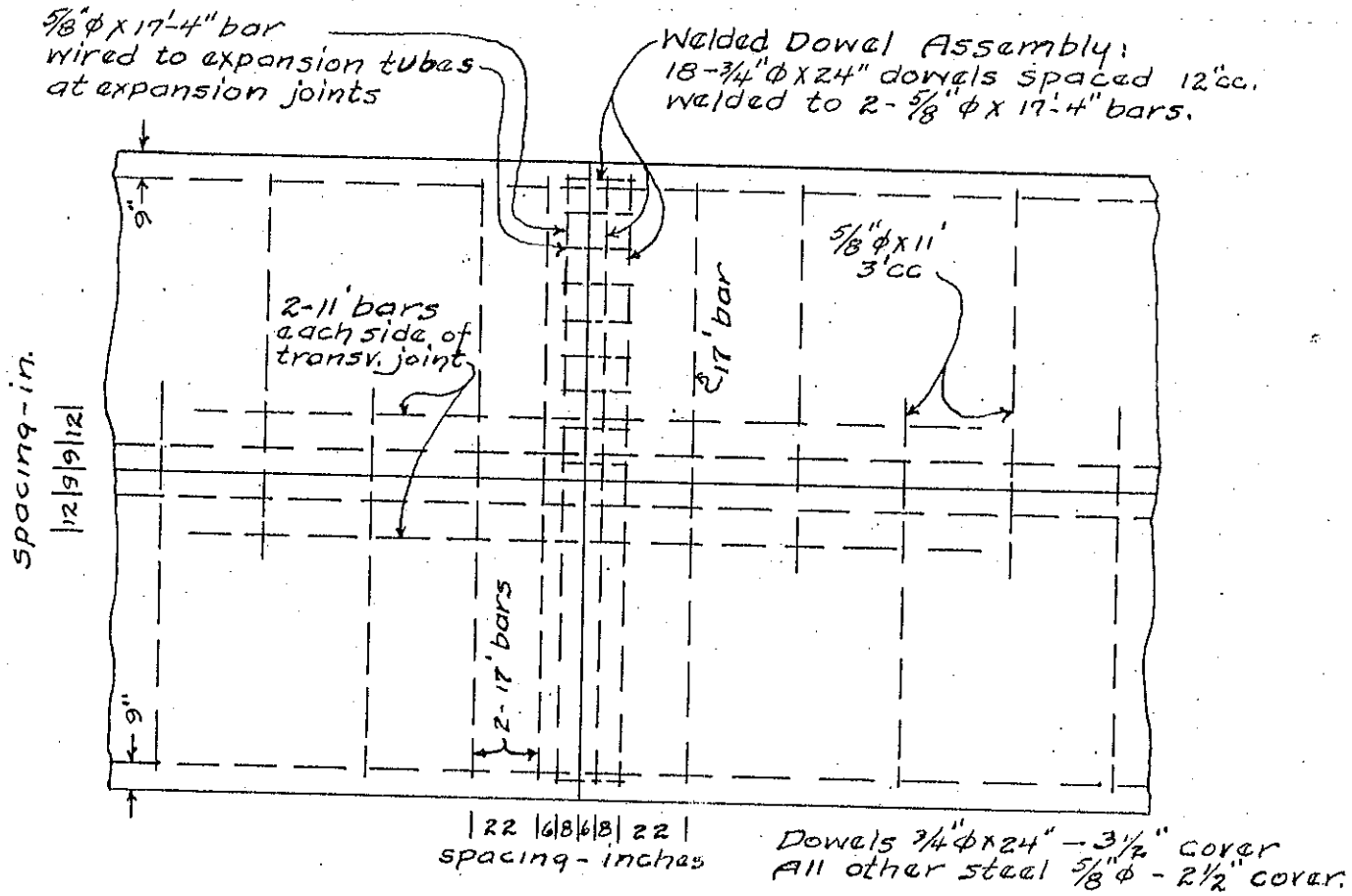
25

Used on Projects: First Used in Letting of 10-1-35

County	Project	Miles
Franklin	WPSO-577	1.137
Hancock	WPSS-WPMS 571 AB	0.751



Note: This section is 1" thinner than section 24



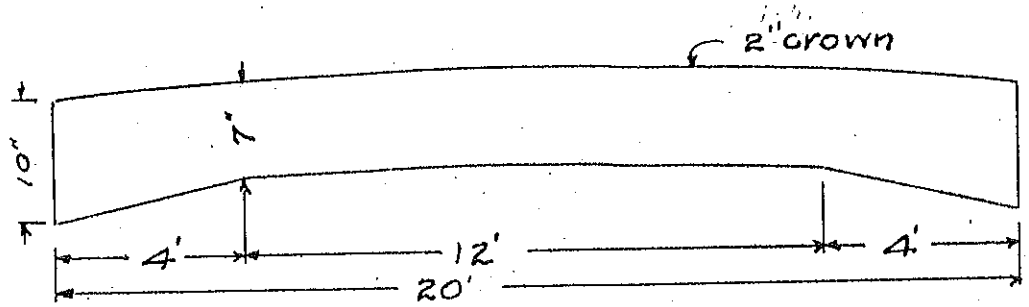
Design No. 26 Width 20 ft. 10-7-10
First Letting used in 9-12-34 .

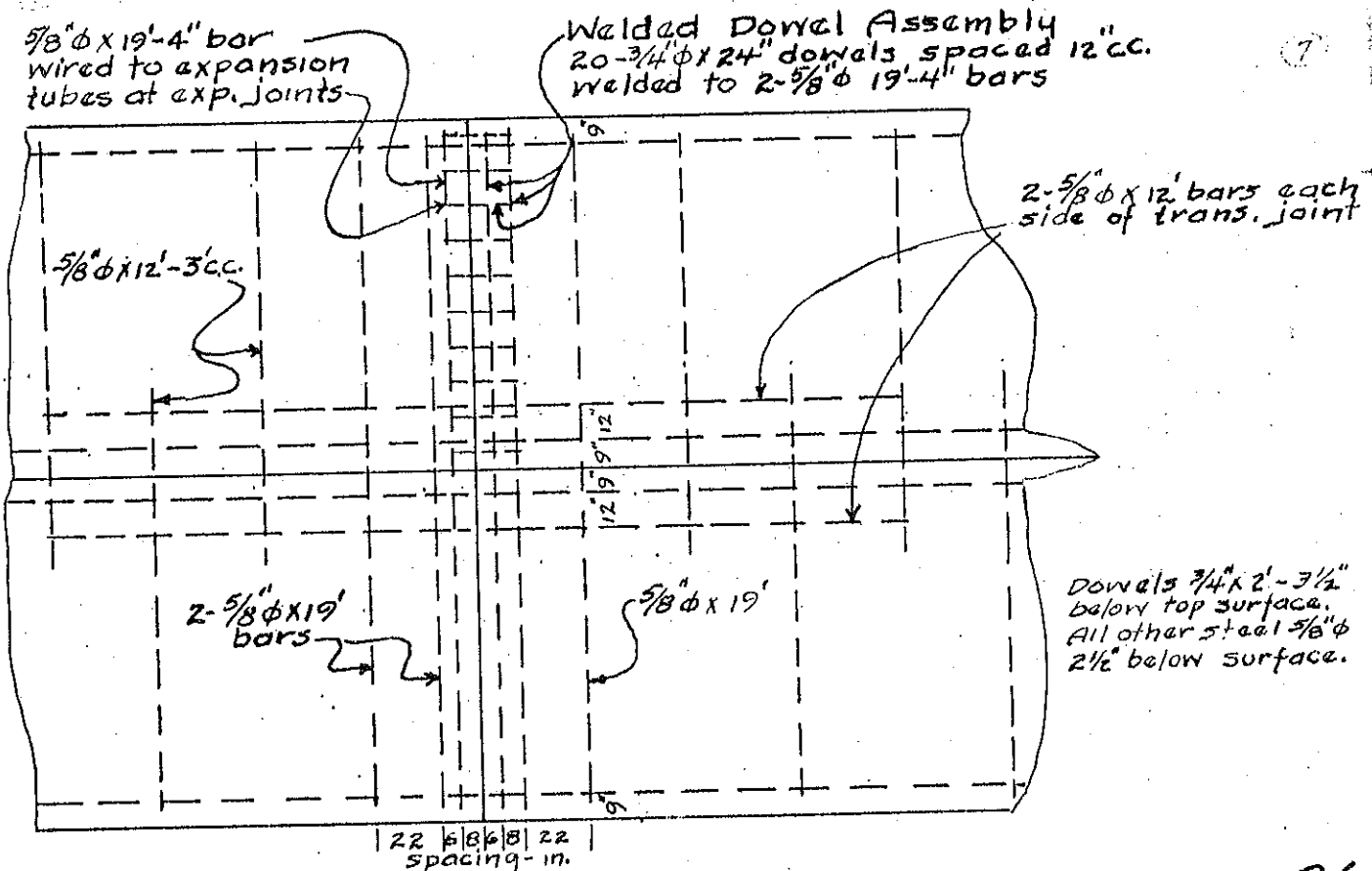
26

Used on Projects:

County	Project	Miles	County	Projects	Miles
Appanoose	WPGH-27-B	0.309	Franklin Hardin	WPGH-569-A	0.326
Benton	F-58-DE	0.332	Fremont	WPGH-581	0.334
Benton	FA-553-A	3.065	Greene	WPGM-203-E	
Bremer	FA-380-F	5.305	Greene	WPMH-WPH-203FG	1.385
Bremer	FA-380-GA	3.228	Guthrie	FA-51-D&E	0.255
Butler	WPMH-85-G	0.646	Hamilton	FA-360-C	6.102
Butler	WPGH-85-H	0.332	Hancock	FA-94-AF	4.577
Carroll	WPGH-154-H	1.033	Hardin	WPGH-568-A	0.303
Cedar	FA-213-ADiv-1	7.384	~~Harrison~~	~~NRS-528-A~~	~~4.781~~
Cherokee	WPMH-596	1.393	*Howard	FA-31	2.484
Chickasaw	FA-76-B	3.495	*Humboldt	WPGH-117-I	0.340
Chickasaw	FA-160-AB(1)	--	Humboldt	FA-117-J	6.191
Chickasaw	WPGH-160-B(2)	0.568	Humboldt	FA-117-D&E	0.992
Clayton	NRM-358-CE	0.874	Humboldt	WPGH-117-H	0.356
Clayton	FA-579-ABC	8.258	Humboldt	FA-117-G	5.358
Dallas	FN-65-C(2)	0.362	Ida	FA-80	0.421
Delaware	WPH-WPMH-249B&C	1.387	Ida	FA-248-B	0.29
Dickinson	FA-564-A	10.347	Ida	FA-445	4.889
Dubuque	WPGH-305	0.208	Ida(Sac)	FA-517-ABC	8.763
Emmet	WPMS-439-B	0.536	Iowa	WPGH-90-D	0.116
Emmet	FA-363-A	4.878	Jasper	WPH-64-A	0.151
~~yette~~	~~FA-172-ABC~~	~~6.492~~	Jasper	FA-376	2.753
Floyd	FA-271-D	2.002	*Howard	FA-93-B	3.620

County	Project	Miles	County	Project	Miles
Jasper	FA-376-I	5.476	County	Project	Miles
Kossuth	FA-351-C	0.846	Powershiek	FA-174	0.355
Kossuth	FA-504-B	6.369	Powershiek	FA-174-ACD	11.134
Lee	WPMH-650-A	0.738	Sac (Ida)	FA-517	
Linn	WPGHM-96-BC	0.386	Scott	FA-55-C	0.145
Louisa	NRM-250-CD	0.536	Scott	FA-114-C	0.391
Louisa	FA-250-ABC	6.165	Scott	WPMH-114-G	0.259
Lyon	FA-420-C	6.110	Scott	NRM-185-EF	4.988
Madison	FA-366-A	5.122	Scott	WPMH-185-CD	2.973
Mahaska	WPGH-70-C	0.511	Scott	WPMS-717	0.540
Marion	WPHWPMH-7-CD	1.23	Union	WPGM-552 B	50 ft. only
Marshall	WPGH-376-H	0.545	Union	WPMH-552-C	0.18
Marshall	FA-376-JK(283)	8.138	Union	NRM-552-A	1.079
Mitchell	WPMH-573	0.572	Van Buren	FA-69-A(1)	3.295
Monroe	WPMH-20	0.710	Van Buren	WPGH-60-A(2)	0.431
O'Brien	FA-566-A	6.664	Van Buren	FA-165G	1.236
Palo Alto	WPGH-362	0.417	Webster	WPH-575-A	0.968
Pocahontas	FA-421-F	3.655	Webster	WPMH-13-B	0.540
Pocahontas	WPGH-421	0.378	Woodbury	NRM-548-A	0.835
Polk	NRH-376-F	4.023	Butler	NRM-375	
Polk	NRMH-376-BCD	8.611	Lucas	NRM-63-GHI	0.904
Polk	WPS0-695-A	1.868			
Polk	WPS0-696-A	0.594			
Pottawattamie	NRHM-280-FGH	1.96			
Pottawattamie	NRM-310-E	0.85			

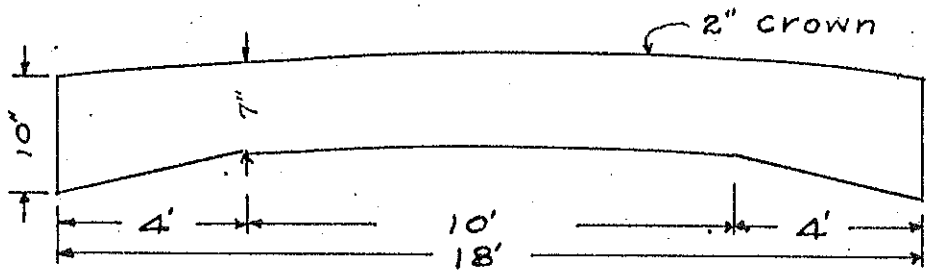

2" crown
10"
7"
4'
12'
4'
20'

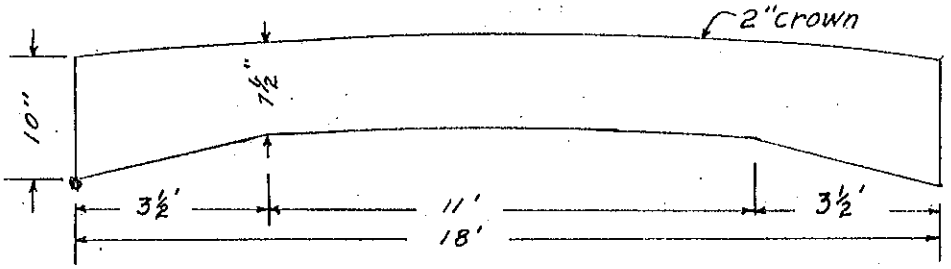

5/8"ϕ x 19'-4" bar wired to expansion tubes at exp. joints
Welded Dowel Assembly 20-3/4"ϕ x 24" dowels spaced 12" c.c. welded to 2-5/8"ϕ 19'-4" bars
7
2-5/8"ϕ x 12' bars each side of trans. joint
5/8"ϕ x 12'-3" c.c.
9"
12"
9"
12"
9"
2-5/8"ϕ x 19' bars
5/8"ϕ x 19'
Dowels 3/4" x 2'-3 1/2" below top surface. All other steel 5/8"ϕ 2 1/2" below surface.
22 6 8 6 8 22
spacing - in.

Design No. 27 Width 18 ft. 10-7-10 27

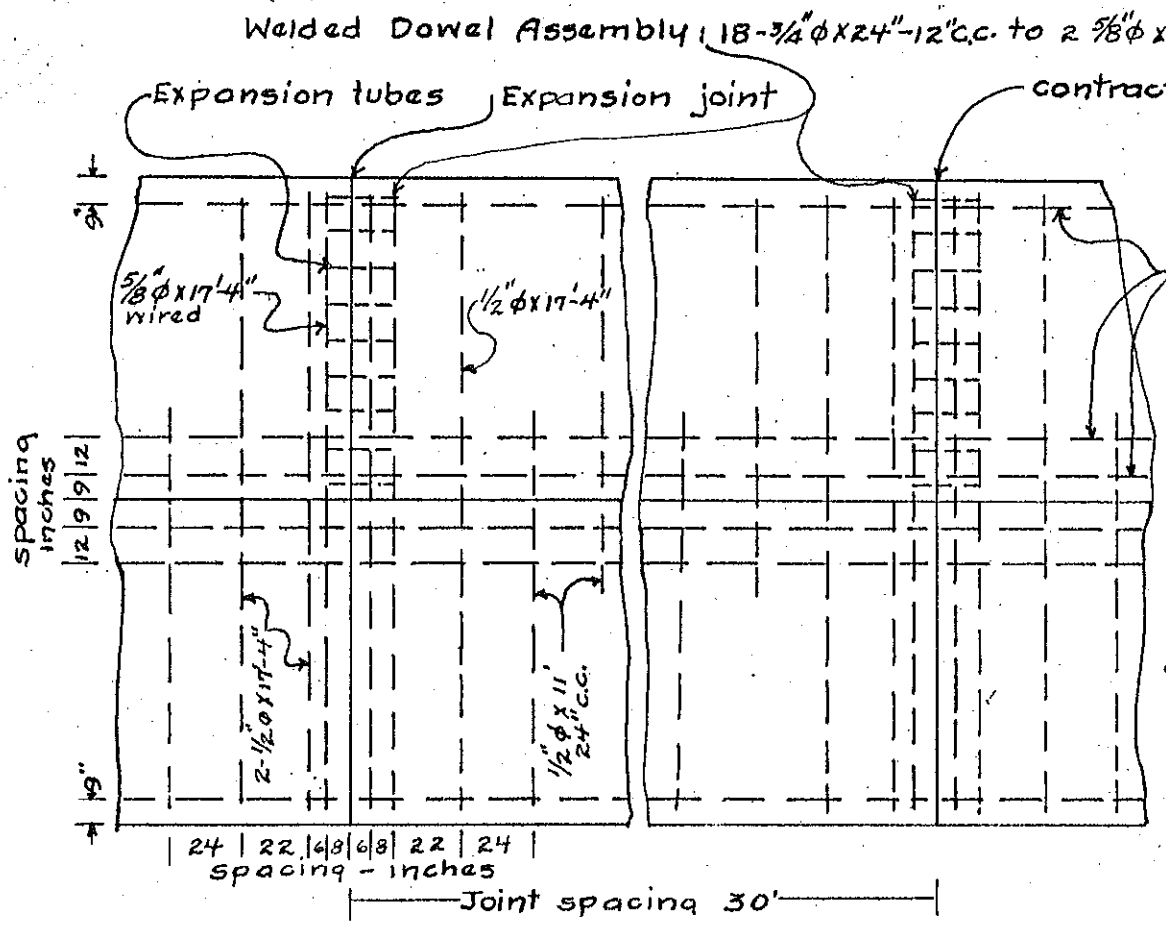
First Used in Letting of Sept 15 - 1936

County	Project	Miles
Benton	FN-58	0.475
Cherokee	FA-728	1.805
Ida	FA-731	2.385
Lyon	FA-733A	0.963
Humboldt	P-874	7.182
Osceola	P-876	1.996
Palo Alto	P-888AB	0.422
Washington	T-835 (PWA1316F)	0.327
Woodbury	WPGM-604	0.955
Dickinson	P 936	1.887





This section applies to following. Dickinson P936-1.881M

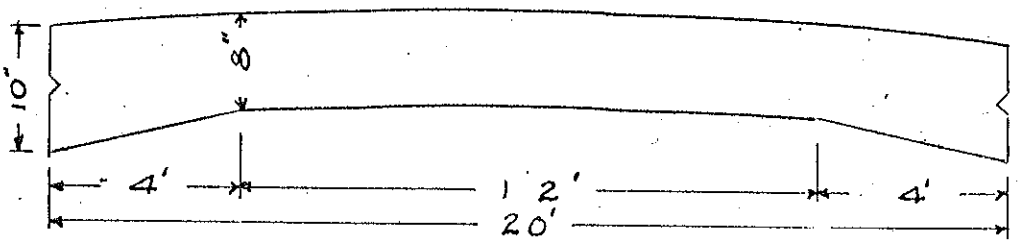


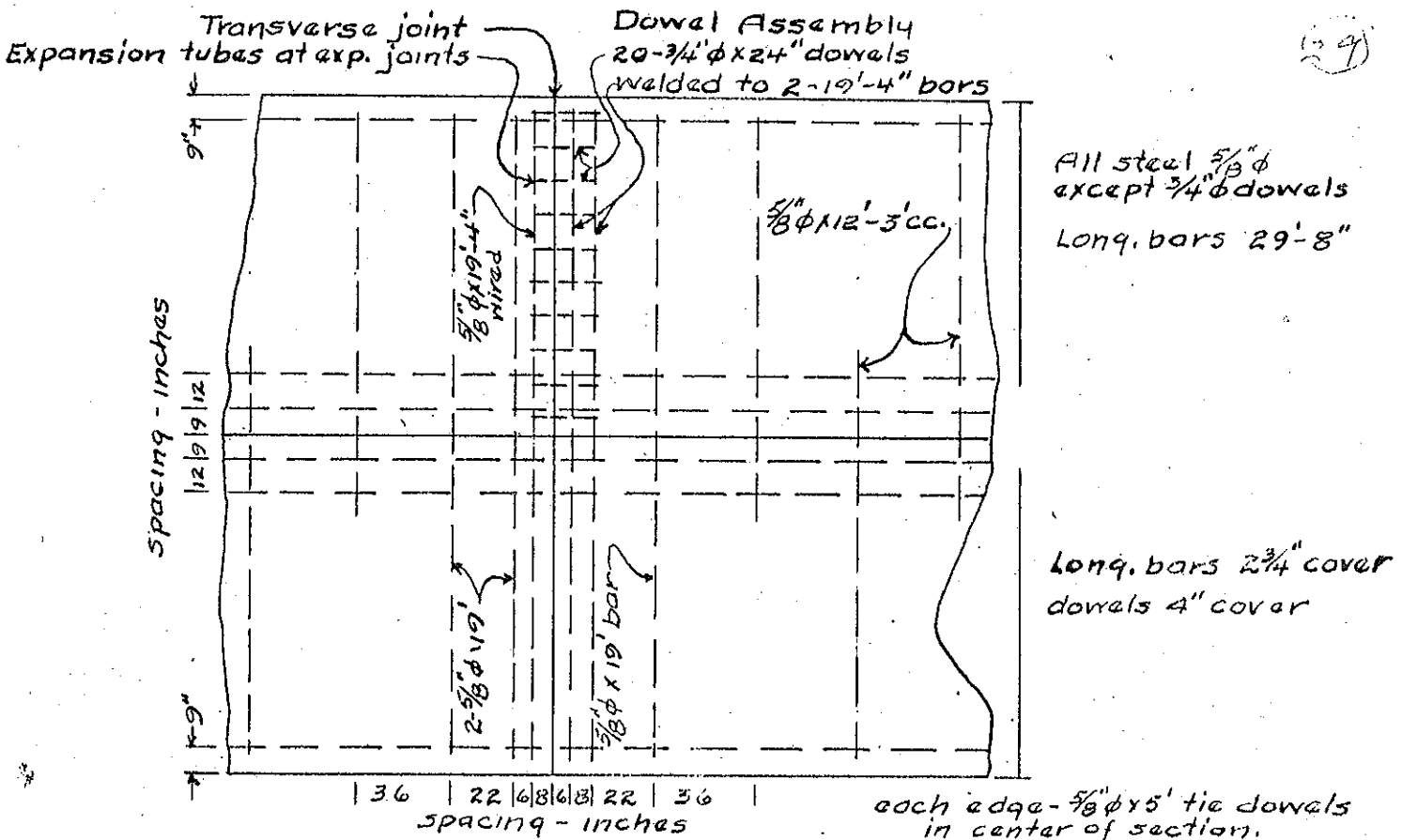
28

Design No. 28 Width 20 ft. 10-8-10

First Used in Letting of 8 - 17 - 37.

County	Project	Miles
Linn	FN-96B	0.115
Polk	FA-104B	1.501
	WPGM-104D	0.453
	WPMH-104G	0.269
	WPGM-220C	0.175
	WPGM-220D	0.648

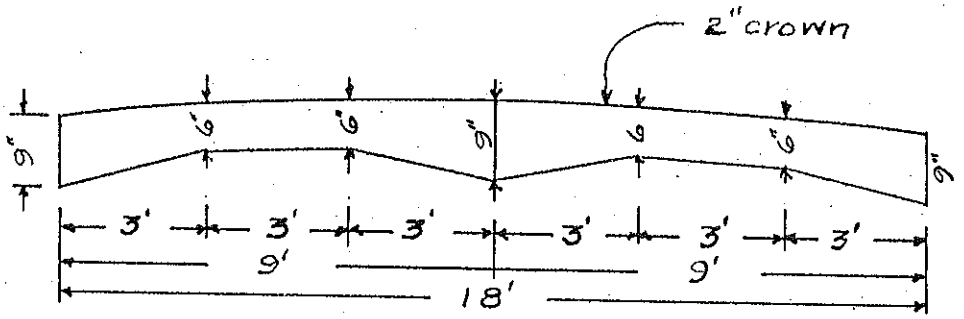

10"
8"
4'
12'
4'
20'


Transverse joint
Expansion tubes at exp. joints
Dowel Assembly
20-3/4"φ x 24" dowels
welded to 2-19'-4" bars
9"
5/8"φ x 19'-4" wired
5/8"φ x 12'-3' cc.
All steel 5/8"φ
except 3/4"φ dowels
Long. bars 29'-8"
spacing - inches
12 9 9 12
Long. bars 2 3/4" cover
dowels 4" cover
2-5/8"φ x 19'
5/8"φ x 19' bar
9"
36 22 6 8 6 8 22 36
spacing - inches
each edge - 5/8"φ x 5' tie dowels
in center of section.

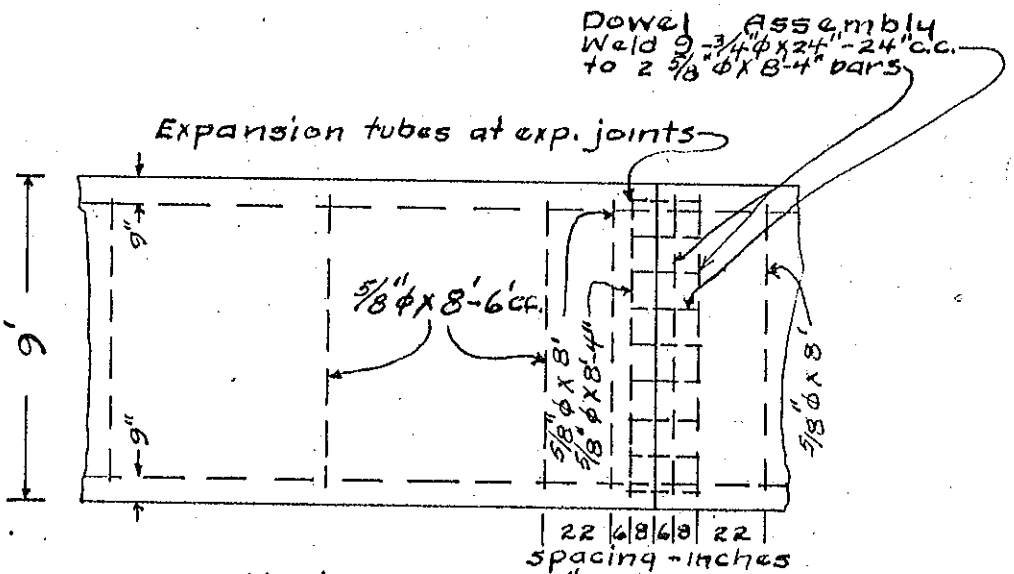
Design No. 29 Width 9ft strips (18') 9-6-#29

First Used in Letting of Jan 2 1935.

County	Project	Miles
Butler	FA-375 ABC	2.766
	NRH-M 375 ABC	2.974



Pavement built in seperate 9' strips



Longitudinal steel 5/8"ϕ
Dowels - 3" cover
other steel 2½" cover

#2.9

County	Project	Miles
ashington	FA-71-D	0.673
ash'ngton	FN-71-S	0.124
layne	FA-344(2)	2.707
layne	FA-770-A	2.890
layne	FA-770-B(1)	3.726
Webster	FN-475-E	0.815
Winnebago-Worth	FA-771-A	6.073
Winnebago	FA-748	8.439
Woodbury	P-886-H	0.456
Woodbury	P-911	0.992
Worth	FA-268	5.242
Worth	FA-268(3)	6.288
Worth	FA-134	4.915
Wright	FN-29-GH	2.535
Clinton	FA 18(2)	0.255
Clinton	FN 18	0.201
Climton	FN 18	0.226
Clinton	FA 147 ABC(2)	0.205
Henry	WPGH 151 A	0.284
Louisa	WPMH 3380	0.067
Lyon	FA 576 A	0.345
Mahaska	P 510	0.241
Mahaska	FA 70 AD(3)	0.221
Polk	FA 216 D	0.224
Polk	FAGM 216C	0.215
Sac	FA 423 AB	0.436
Sac	FA 413 A	4.368
Plymouth	FN 38?	0.189
Henry	WPGM-GS 637 AB	0.094
Dickinson	FN 564	0.047
Johnson	FA 765 D	4.382
Lee	P 149A	0.428
Carroll	FAGH 154 E	0.155

30

Design No. 30 Width 20 ft. 10-7½-10
First Used in Letting of August 18, 1936.

Used on Projects:

County	Project	Miles
Audubon	FA-52G	0.401
Audubon	FN-52	0.1616
Black Hawk	FN-62	0.095
Black Hawk	P-949	2.231
Boone-Dallas	FA-65A(2) Ext. 1	7.799
Boone-Dallas	FA-843-A(1)	7.156
Bremer	FA-88-E1	0.646
Bremer	FN-380-H	6.032
Buena Vista	FA-37-B&J	13.359
Buena Vista	FA-37-J	5.056
Buena Vista	FA-355-B	7.435
Buena Vista	FN-473	0.249
Buena Vista	FN-473-N	0.697
Buena Vista	FA-649-A	3.376
Buena Vista	FA-762-A	5.45
Buena Vista	P-875-(10-7½-10)	0.539
Butler	FA-85-EF(2) Ext. (1)	4.402
Calhoun	FA-10	8.974
Calhoun	WPMH-10-BC	0.435
Calhoun&Pocahonta	FA-10D-E	4.618
Calhoun	FAGH-10-E	0.430
Calhoun	FA-726-A	11.641
Calhoun	FA-727-A	3.894
Calhoun	FA-727-B	5.235
Calhoun	FA-736-C(Div.1&2)	6.264
Calhoun-Sac	FA-727-C	7.086
Calhoun-Sac	FA-736-C(Div.3&4)	5.769
Carroll-Crawford	FA-739-CD	7.870
Cass-	FN-44	- -
Cass	FA-738-A	0.558
Cedar	FA-213(2)	6.568
CerroGordo	FAGM-61-G	0.0135
CerroGordo	FAGM-61-GH	1.241
Cherokee	FA-37-EF	2.419
Cherokee (BuenaVista)	FA-37-GH	6.356
Cherokee	FA-116-AB	16.940
Cherokee	FA-247-C	3.006
Cherokee	FA-288-A	6.633
Cherokee	FA-379-AB	6.575
Cherokee	FA-596-B(1)	0.893
Cherokee	FA-776-A(3)	8.079

County	Project	Miles
Ringgold-Taylor	FA-844-A	7.090
Sac	FA-413-C	3.946
Sac	FA-423-AB	0.789
Sac	FA-719-A	0.568
Sac	FA-735-A	4.609
Sac	FA-736-A	6.469
Sac	FN-736	0.026
Sac	FA-743A(1&2)	6.766
Sac	FA-743A(3&4)	7.658
Sac	FA-741	5.508
Sac	FA-746A	5.175
Sac	FA-746-B	3.810
Sac	FA-747-A	1.636
Sac	FA-813-A	3.026
Scott	FN-221	0.160
Scott	WPGS-582-A	0.033
Scott	FA-821-A(1)	0.887
Scott	SNFA-831-A(1)	0.276
Scott	P-900	0.280
Shelby	FN-476-B	0.194
Shelby	FA-860-A(1)	0.3917
Sioux	FA-28	8.240
Sioux	FA-28-E	7.042
Sioux	FA-43-C	0.369
Sioux	FA-43-D	0.480
Sioux - O'Brien	FA-43-EFA	12.854
Sioux	FN-84-C(1)	0.479
Sioux	FA-342CDFGHI(5)	8.069
Sioux - O'Brien	FA-342 CFGHJ	8.104
Sioux	FA-420E(Div2, Sec.2)	11.767
Sioux	FA-420-D	0.409
Sioux	FA-542-B	0.283
Sioux	FA-542-E(1)	5.769
Story	FA-72-A	6.517
Story	FA-72-A(3)	4.625
Story	FA-72-D	0.346
Story	FAGM-72-E Reop.	0.256
Tama	FA-553-B	7.937
Tama	FA-553-C	0.297
Van Buren	FA-60-A3B(1)	8.162
Warren	SNFA-265	0.387
Washington	FAGM-71	0.198

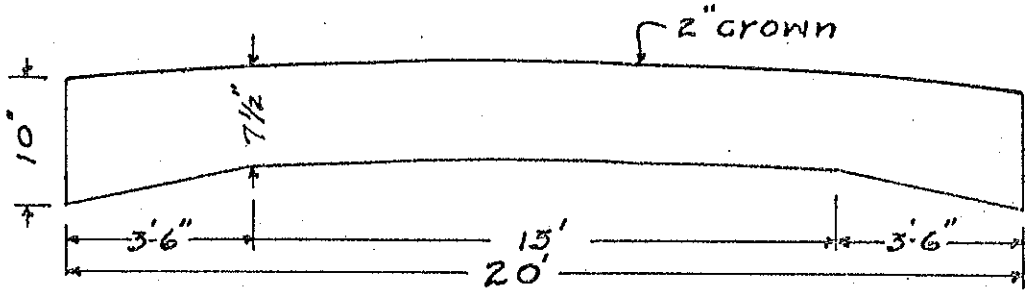
Design No 30 (2)

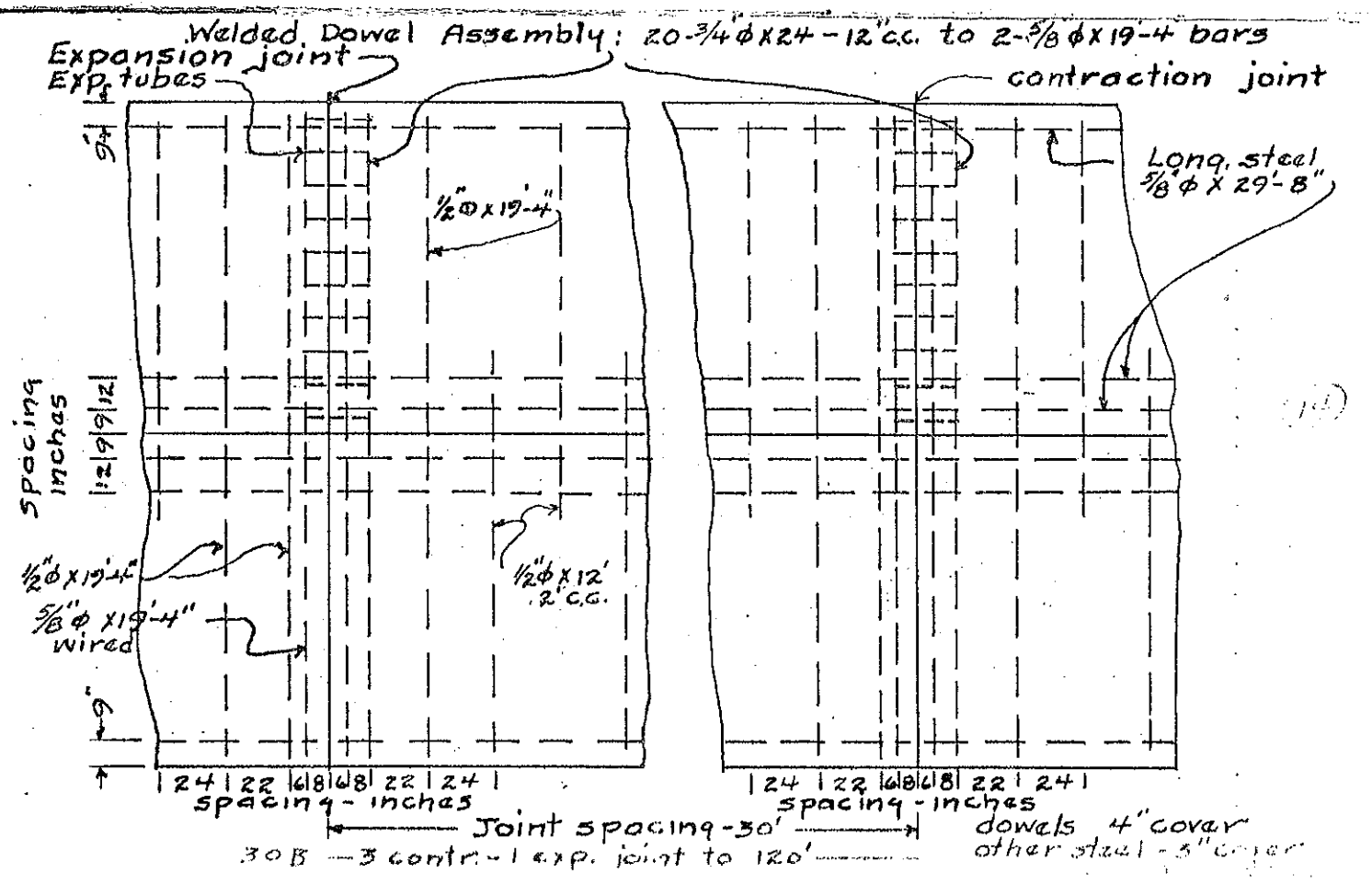
County	Project	Miles
Cherokee	FA-776-B(1)	4.021
Chickasaw	FA-177-A	5.529
Clayton(Delaware)	FA-358CDE(3)	3.036
Clinton	FA-18(2)Div.	2.266
Clinton	FA-419-G(1)	4.547
Crawford	FA-739-A	7.389
Carwford	FAGH-739-B	0.285
Dallas	FA-65-C(2)	0.362
Davis	FA-50-E	0.191
Davis	FA-153-C	0.716
Decatur	FA-12(4)	4.493
Decatur	FA-300	10.10
Delaware	FA-4-E(1)	0.167
Dickinson-Clay	FA-68(2)	4.234
Dickinson	FN-564	0.047
Dickinson	FA-749-A(1)	1.449
Dickinson	FA-823-A(1)	1.19
~~Dickinson~~	~~P-936~~	~~1.687~~
Dickinson	P-942-A	8.408
Dubuque	FA-305-B(2)	2.485
Dubuque	FA-358-B(2)	3.049
Emmet	P-845	0.244
Fayette	FA-172-ABC	6.518
Floyd	FNWPGH-41	0.751
Floyd	FA-271-ABC	7.043
Greene	FA-39	0.288
Greene	FN-39	0.170
Greene	FA-193-A(2)	10.903
Greene	FN-402	0.591
Grundy	P-961	0.468
Hancock	FA-195-A	0.584
Harrison	P-563	0.049
Narrison	P-614	4.934
Harrison	P-614	0.323
Howard	FA-93	6.088
[illegible]	FA-730-B	11.908
Humboldt	FA-730-C	10.997
Humboldt	P-952	0.533
Ida	FA-80(2)	6.287
Ida	FA-80(3)	1.549
Ida	FA-80-A	8.901
Ida	WPGHM-80-C	2.303
Ida	FA-286	4.761
Ida	FA-732-A	4.487
Ida	FA-732-B(1)	5.544
Jackson	FA-419-D	0.316
Jackson	FA-419-E	2.795
Jackson	FA-419-F	2.586
Jackson	FA-470-A	7.883
Jackson	FA-470-B	6.334
Jackson	FA-470-C	7.003

Design No. 30
First Used in letting of August 18, 1936

Used on Projects:

County	Project	Miles
Jackson	FA-470-D(1)N	5.459
Jasper	FA-425-B	6.932
Jasper	FA-772-B(1)	3.732
Jasper	FA-846-A(1)	0.858
Jefferson	FN-3	0.736
Johnson	FA-765-A(1)	5.044
Johnson	FA-765-B(1)	3.855
Johnson	FAGH-765-C(1)	0.460
Johnson	FA-765-D(1)	4.362
Jones	FA-565-B	3.777
Jones	WPGHM-565-CD	0.567
Kossuth	FA-66	7.901
Kossuth	FN-111-N	0.176
Kossuth-PaloAlto	FA-607-A	8.645
Lee	P-149	0.056
Lee	FA-346-B	2.234
Linn	FAGM-22-(3)	0.227
Linn	FA-22(2)&B(1)	1.780
Linn	FN-96	0.120
Linn	FA-96-A	2.697
Linn	FN-96-C	0.076
Linn	FA-96-E	0.898
Louisa	FA-53	6.869
Louisa	FA-53-D	1.565
Louisa	FA-63-E(3)	5.043
Lyon	FA-110-AF	7.271
Lyon	FA-110-CD	0.456
Lyon	FA-110-EDReop	14.257
Lyon	FA-542-C	4.474
Lyon	FA-542-D	3.386
Lyon	FA-576-B	4.784
Madison	FA-366-B(1)	0.453
Marion	FA-7	3.419
Marion	FA-75-ABC(3)	1.008
Marion	FA-260-E	0.863
Marshall	FA-211-D	0.286
Marshall	FA-376-HJ	7.646
Marshall	FA-791-A(1)	5.867
Marshall	FA-791-B(2)	0.291
Mills	FAGM-801	0.366
Mitchell	FA-368-C	3.933
Monona	SNFAGH-184BC(3)	0.436
Monona	FA-426	6.456
Monona	P-960	0.500
Monroe	FAGM-802-A(1)	0.927
Monroe	FAGH-712-A	0.340
Monroe	FN-802	1.380
Muscatine	FA-87-D	1.982
Muscatine	P-523	0.248
Muscatine	P-523-C	0.623
O'Brien-Osceola	FA-498ABFCF	6.924
Osceola	FA-498-H	6.124
Osceola	FA-734-A	16.537
Osceola	FA-734-B	0.720
Page	FN-524	0.293
Page	FA-524-D	0.543
Page	FA-651	0.249
Palo Alto	FA-363-E	9.330
Pocahontas	P-339	0.993
Pocahontas	FA-421-C	9.448
Pocahontas	FA-723-A(2)	0.480
Pocahontas	FA-723-B	5.359
Pocahontas	FA-723-C(Div 2)	6.541
Pocahontas	FA-730-A	11.372
Pocahontas	FA-745-A(2)	5.166
Polk	FN-104	0.397
Polk	FA-216-AB(2)	1.193
Pottawattamie	FN-280(1&2)	1.491
Pottawattamie	FA-280-D	0.244
Pottawattamie	FN-280-H	0.104
Pottawattamie	FN-310-F	0.900
Pottawattamie	WPGM-554-E	0.387
Pottawattamie	FN-554-EF	0.660
Poweshiek	FA-174-A	4.940
Ringgold	FA-6	4.970
Ringgold	FN-6	0.826
Ringgold	FA-6-AB	3.405
Ringgold	FA-123ABC(2)	2.757
Ringgold	FA-123-C	2.983
Ringgold	FA-141	5.968
Ringgold	FA-142(2)	4.345

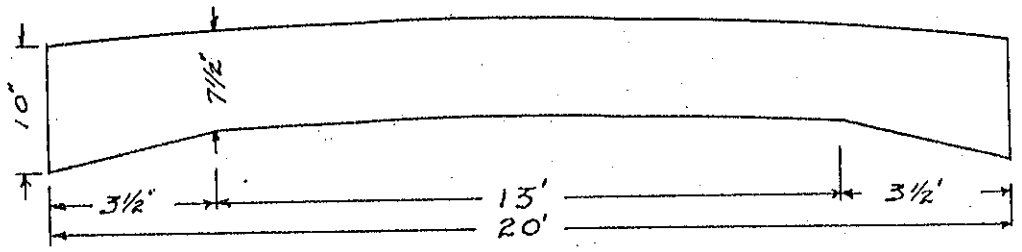

2" crown
10"
7½"
3'-6"
15'
3'-6"
20'


Welded Dowel Assembly: 20-¾"ϕx24-12"c.c. to 2-⅝ϕx19'-4 bars
Expansion joint
Exp. tubes
contraction joint
9"
½"ϕx19'-4"
Long. steel ⅝"ϕ x 29'-8"
Spacing inches
12 9 9 12
½"ϕx19'-4"
⅝"ϕ x19'-4" wired
½"ϕx12' 2 c.c.
9"
24 22 6 8 6 8 22 24
spacing - inches
24 22 6 8 6 8 22 24
spacing - inches
Joint spacing - 30'
30B — 3 contr. - 1 exp. joint to 120'
dowels 4" cover
other steel - 3" cover

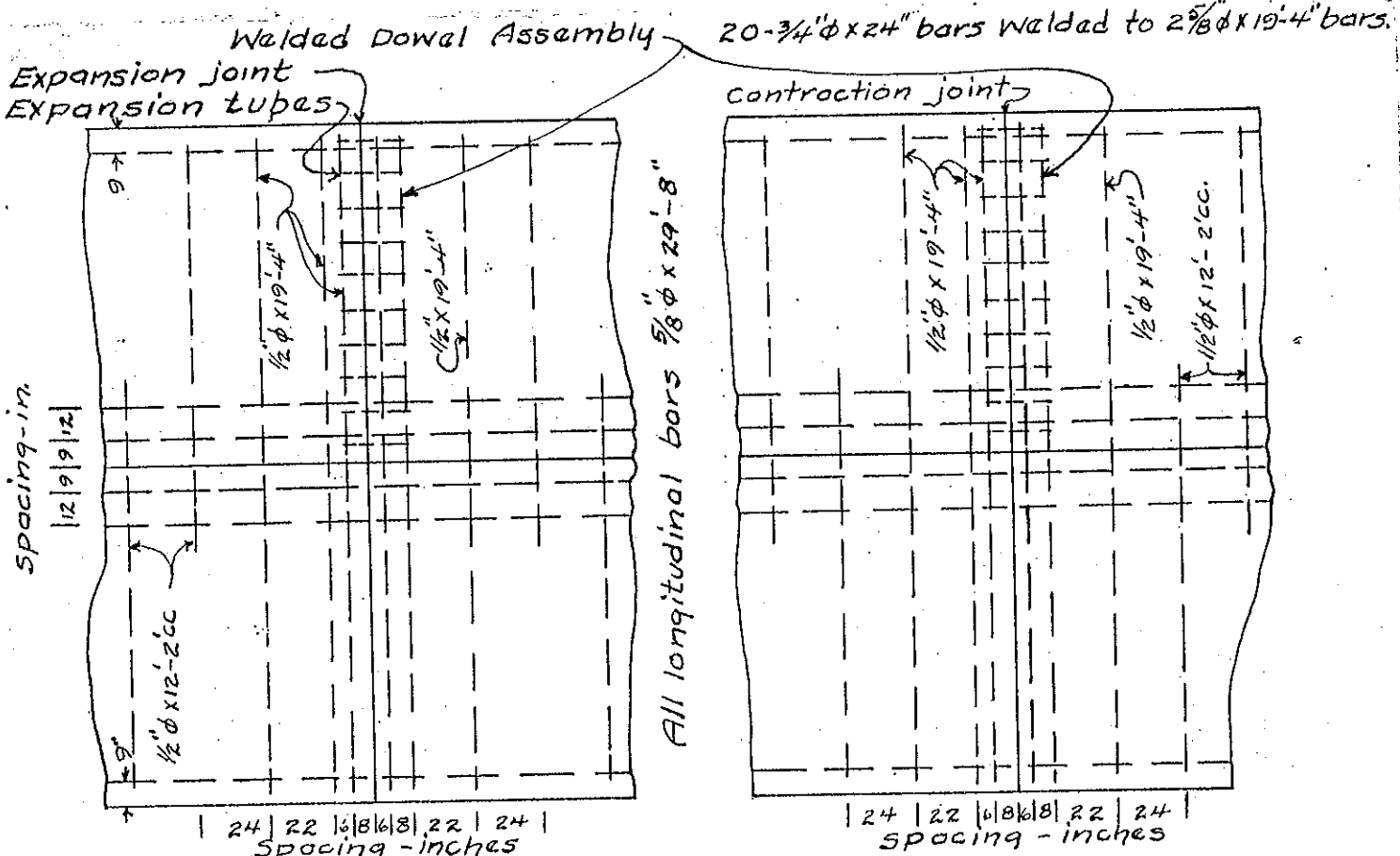
Design Number 31 Width 20 ft. 10-7½-10
First Letting Date 4 - 29 - 41

Used on Projects:

County	Project	Miles	County	Project	Miles
Boone	FA-65-A(3)D(1)	7.031	Buchanan	FA 262 BCD	0.155
Buena Vista	FA-745-B(1)	8.045	Cerro Gordo	FAGM 365 A(1)	0.195
Chickasaw	FA-357-AB(2)	0.861	Bremer	FN 86 B	0.215
Chickasaw	FA-357-C(2)	7.246	Delaware	FA 358 F(1)	5.919
Dallas	FA-493-C(2)	3.412	Des Moines	FAGM 414 C(1)	0.380
Dallas	FA-493-A(2)	1.661	Jasper	FA 764 A(1)	5.304
Decatur	FA-122 (5)	5.028	Polk	FA 89 (2)	3.251
Dickinson	FA-823-B(1)	3.853	Ringgold	FA 6 (3)	3.579
Jackson	SN-FA-419-I(1)	2.422			
Lyon	FA-110-F(3)	0.294			
Lyon	FA-835-A(2)	0.163			
Lyon	FA-835-B(2)	0.384			
Lyon	FA-835-C-(1)	5.702			
Mitchell	FA-368-D(1)	6.004			
Plymouth	FN-38	0.457			
Plymouth	FA-38BCD(2)	0.265			
Pocahontas	FA-745-C(1)	4.795			
Ringgold	FA-142	0.994			
Ringgold	FA-123-ABC	2.978			
Worth	FA-134-A(3)	4.008			
O'Brien	FA-769 (1)	4.996			



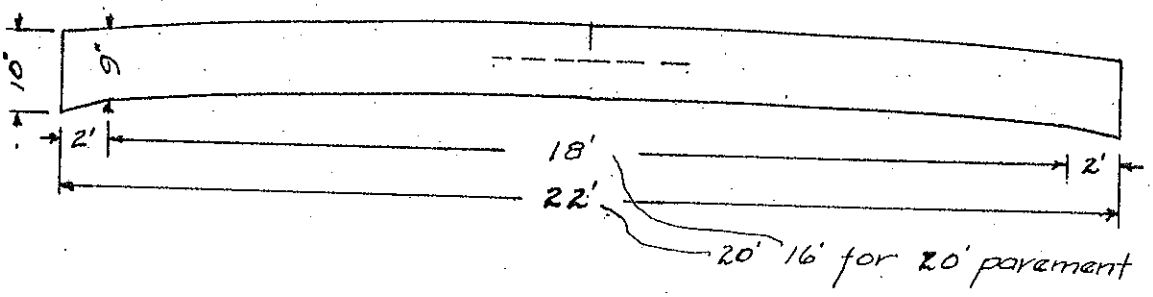
Note: This design differs from 30 in that the bar tied to the welded assembly is ½"ϕ instead of ⅝"ϕ

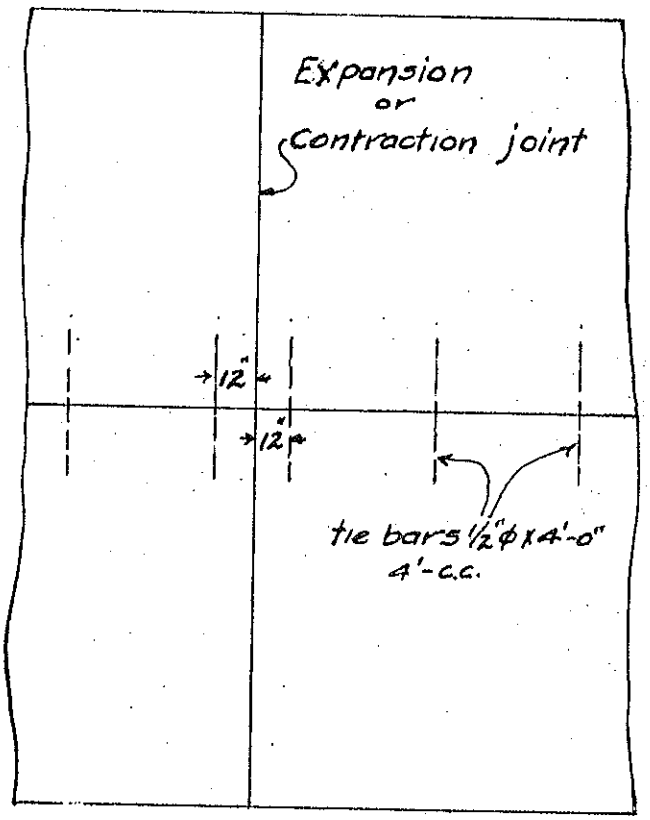


Dowels 4" cover – other steel 3" cover

Design No. 32 Width 22 ft. 10-9-10
First used in letting of 4-21-42

Clinton	F.N. 18	(20')	0.055
Des Moines	DA-WI-1		3,187
Polk	DA-WI 3		5.318
Polk	F.A. 132 (c)		1.288
Woodbury	DA-W.R. 5	(20')	1.540
Delaware	F.A. 358		0.475

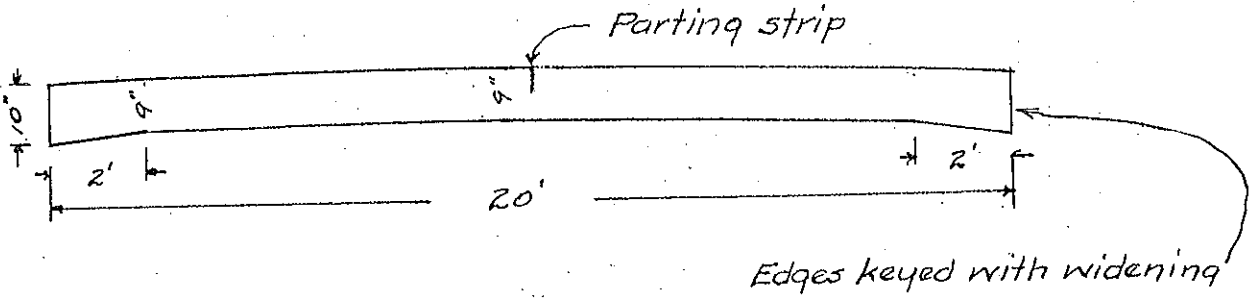

10"
6"
2'
18'
2'
22'
20' 16' for 20' pavement


Expansion
or
Contraction joint
12"
12"
tie bars 1/2"ϕ x 4'-0"
4'-c.c.

Design No. 33 Width 20 ft. 10-9-10 33

First used in Letting of 2-9-43

Clinton DA-WR-7 0.291

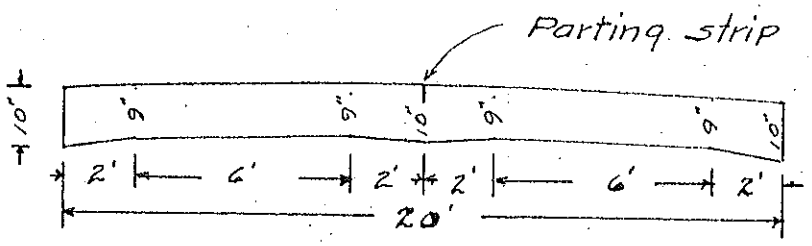


No steel

Design No. 34 Width 20 Ft. 10-9~~10~~-9-10 34

First used in Letting of 3-23-43

Wapello DA-NR-1 1.296

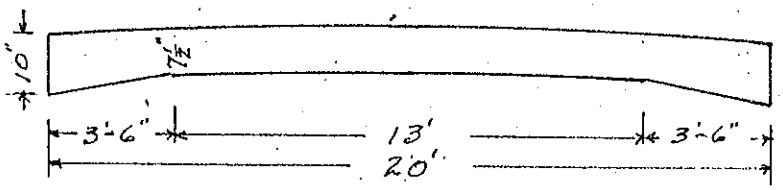


No steel

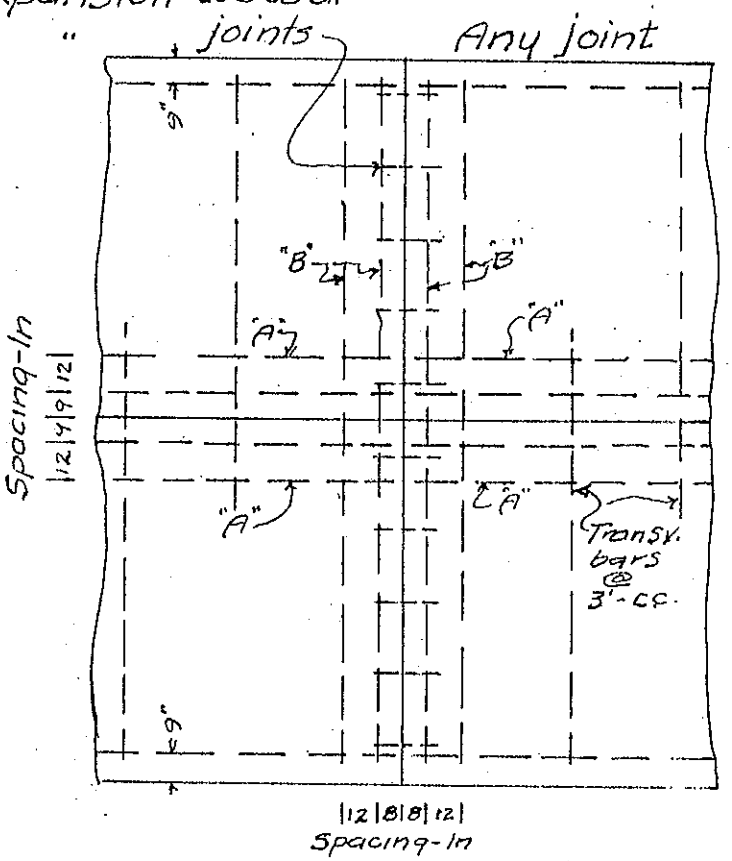
Design No. 35 Width 20 Ft. 10-7½-10 35

First Yatting 9-7-43

Harrison P. 614 0. 231



Expansion tubes at joints



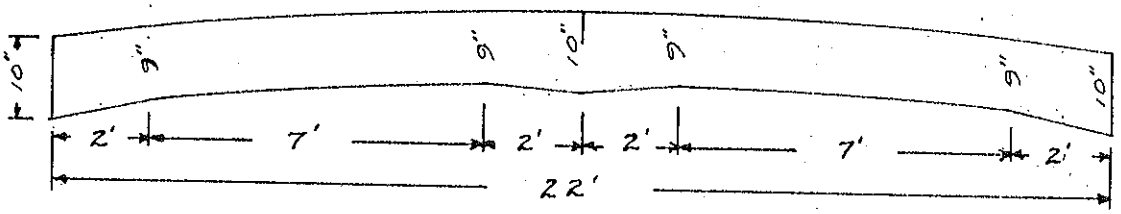
All steel ⅝" ϕ
Dowels ⅝" ϕ x 24" @ 24" c.c.
Dowel assembly 4" cover
Other steel - 3" cover
"A" bars ⅝" ϕ x 12'-0"
4 - "B" bars - ⅝" ϕ x 19' "

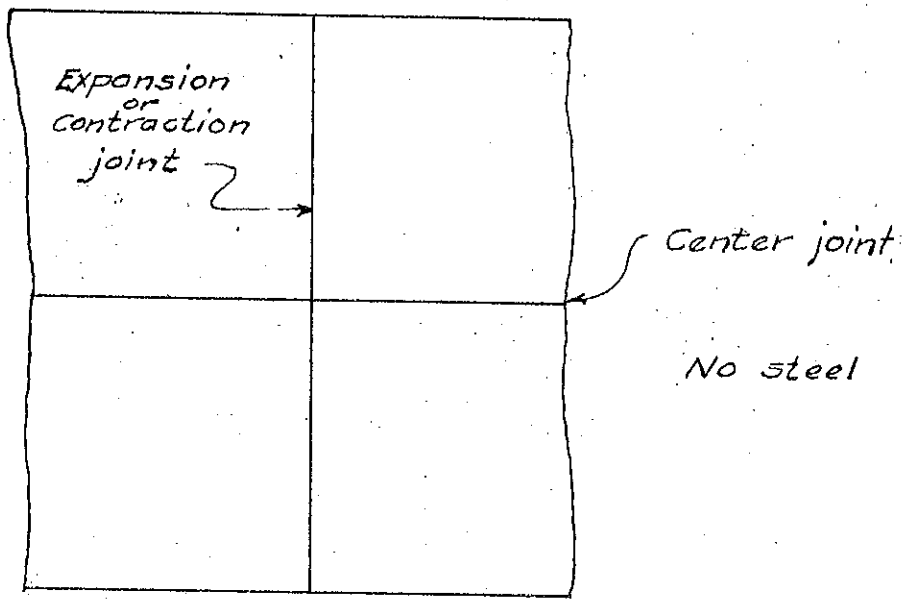
Design No. 36 Width 22 Ft. 10-9-10-9-10

36

First used in letting of 9-22-42

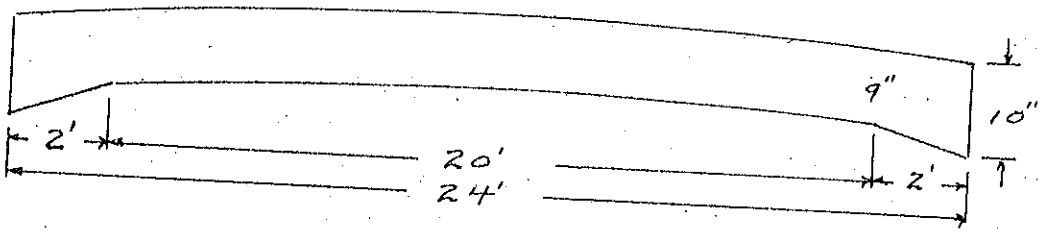
Guthrie P. 624 0.189

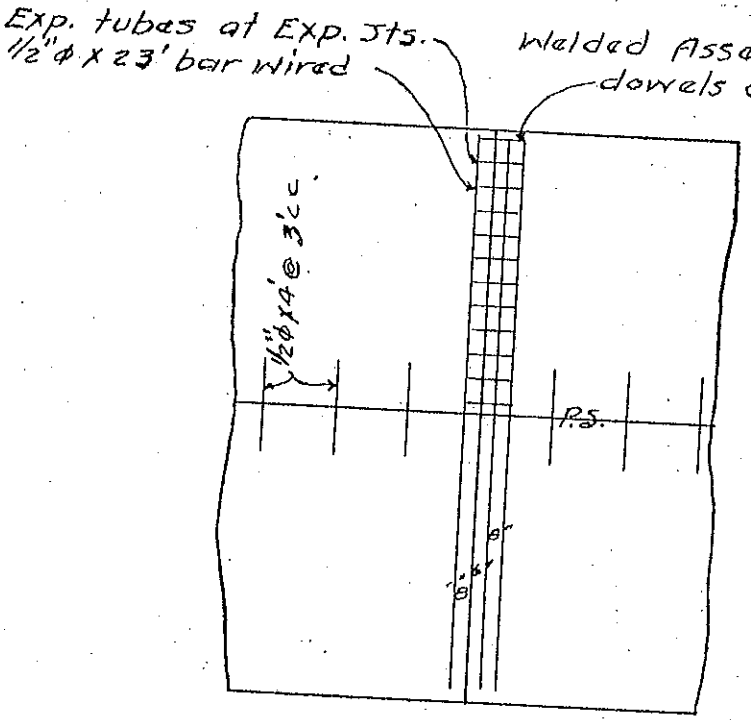

10"
9"
9"
10"
9"
9"
10"
2'
7'
2'
2'
7'
2'
22'


Expansion or contraction joint
Center joint
No steel

Design No. 37 Width 24 Ft. 10-9-10
First used in Letting of 5-2-44

Des Moines	AI-FA-883 A (1)	1.746 Miles	1944

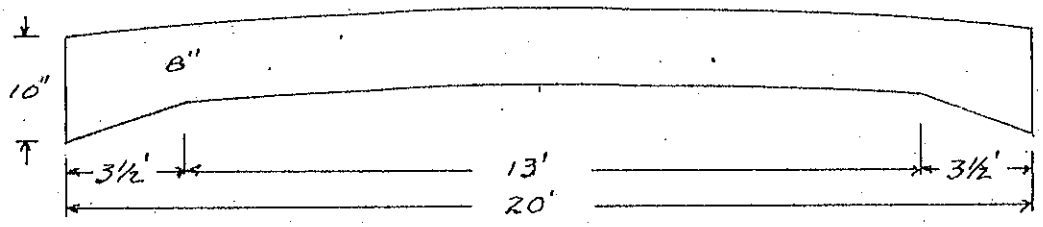




Cover - 4 5/8" over dowels.

De sign No. 38 Width 20 Ft. 10-8-10
First used in Letting of 8-8-44

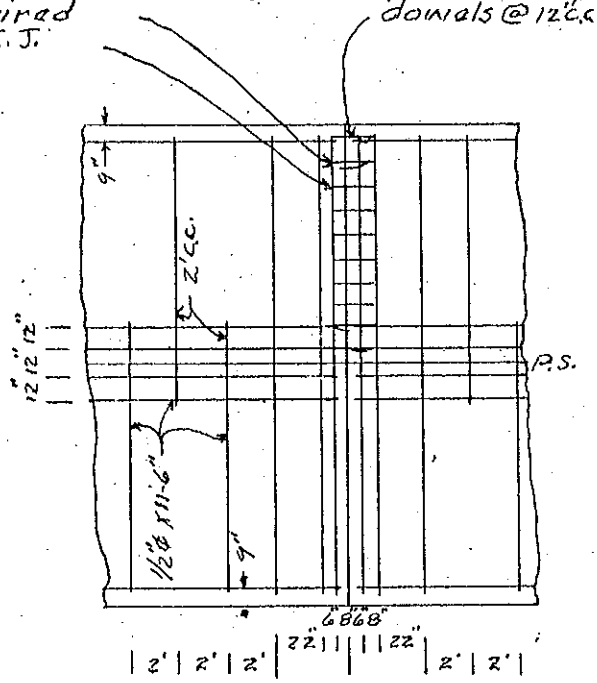
Buena Vista-Pocahontas	PWFA - 745 D (1)	6.532 Miles	1946
Cedar	FA-213	0.143 Miles	1945
Decatur	PWFA - 122 D (1)	4.035 Miles	1946
Dubuque-Jackson	SN-FA - 885 A (1)	15.008 Miles	1946-7
Franklin	FA - 212 E (1)	0.217 Miles	1947
Linn	FA 765 E (2)	0.758 Miles	1946
Linn	FA 765 F (1)	4.608 Miles	1946-7
Lyon	F-835 (6)	5.664 Miles	1946
Marion	F-7 (7)	4.695 Miles	1946-7
Marion	F-75 (4)	3.168 Miles	1946
Mills	FAGH- 842 B (1)	0.811 Miles	1946-7
Mills	FA-842 (4)	1.953 Miles	1946-7
Mills	FA-842-C (1) N	4.5415 Miles	1946
Mills	FN-842	0.182 Miles	1947
Pocahontas	F-878 (1)	5.517 Miles	1946
Sioux	PW-FA-28 (4)	6.063 Miles	1946
Winnesniek	FA-357-AB (3)	4.335 Miles	1946-7



½"ϕ x 19'-4" bar wired
Exp. tubes at E.J.

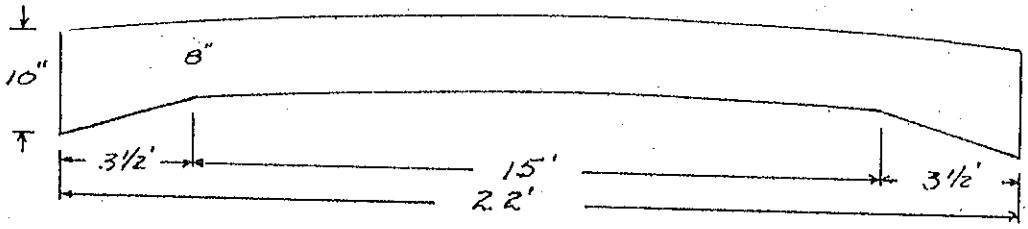
Welded Assemblies - 20-3/4" ϕ x 24"
dowels @ 12" c.c. to 2-5/8" ϕ x 19'-4" bars

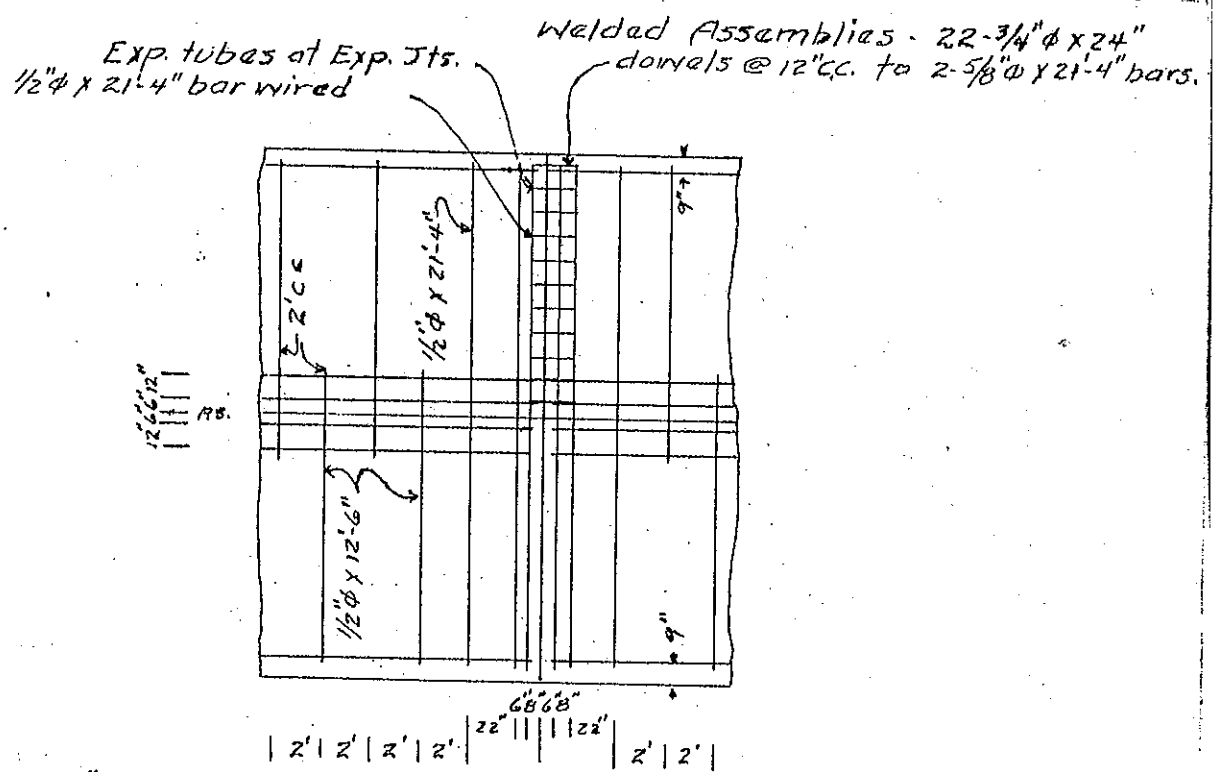
Cover - 3" over long. bars
Longitudinal bars 5/8" ϕ
Dowels in center of 8" sec.



Design No. 39 Width 22 Ft. 10-8-10
First used in Letting of 7-10-45

Fayette	U-59 (4)	0.283 Miles	1947
Fayette	U-782 (2)	0.326 Miles	1947
Harrison	FN-14	0.2757 Miles	1946
Keokuk	F-34 (3)	0.621 Miles	1946
Polk	F-877 (1)	1.250 Miles	1947
Polk	DAWI-11	0.410 Miles	1945
Polk	DAWI-12	1.002 Miles	1945
Woodbury	U-918 (1)	1.356 Miles	1947

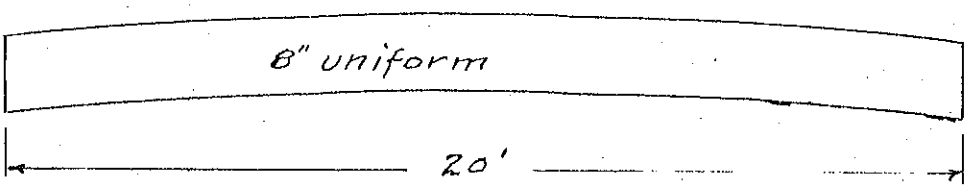


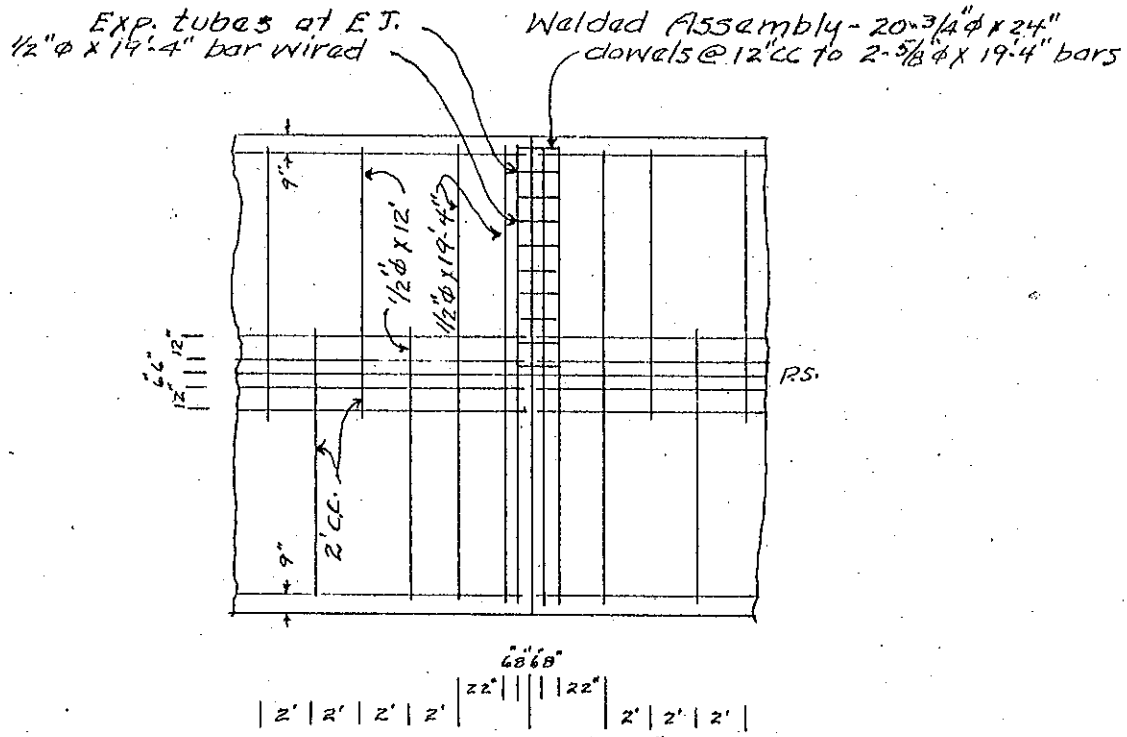


Cover 3" over long. bars. Dowels in center of 8" sec.
All longitudinal bars ⅝"ϕ

Design No. 40 Width 20 Ft 8" uniform
First used in Letting of April 30 1946

Linn FA-22 B (1) 0.265 Miles

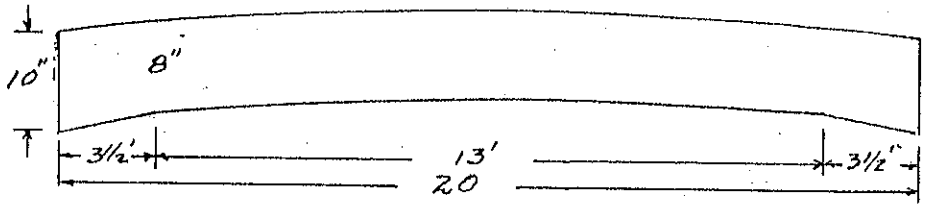


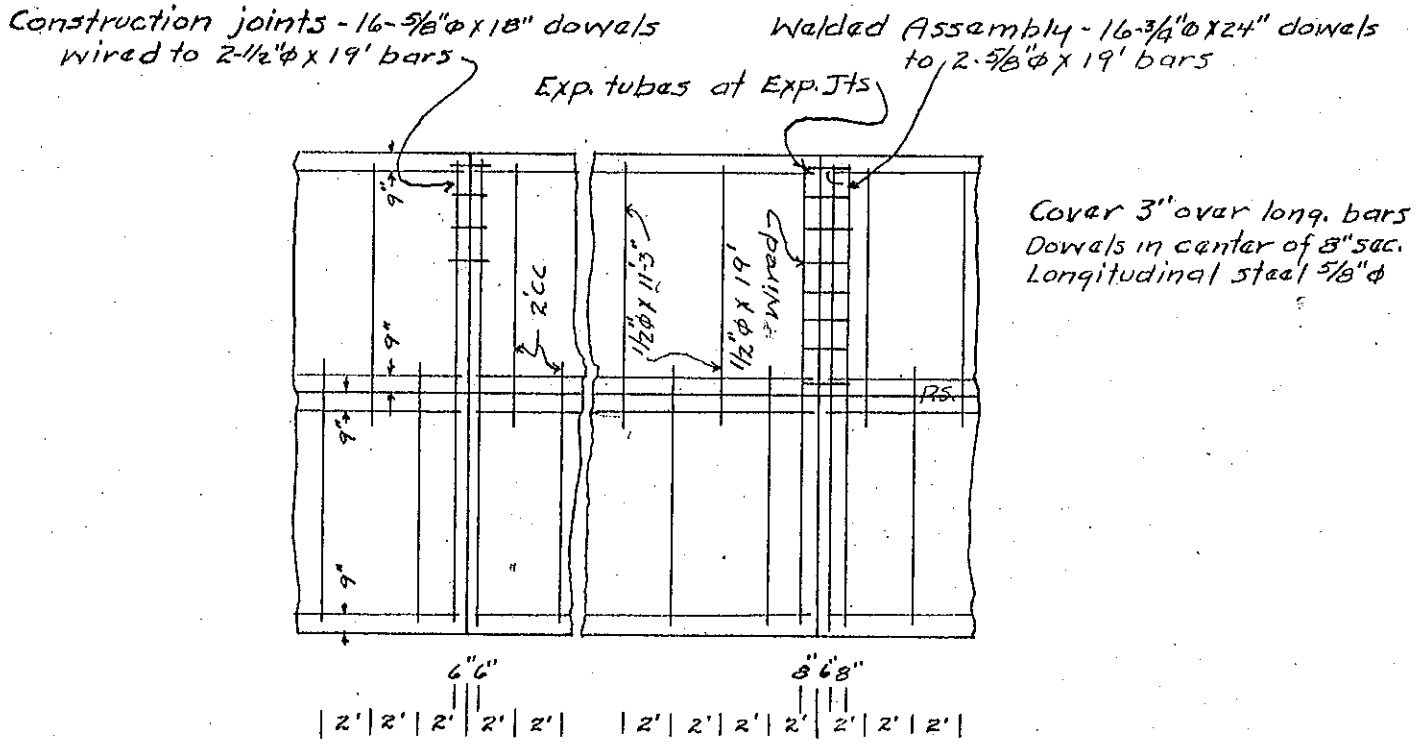


Cover 3" over long. bars
Longitudinal bars 5/8"ø
Dowels in center of 8" sec.

Design No. 41 Width 20 Ft. 10-8-10
First used in Letting of 11-12-46

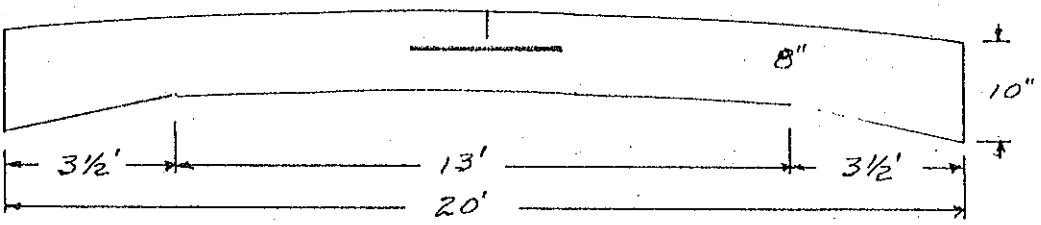
Calhoun	F-10 (7)	8.492 miles	1947	
Floyd	FA-271 E (1)	8.048 miles	1947	
Jefferson	F-120 (7)	0.515 miles	1948	
Worth F [illegible]	F-263 (5)	1.588 miles	1947	Station 1756+16.3 to 1861+91.8
Worth	F-953 (1)	0.472 miles	1947	

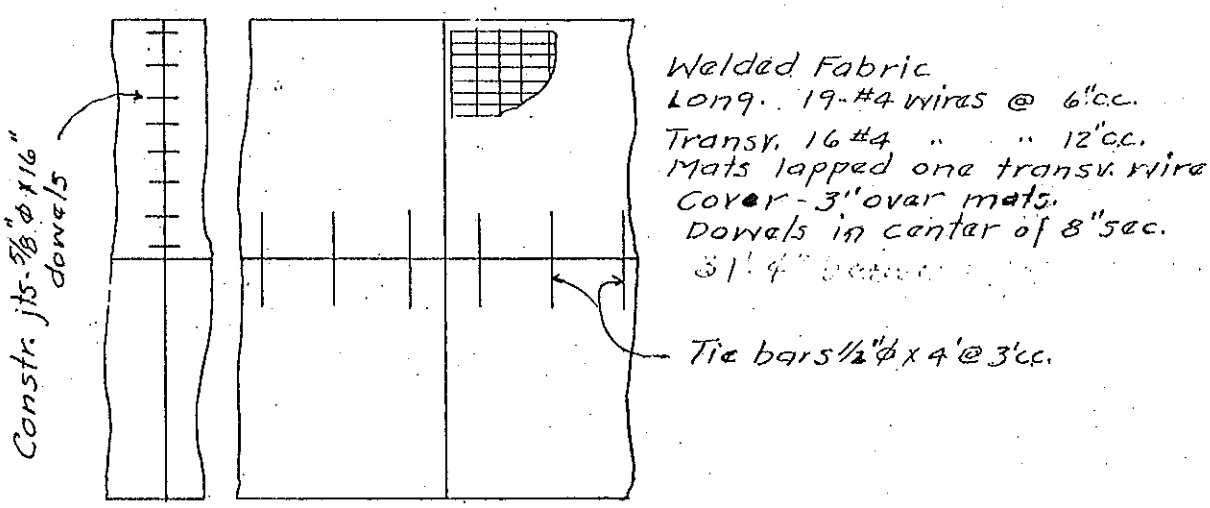

10"
8"
3½'
13'
3½'
20


Construction joints - 16-5/8"ϕ x 18" dowels wired to 2-1½"ϕ x 19' bars
Exp. tubes at Exp. Jts
Welded Assembly - 16-¾"ϕ x 24" dowels to 2-5/8"ϕ x 19' bars
Cover 3" over long. bars
Dowels in center of 8" sec.
Longitudinal steel 5/8"ϕ
6"
9"
9"
9"
2'cc
1½"ϕ x 11'-3"
1½"ϕ x 19'
Welded
P.S.
6" 6"
8" 6" 8"
| 2' | 2' | 2' | 2' | 2' |
| 2' | 2' | 2' | 2' | 2' | 2' | 2' |

Design No. 42 Width 20 Ft. 10-8-10
First used in Letting of 1-21-47

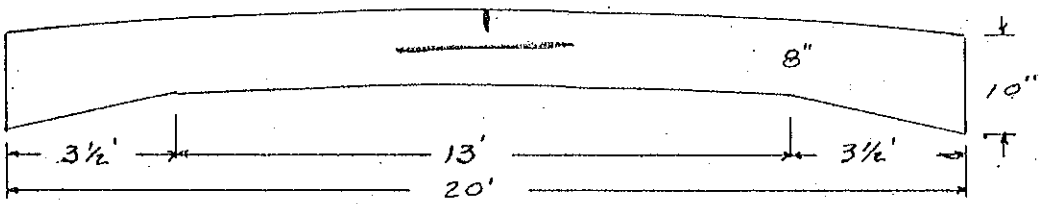
Winnebago F-884 (1) 1.986 Miles 1947 (Fabric Reinforced)
Station 1440+00.4 to Station 1544+90.

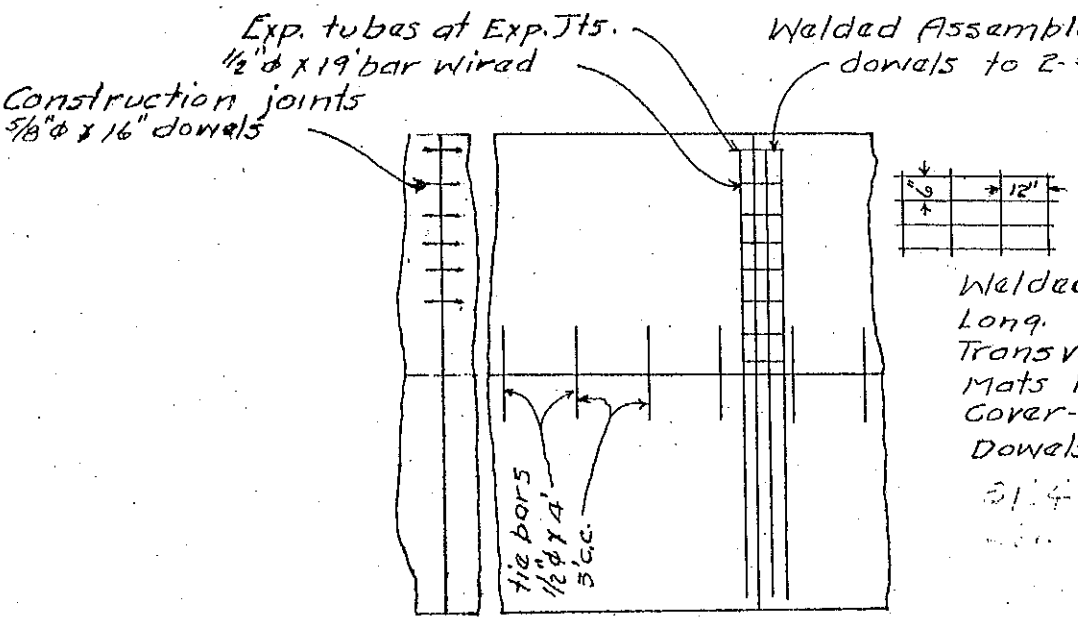

8"
10"
3½'
13'
3½'
20'


Constr. jts-⅝"ø x 16" dowels
Welded Fabric
Long. 19-#4 wires @ 6" c.c.
Transv. 16 #4 " " 12" c.c.
Mats lapped one transv. wire
Cover - 3" over mats.
Dowels in center of 8" sec.
Tie bars 1½"ø x 4' @ 3' c.c.

Design No. 43 Width 20 ft. 10-8-10
First used in Letting of 1-27-47

Winnebago F 884 (1) 1.994 Miles 1947
Station 1544+90 to 1650+96.

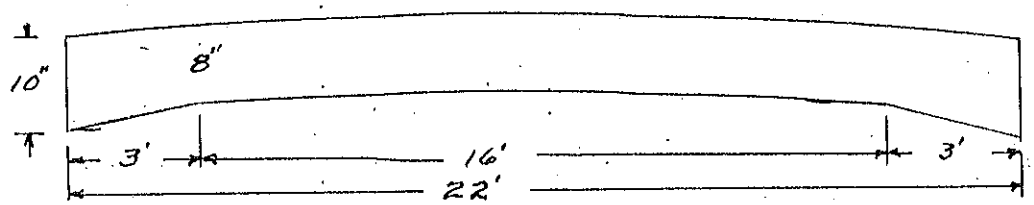


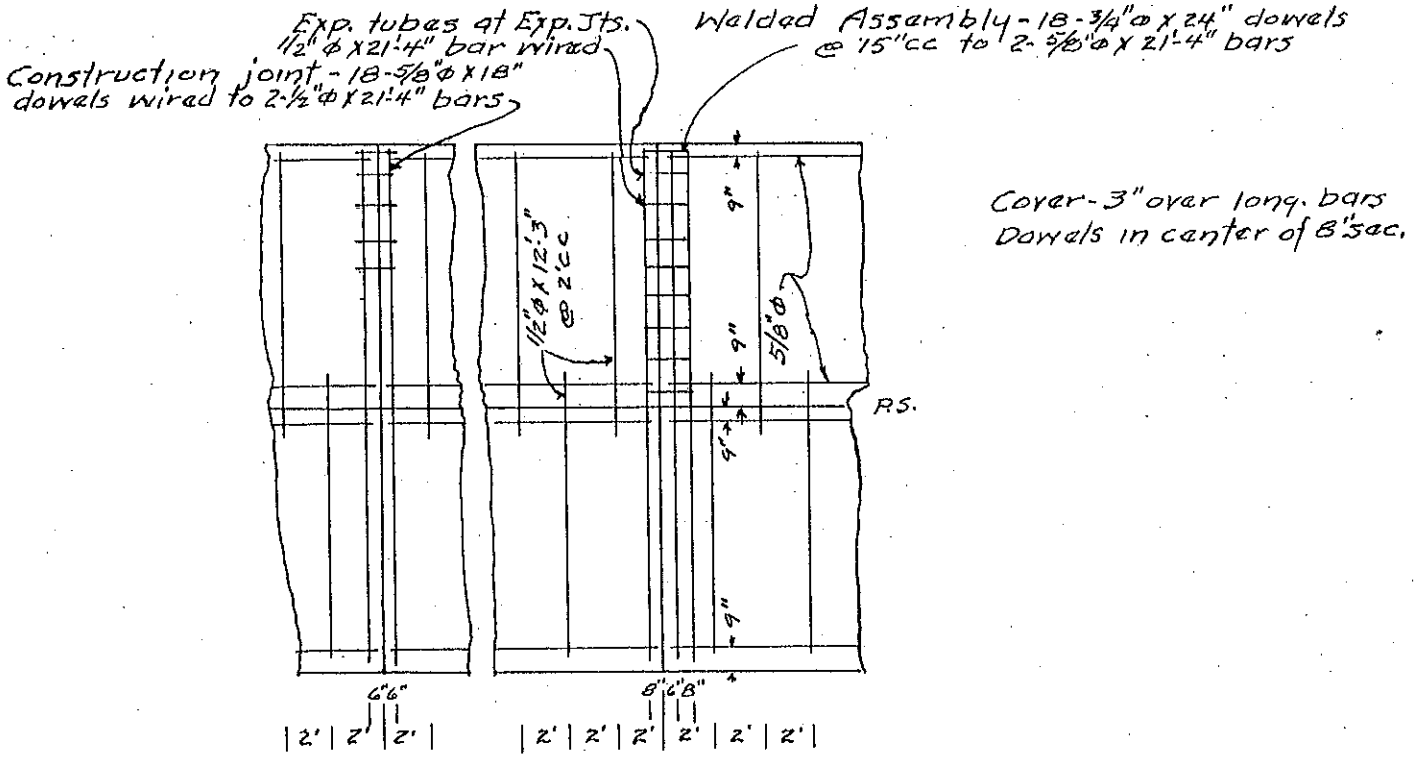


Welded Fabric
Long. 19-#4 wires @ 6" c.c.
Transv. 16 #4 " " 12" c.c.
Mats lapped one transv. wire
Cover-3" over mats.
Dowels in center of 8" sec.

Design No. 44 Width 22 ft. 10-8-10
First used in Letting 2-18-47

Des Moines	F-414 (3)	2.421 Miles 1948-9
Des Moines	U-414 (4)	
Linn	U-909 (3)	1.219 Miles 1948
Lucas	F-65 (8)	2.393 Miles 1947
Lucas	F-282 (2)	5.132 Miles 1947
Muscatine	U-820 (3)	0.726 Miles 1948
Wayne	F-237 (2)	0.249 Miles 1947
Appanoose	F-781 (6)	7.642 Miles 1949
Marshall	F-791(3)	3.880 Miles 1949-50
Adair	F-464(5)	6.051 Miles 1950
Floyd	FN-41	0.360 Miles 1950
Jasper	F-764(5)	9.897 Miles 1949-50
Polk	U-206(8)	3.375 Miles 1950
Page	F-433(3)	0.890 " 1950
Mills	ERF-19(7)	0.888 Miles 1950
Mills	ERF-19(8)	0.095 Miles 1950
Pottawattamie	F-959(1)	0.262 Miles 1949-50
Warren	ERF-4(12)	0.438 Miles 1949
Lyon-Osceola	F-882(1)	7.610 Miles 1950
Osceola	F-950(1)	5.198 Miles 1950

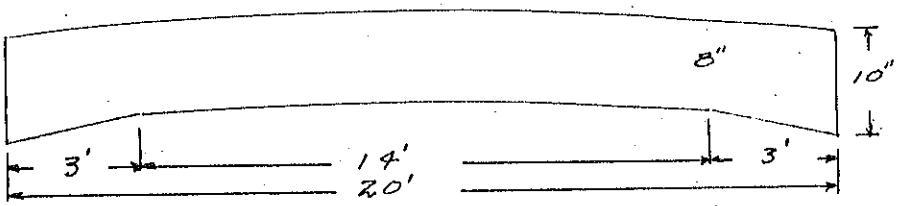




Cover - 3" over long. bars
Dowels in center of 8" sec.

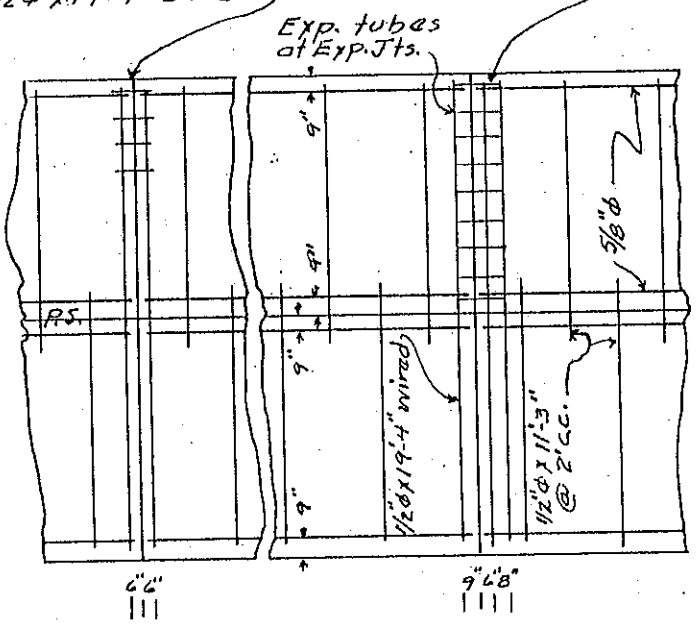
Design No. 45 Width 20 Ft. 10-8-10
First used in Letting of 3-18-47

Butler	F-85 (13)	2.538 Miles	1947-48
Butler	F-85 (14)	4.386 Miles	1947-48
Dallas-Madison	F-366 (5)	7.457 Miles	1947
Taylor	F-562 (2)	7.826 Miles	1947



Construction joints. - 18 - 5/8"ϕ x 18" dowels wired to 2 - 1/2"ϕ x 19' 4" bars

Welded Assembly - 18 - 3/4"ϕ x 24" dowels to 2 - 5/8"ϕ x 19' - 4" bars

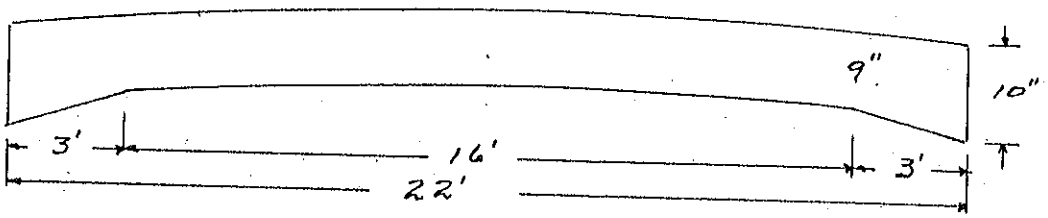


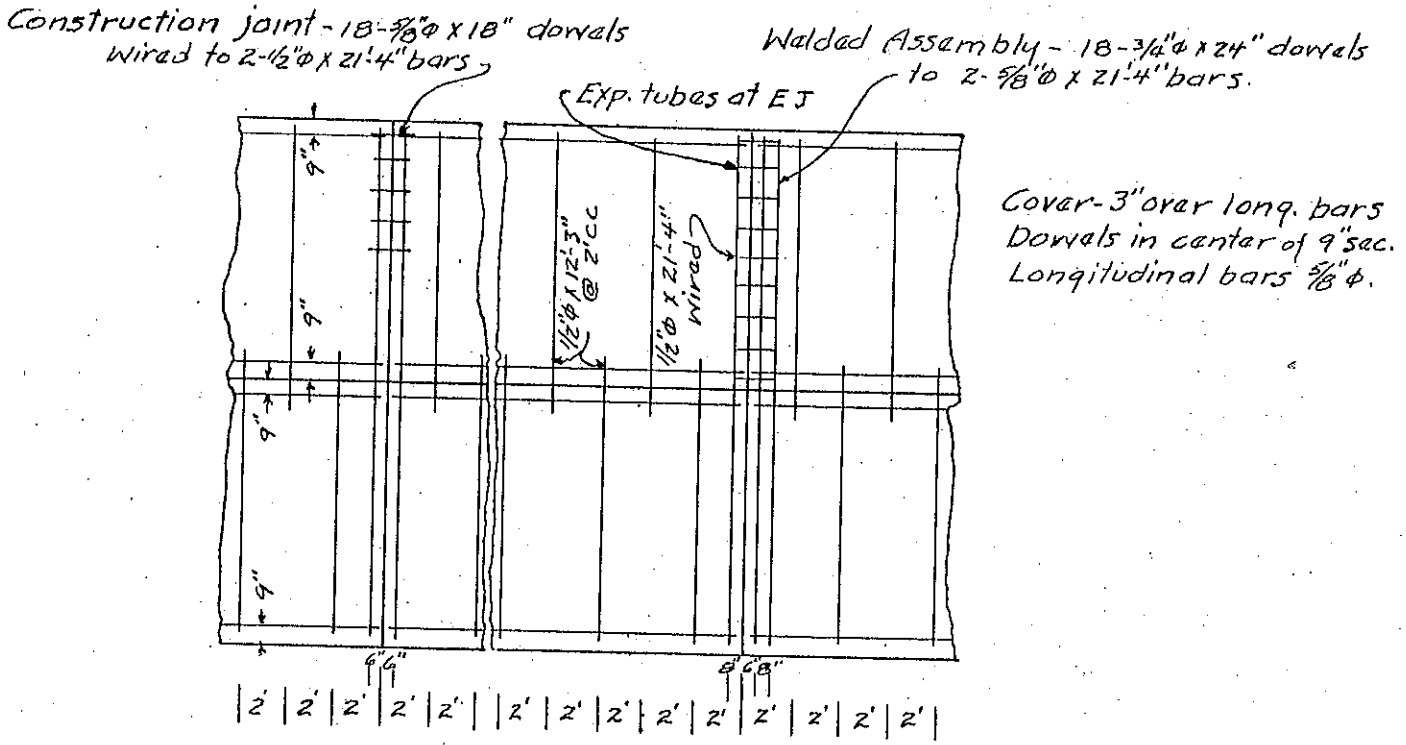
Cover - 3" over long. bars
Dowels in center of 8" sec.

Design No. 46 Width 22 ft. 10-9-10

First used in Letting of 5-13-47

Linn	F - 909 (8)	4.835 Miles	1948
Linn	FG - 909 (6)	0.463 Miles	1948
Linn	U - 909 (5)	1.299 Miles	1948
Marshall	FAGH - 881 B (1)	0.203 Miles	1947
Marshall	F - 881 (3)	9.208 Miles	1947
"	F-211 (3-4)	0.503 Miles	1947-8

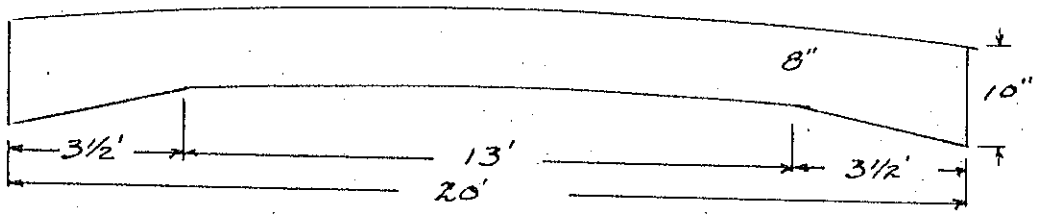

9"
10"
3'
16'
3'
22'

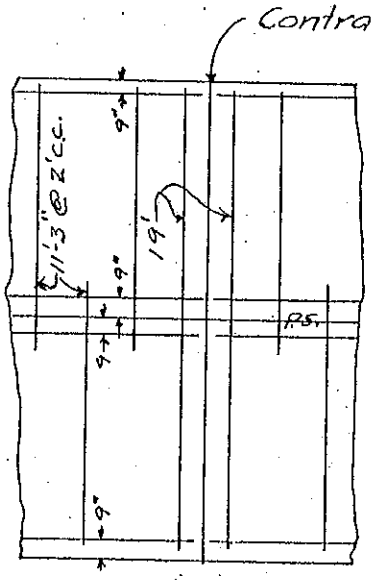

Construction joint - 18-5/8"ø x 18" dowels wired to 2-1½"ø x 21'-4" bars
Welded Assembly - 18-3/4"ø x 24" dowels to 2-5/8"ø x 21'-4" bars.
Exp. tubes at EJ
1½"ø x 12'-3" @ 2' c.c.
1½"ø x 21'-4" wired
Cover - 3" over long. bars
Dowels in center of 9" sec.
Longitudinal bars 5/8" ø.
6"
9"
6"
6"
6"
6"
2' 2' 2' 2' 2' 2' 2' 2' 2' 2' 2' 2' 2' 2' 2'

Design No. 47 Width 20 Ft. 10-8-10

First used in Letting of Jan 21, 1947

Worth F-268 (5) 1.992) Miles 1947 Station 1650+96 to Station 1756+16.3

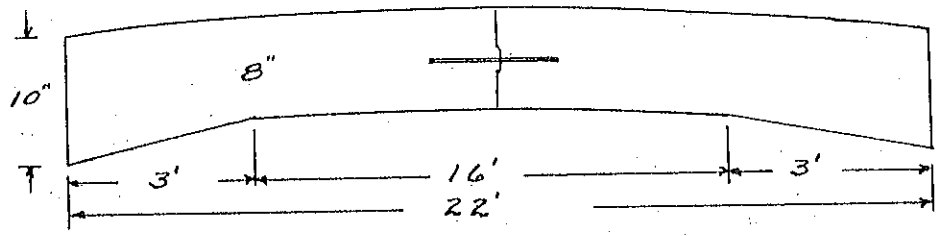




Long. bars 5/8"ϕ
Transv. " ½"ϕ
Cover 3" over long. bars

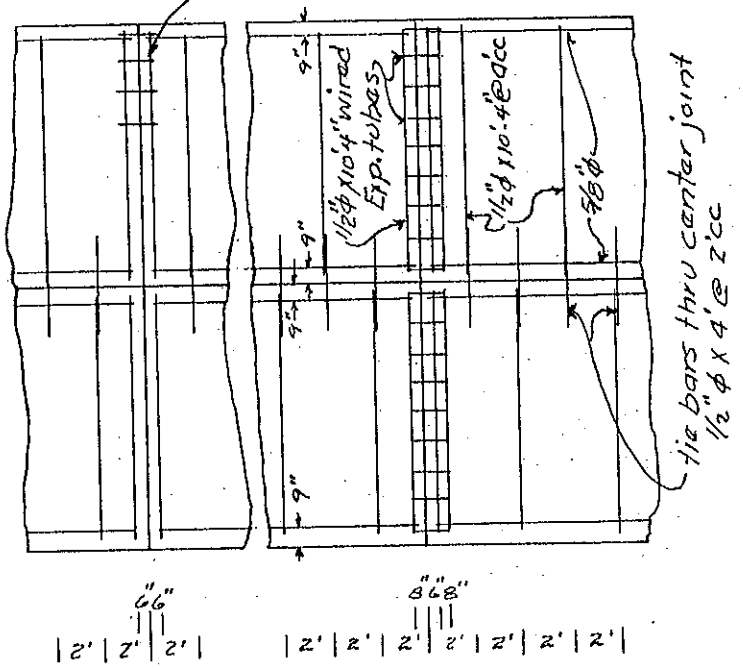
Design No. 48 Width 22 ft. 10-8-10
First used in Letting of 2-3-48

Davis	F-50 (7)	0.813 Miles	1948
Warren	F-11 (5)	1.594 Miles	1948
Lucas	F 252 (2)	0.079 Miles	1948



Construction joints (each half) 9-5/8"ø x 18" dowels wired to 2-10'-4" bars – ½"ø

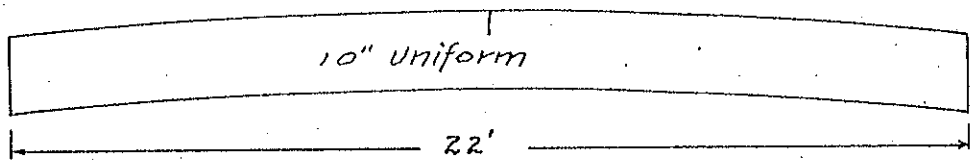
Welded Assembly (each half.) 9-3/4"ø x 24" dowels to 2-5/8"ø x 10'-4" bars

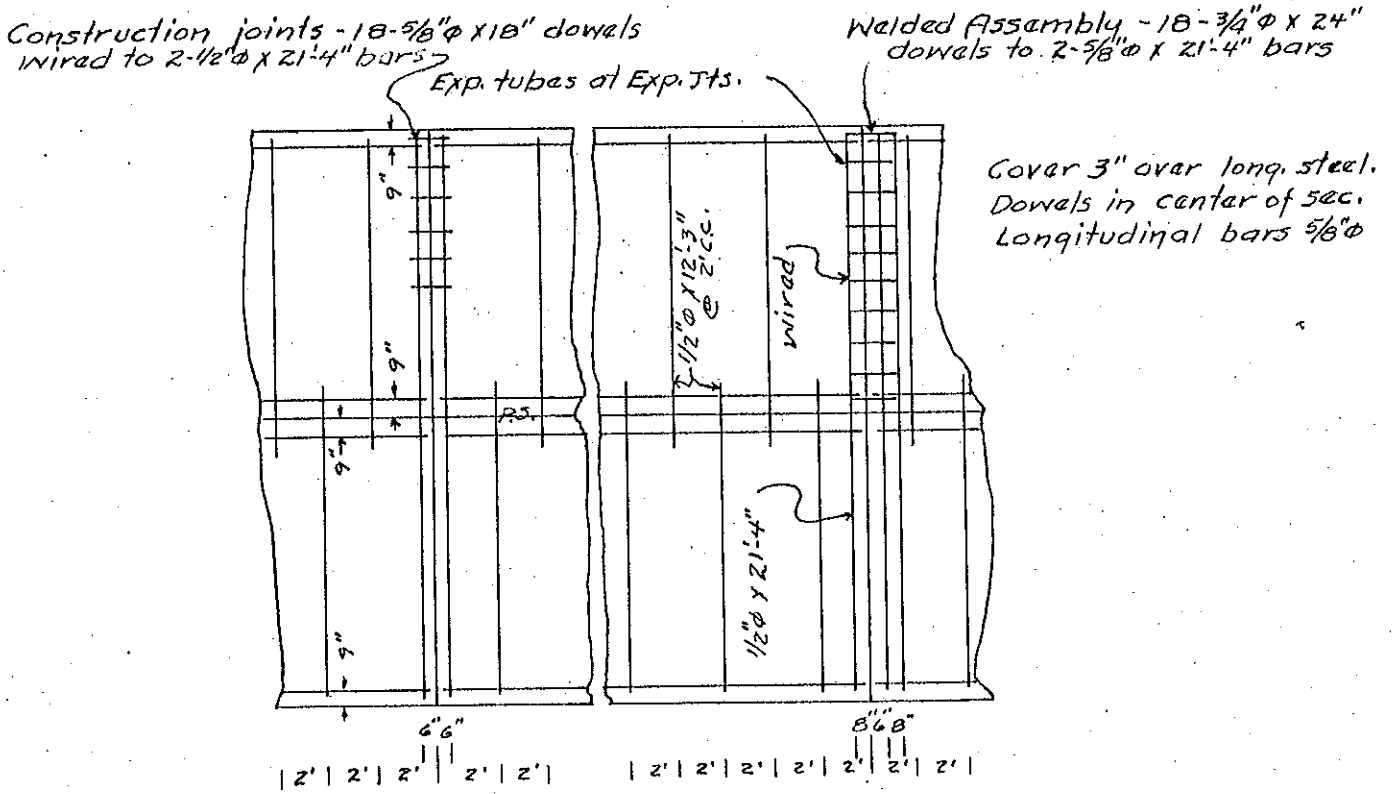


Cover - 3" over long bars dowels in center of 8" sec.

Design NO. 49 Width 22 Ft. 10 in. uniform
First Letting used in 2-3-48

Marshall U - 23 (5) 0.251 Miles 1948


10" Uniform
22'


Construction joints - 18-5/8"ϕ x 18" dowels wired to 2-1 1/2"ϕ x 21'-4" bars
Exp. tubes at Exp. Jts.
Welded Assembly - 18-3/4"ϕ x 24" dowels to 2-5/8"ϕ x 21'-4" bars
Cover 3" over long. steel.
Dowels in center of sec.
Longitudinal bars 5/8"ϕ
6"
6"
6"
6"
P.S.
1 1/2"ϕ x 12'-3" @ 2'c.c.
wired
1 1/2"ϕ x 21'-4"
6" 6"
8" 8"
| 2' | 2' | 2' | 2' | 2' |
| 2' | 2' | 2' | 2' | 2' | 2' | 2' |

Design No 50.
Width 22 ft. Vol 10-58-10
First used in Letting of 3-2-48

Floyd	U41 (7)	0.714 Miles	1948
Floyd	U41(9)	0.236 Miles	1948

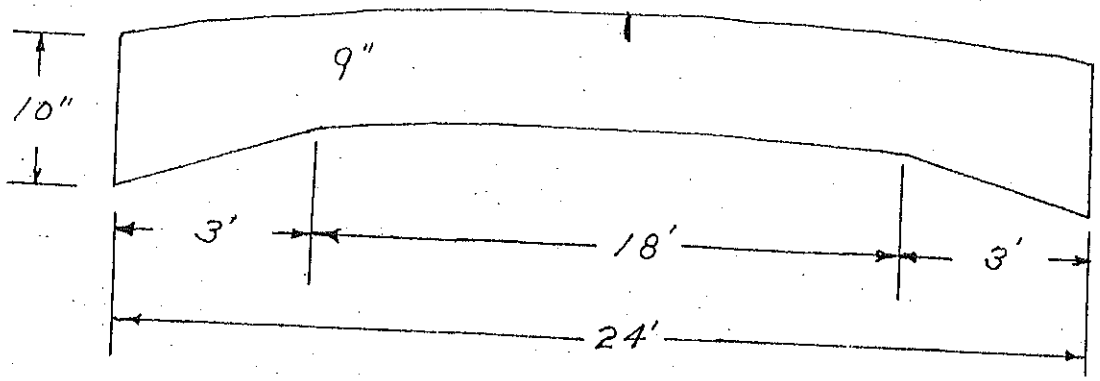
8"
10"
3½'
15'
3½'
22'

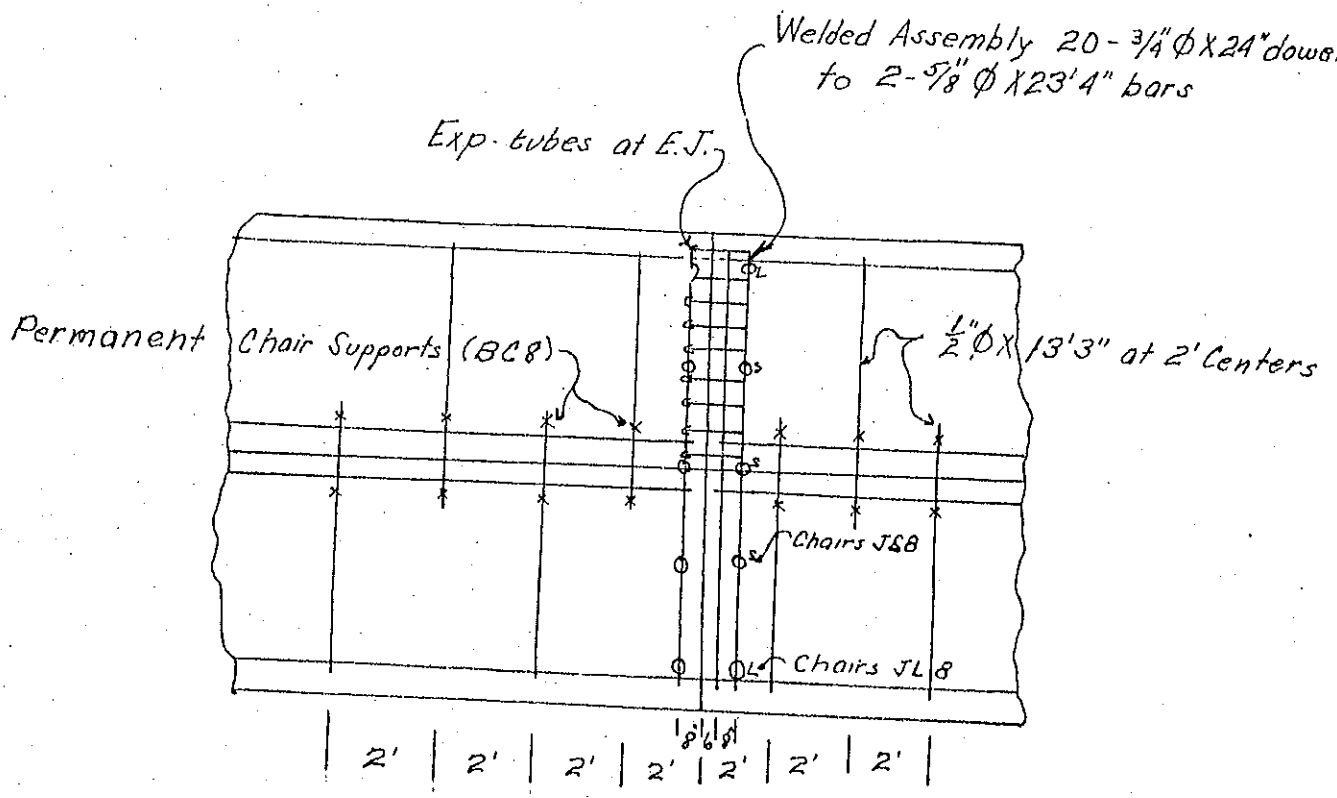
Construction joints - 22-⅝"x18" dowels wired to 2-½"φ x 21'-4" bars.
Welded Assembly - 22-¾"φx24" dowels to 2-⅝"φ x 21'-4" bars.
Exp. tubes at E.J.
Cover 3" over long. bars.
Longitudinal bars ⅝"φ
Dowels in center of 8" sec.
9"
½"φ x 12'-6"
2' c.c.
Wired
½"φ x 21'-4"
6" 6"
6" 8" 6" 8"
2' 2' 2' 2' 2' 2' 2' 2' 22" 22" 2' 2'

Design No. 51
First used in Letting of 6-21-49

Plymouth F 38(7)
Woodbury-Plymouth F 273(4)

Design No 51.
Width 24 ft. 10-9-10
First used in Letting of 6-12-49.
Plymouth F 38(7) 5.093 Miles 1949
Plymouth-Woodbury F 273(4) 6.239 Miles 1949.

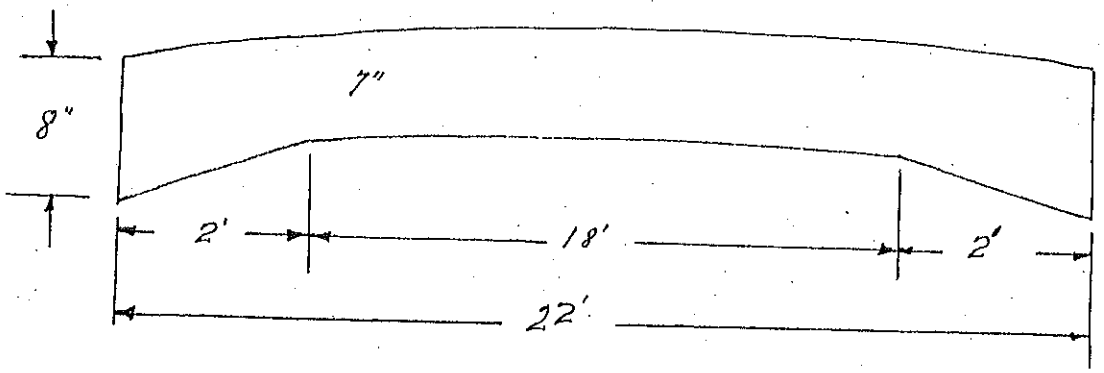

10"
9"
3'
18'
3'
24'

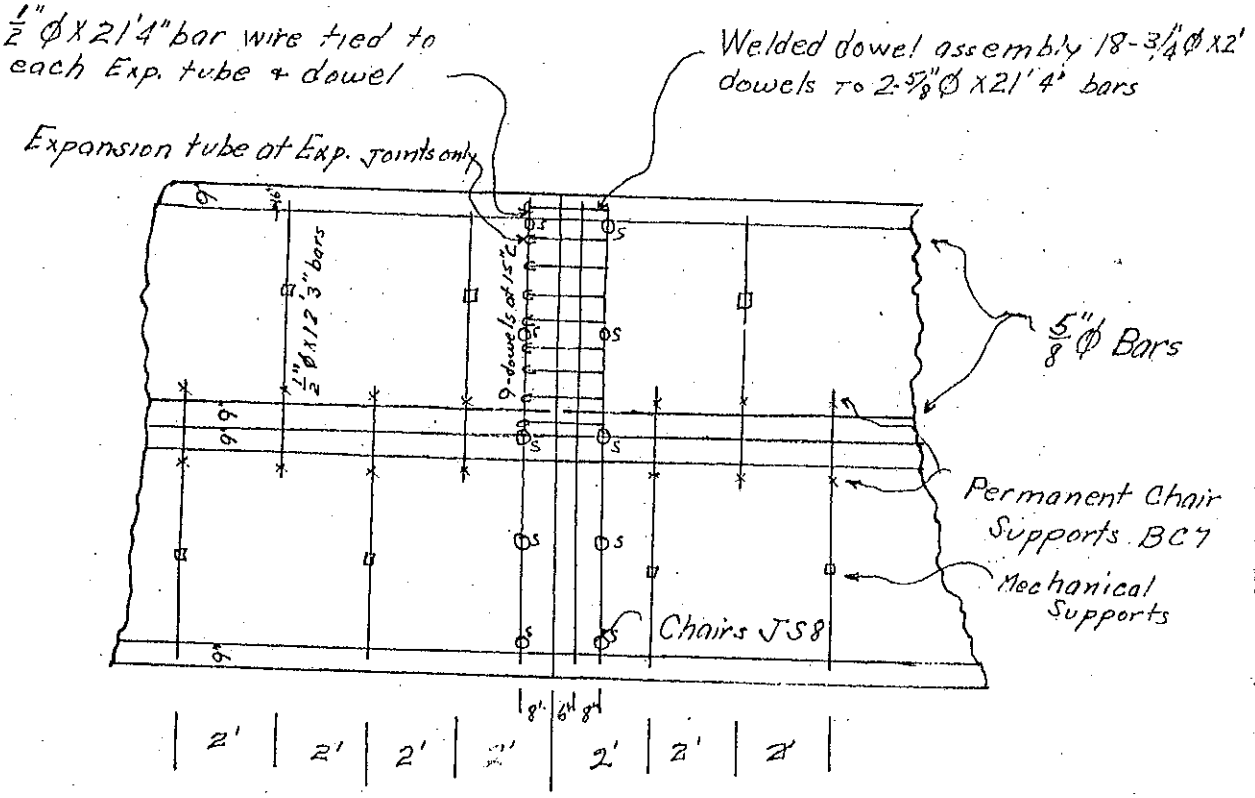

Welded Assembly 20 - 3/4" ϕ X 24" dowels to 2 - 5/8" ϕ X 23'4" bars
Exp. tubes at E.J.
Permanent Chair Supports (BC8)
1/2" ϕ X 13'3" at 2' Centers
Chairs J&8
Chairs JL 8
2' 2' 2' 2' 2' 2' 2'

Design No. 52 W idth 22 Ft. 8-7-8

Letting First Used 5-24-49

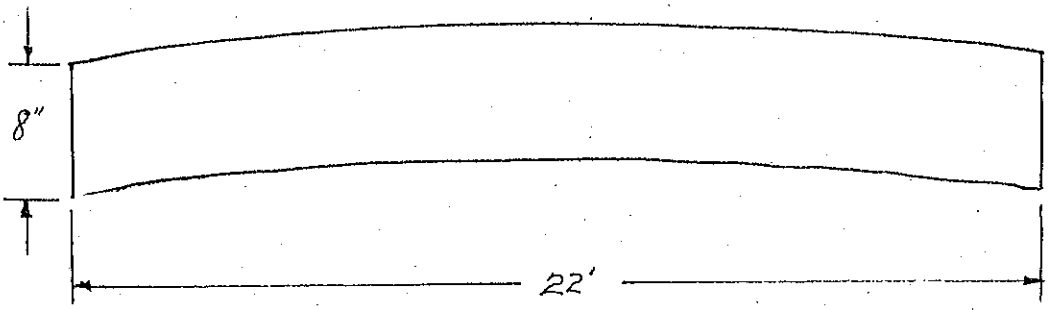
Crawford	F 879(6)	12.864 Miles	1949
Cass	FN 466	0.454 Miles	1949
Montgomery	F915(1)	22.313 Miles	1949
Wright	S-444(2)	0.612 Miles	1950
Wright	S-197(4)	0.1498 Miles	1950
Mills	F-767(2)	7.843 Miles	1949-50
Mills	F-442(6)	1.328 Miles	1950
Monona	F-356(9)	6.284 Miles	1950
Keokuk	F-897(2)	4.075 Miles	1950

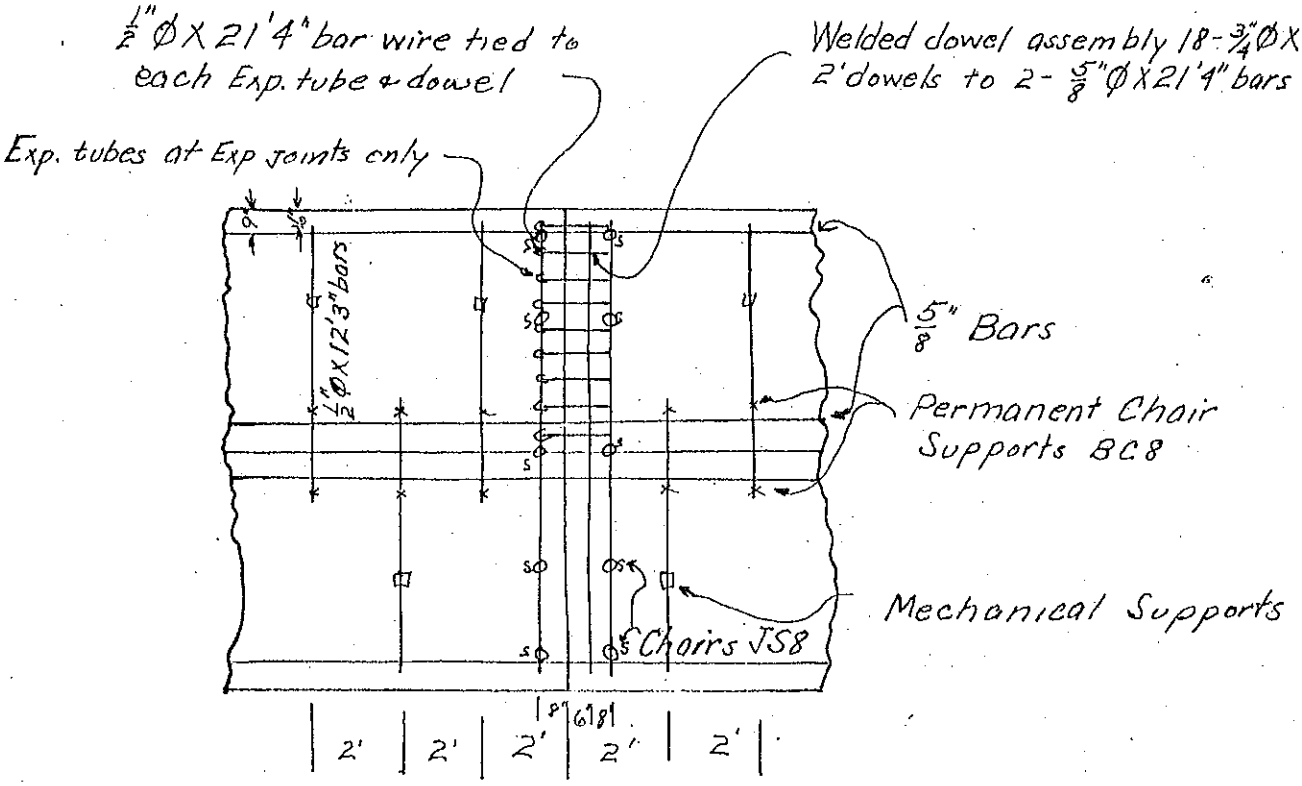

8"
7"
2'
18'
2'
22'


½"ØX21'4" bar wire tied to each Exp. tube + dowel
Welded dowel assembly 18-¾"ØX2' dowels to 2-⅝"ØX21'4" bars
Expansion tube at Exp. joints only
½"ØX12'3" bars
9-dowels at 1'-2"
5/8"Ø Bars
Permanent Chair Supports BC7
Mechanical Supports
Chairs JS8
2'
2'
2'
2'
2'
2'
2'

Design No. 53 Width 22 Ft. 8 in uniform
First Used in Letting of 4-26-49

Jasper	FN 963	0.892	Miles	1949
Sioux	F 542(9)	10.787	Miles	1949
Guthrie-Dallas	F-619(5)	11.535	Miles	1950


8"
22'

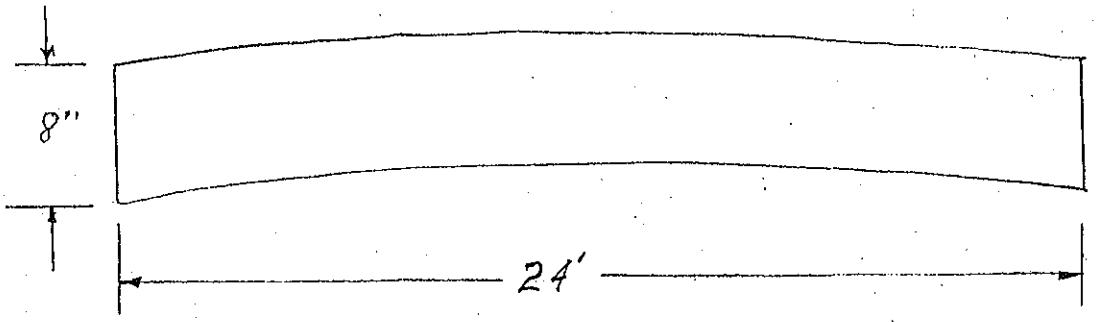

1/2"ØX21'4" bar wire tied to each Exp. tube & dowel
Welded dowel assembly 18-3/4ØX 2'dowels to 2-5/8"ØX21'4" bars
Exp. tubes at Exp joints only
1/2"ØX12'3" bars
5/8" Bars
Permanent Chair Supports BC8
Mechanical Supports
Chairs JS8
2'
2'
2'
2'
2'

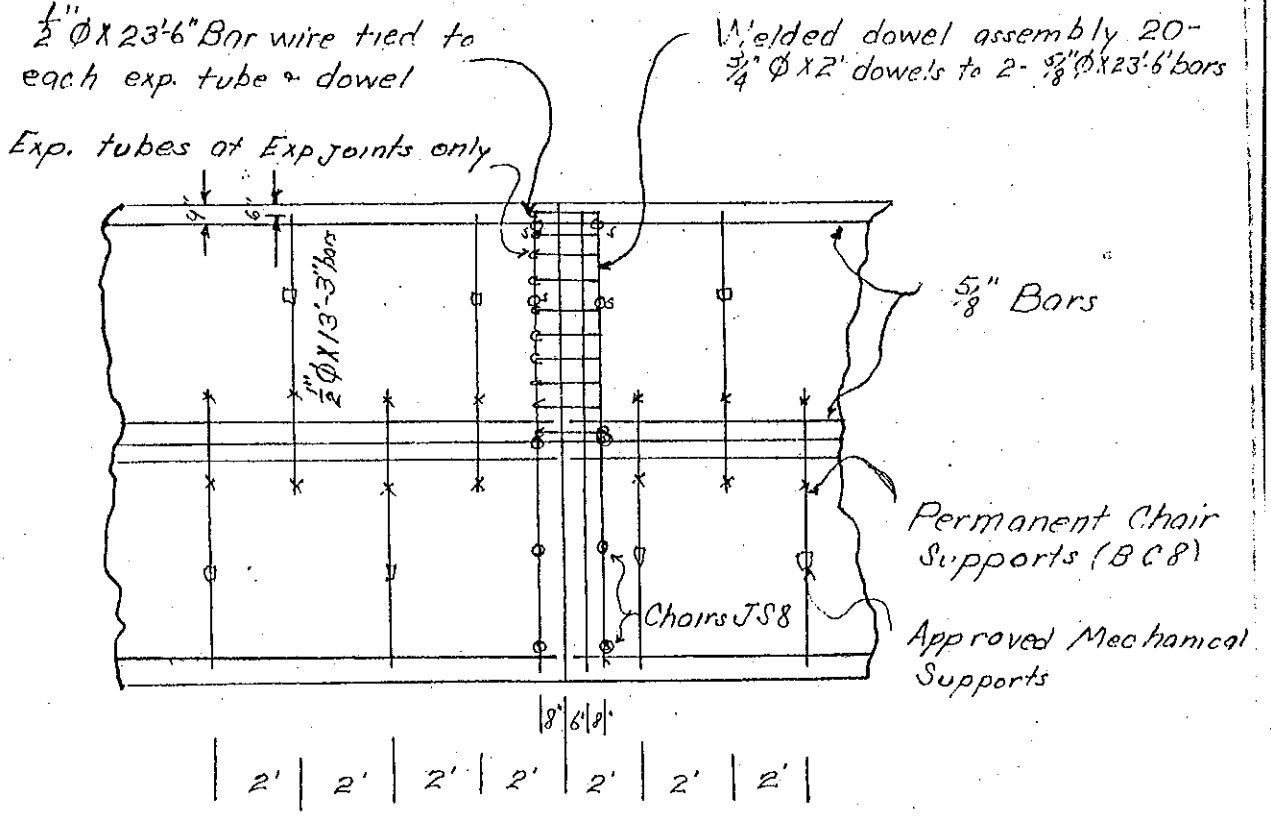
54

Design No. 54 Width 24 ft. 8 in. uniform

First Used in Letting of 8-16-49

Jasper F 970(1) 0.176 miles 1949


8"
24'

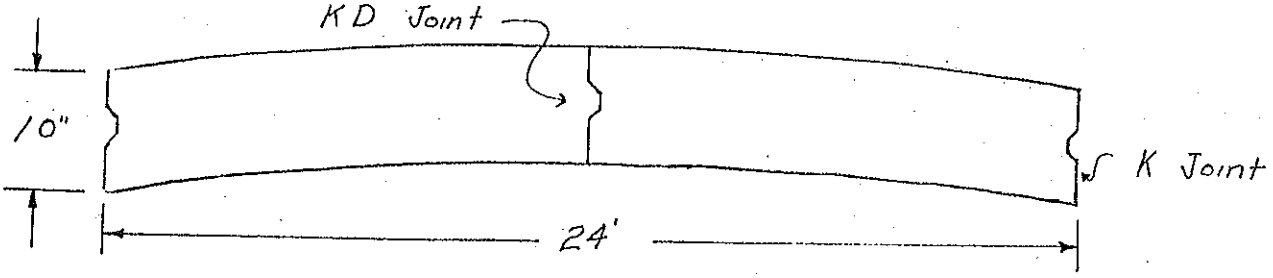

½" Ø x 23'-6" Bar wire tied to each exp. tube & dowel
Welded dowel assembly 20- ¾" Ø x 2' dowels to 2- ⅝" Ø x 23'-6" bars
Exp. tubes at Exp joints only
½" Ø x 13'-3" bars
⅝" Bars
Permanent Chair Supports (BC8)
Chairs TS8
Approved Mechanical Supports
8" 6" 8"
2' 2' 2' 2' 2' 2' 2'

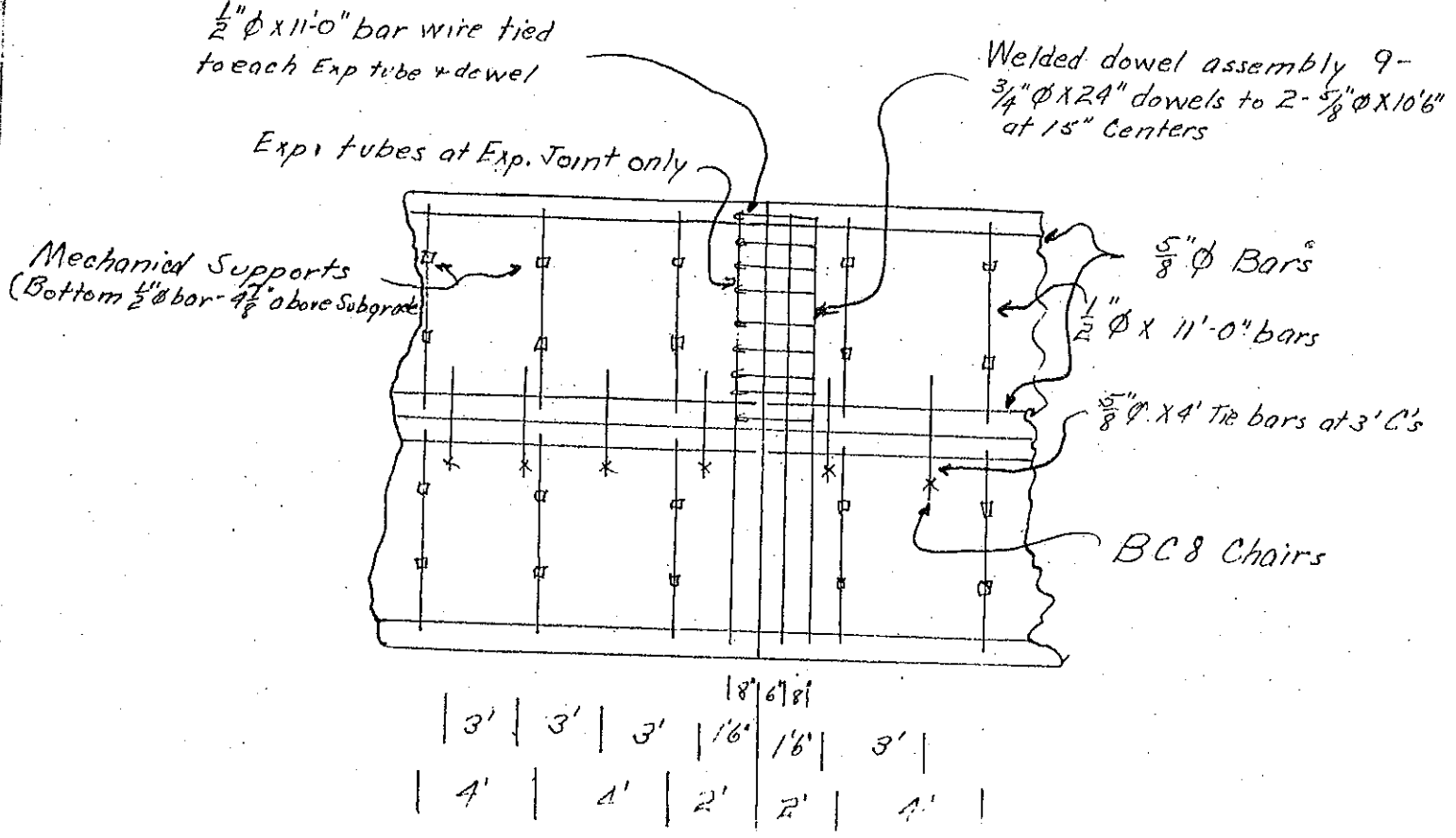
55

Design No. 55 Width 24 ft. 10 in. uniform

First Used in Letting of 7-20-48

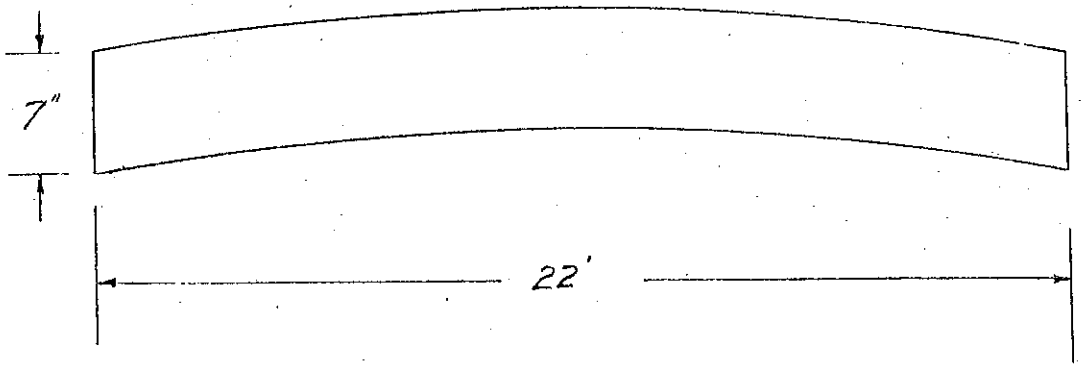
Polk FN 340 0.199 Miles 1949

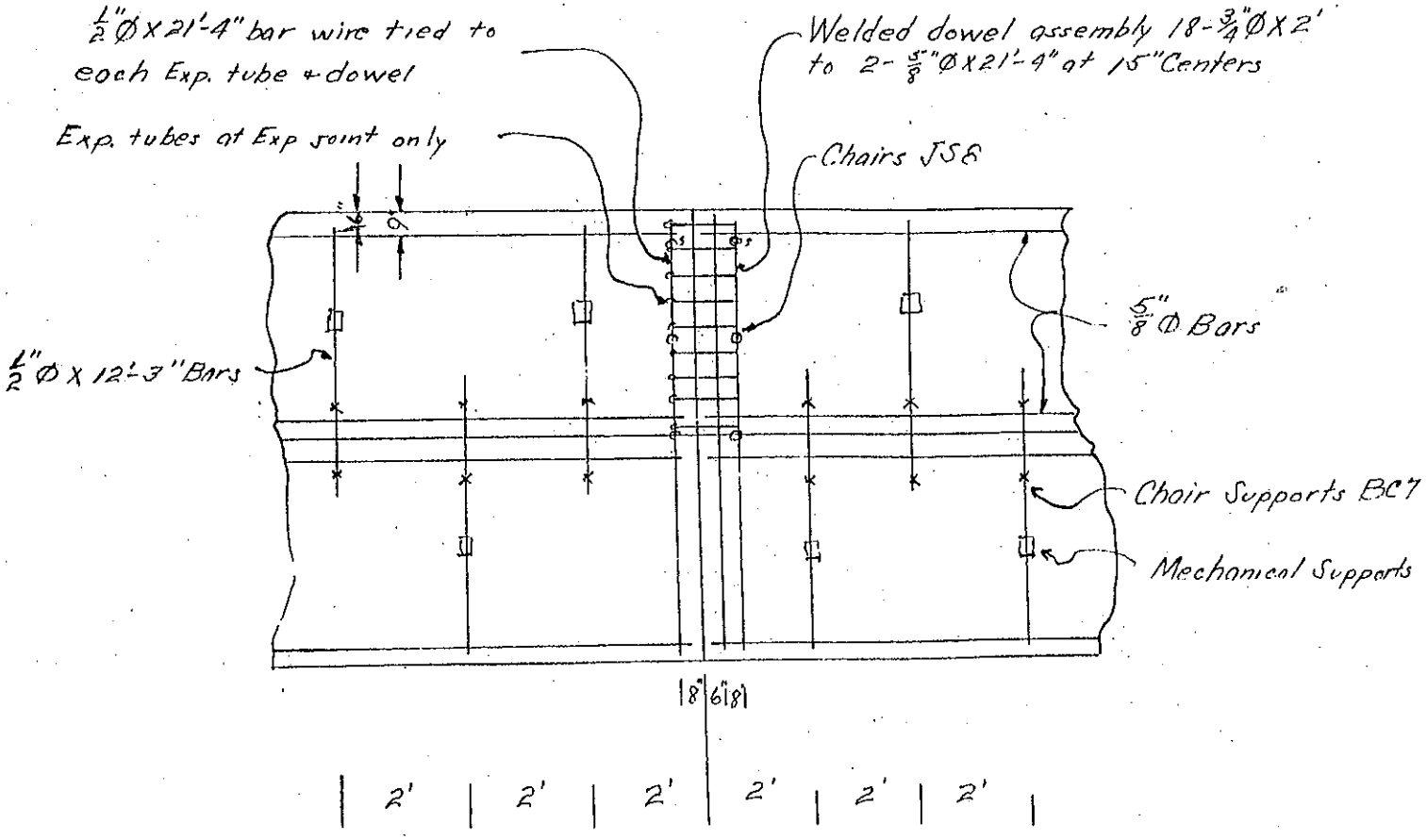

KD Joint
10"
K Joint
24'


½"Ø x 11'-0" bar wire tied to each Exp tube & dowel
Welded dowel assembly 9-¾"Ø x 24" dowels to 2-⅝"Ø x 10'6" at 15" Centers
Exp. tubes at Exp. Joint only
Mechanical Supports (Bottom ½"Ø bar - 4½" above Subgrade)
⅝"Ø Bars
½"Ø x 11'-0" bars
⅝"Ø x 4' Tie bars at 3' C's
BC8 Chairs
8" 6" 8"
3' 3' 3' 1'6" 1'6" 3'
4' 4' 2' 2' 4'

Design No. 56 Width 22 ft. 7 in. uniform
First Used in Letting of 9-13-49

Wright	SN-825	0.886	Miles	1949
Wright	S 1256(1)	0.65	Miles	1949
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

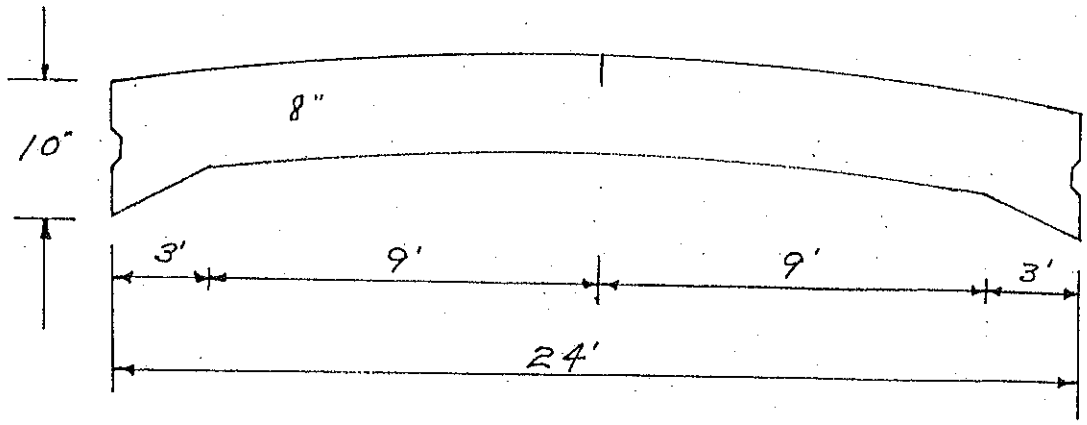

7"
22'

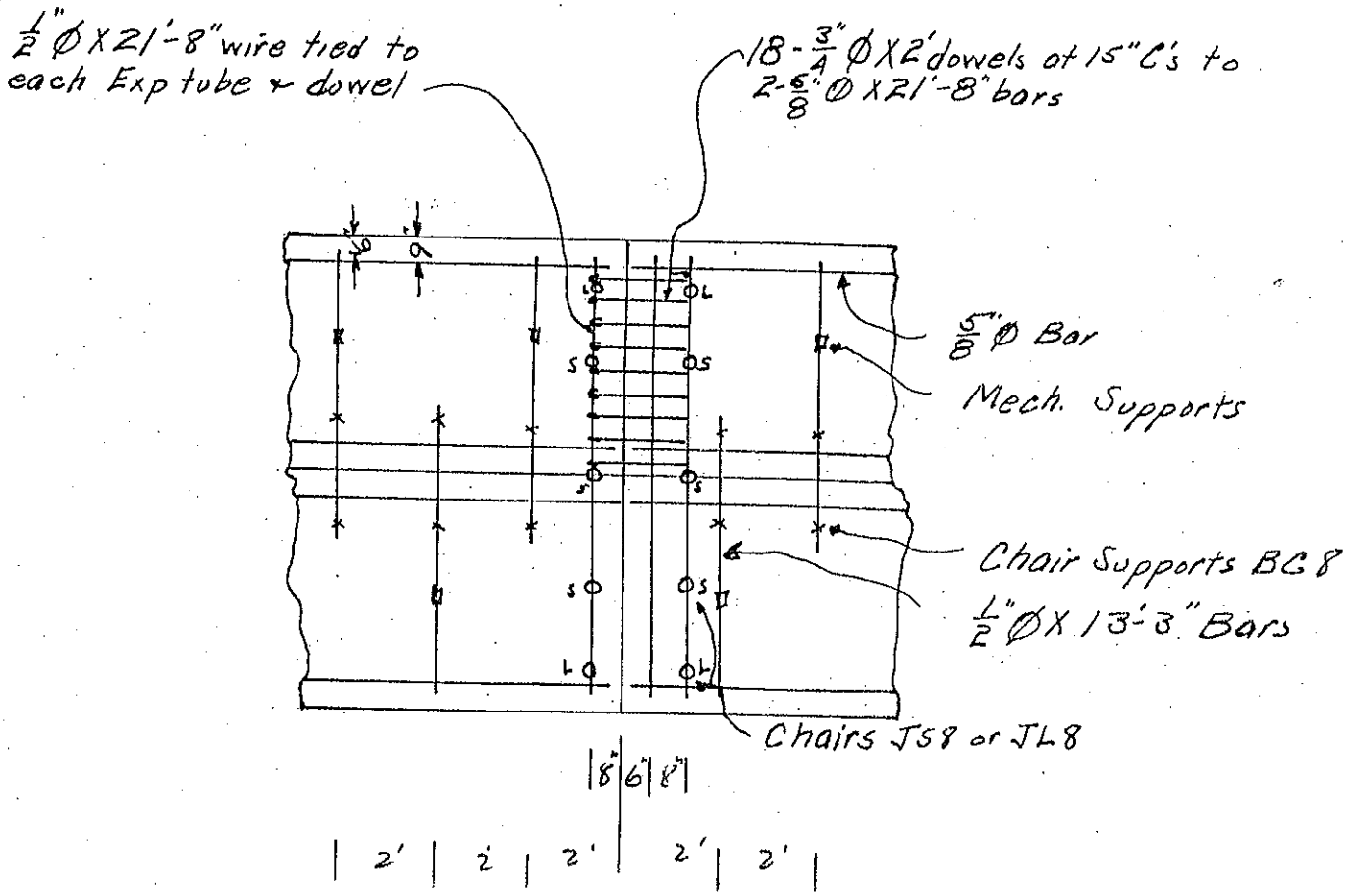

½"Ø x 21'-4" bar wire tied to each Exp. tube + dowel
Welded dowel assembly 18-¾"Ø x 2' to 2-⅝"Ø x 21'-4" at 15" Centers
Exp. tubes at Exp joint only
Chairs JS6
⅝" Ø Bars
½"Ø x 12'-3" Bars
Chair Supports BC7
Mechanical Supports
18" 6" 18"
2' 2' 2' 2' 2' 2'

Design no 57 Width 24 Ft 10-8-10

First used in letting of 11-22-49

Blackhawk UG -62(6) 0.752 Miles 1950

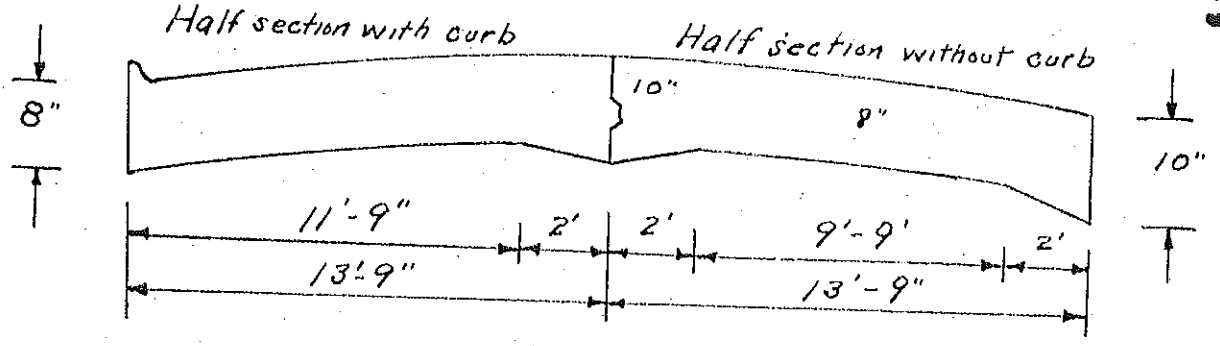

10"
8"
3'
9'
9'
3'
24'


½"Ø X 21'-8" wire tied to each Exp tube & dowel
18-¾"Ø X 2' dowels at 15" C's to 2-⅝"Ø X 21'-8" bars
⅝"Ø Bar
Mech. Supports
Chair Supports BC 8
½"Ø X 13'-3" Bars
Chairs JS 8 or JL 8
8" 6" 8"
2' 2' 2' 2' 2'

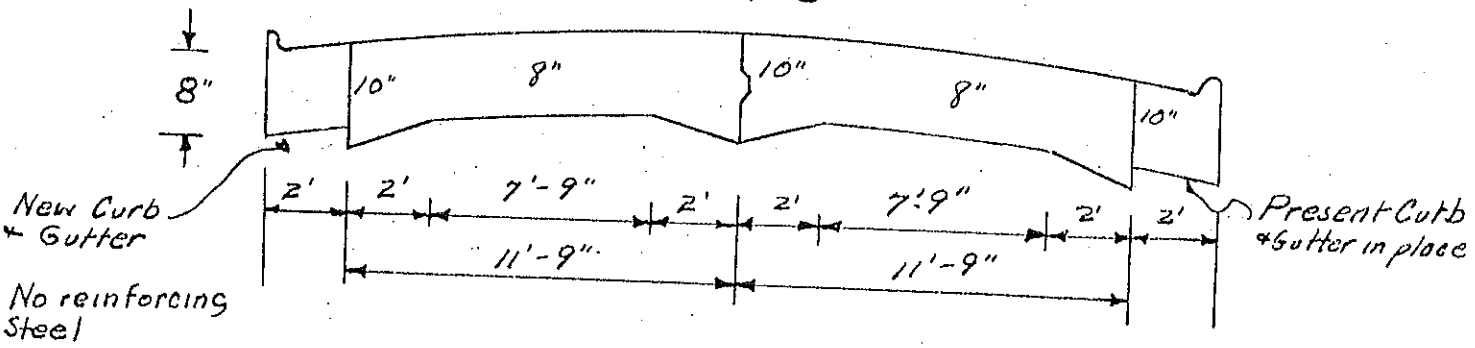
Design No. 581 Width 27 ft 6in 8-10-8
First Used in Letting of 8-1-50 10-8-10-8-10

Webster FN-780 0.142 Miles 1950

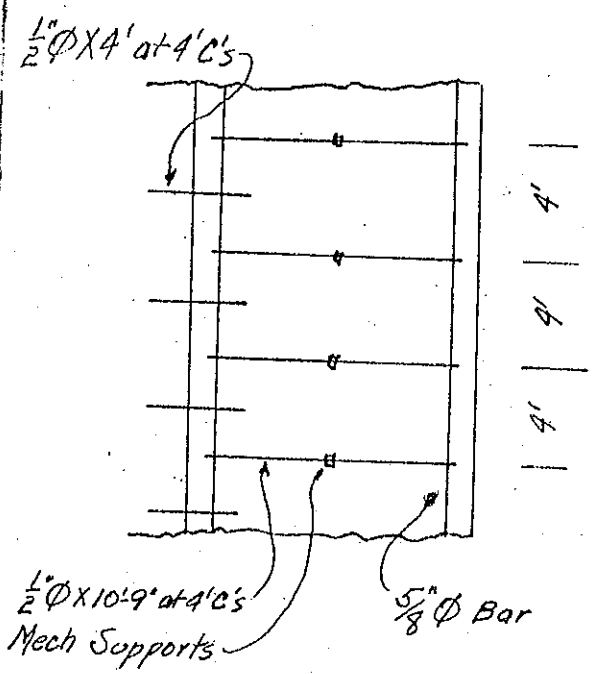
Section A



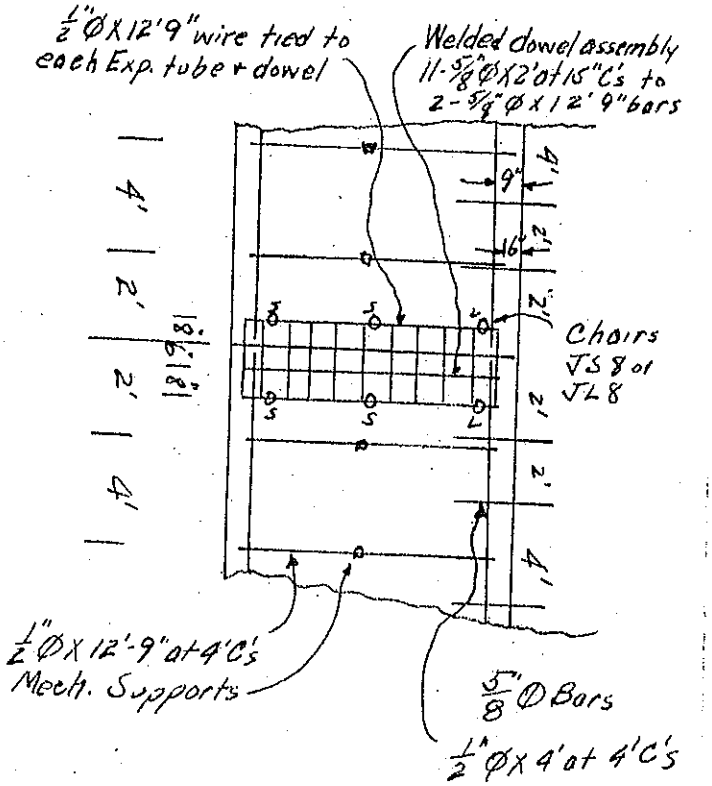
Section C



Section C 11'-9"



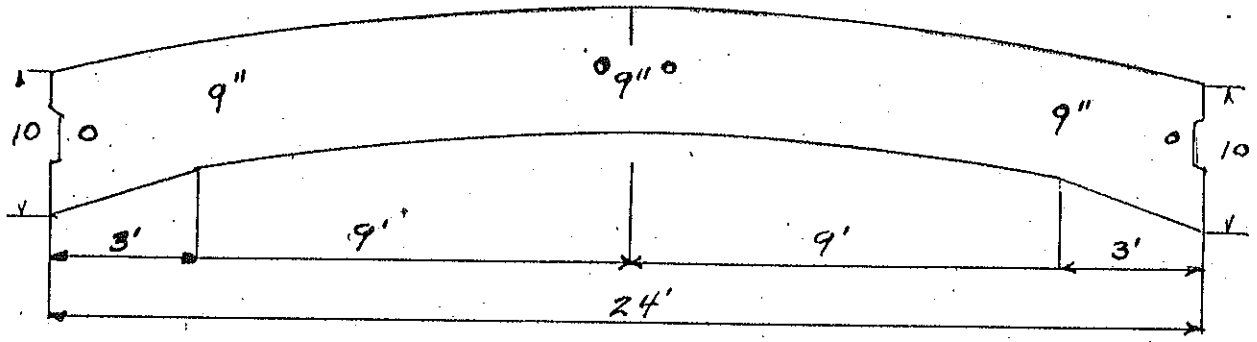
Section A 13'-9"

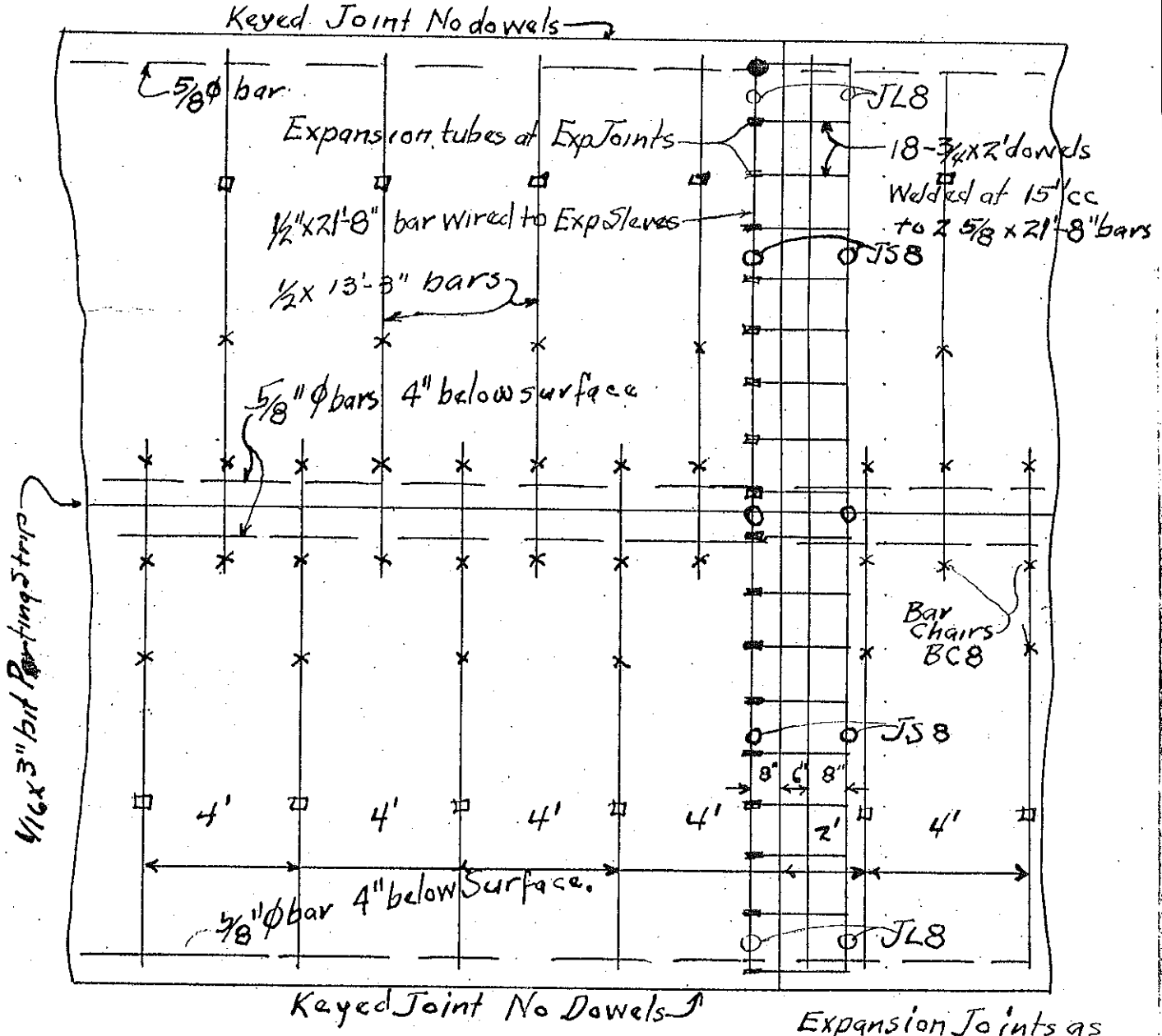


Design No 59 Width 24 ft 10-9-10

First used in letting of 5-24-49

Woodbury UI 886(3) 3.420 Miles 1949





Expansion Joints as Listed on Plans

D sign no 60 Width 22 Ft 10-8-10
60

First used in letting of 7-19-49
Harrison F 965(1) 0.898 1949
Muscatine U 372(2) 0.502 1950

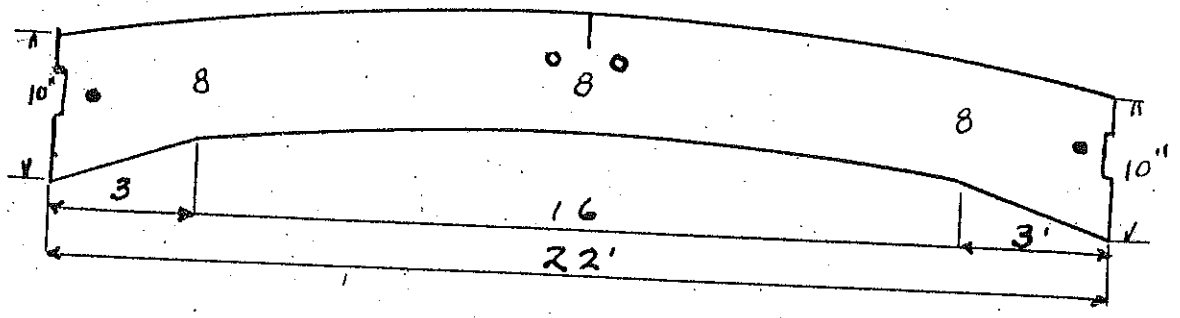
60

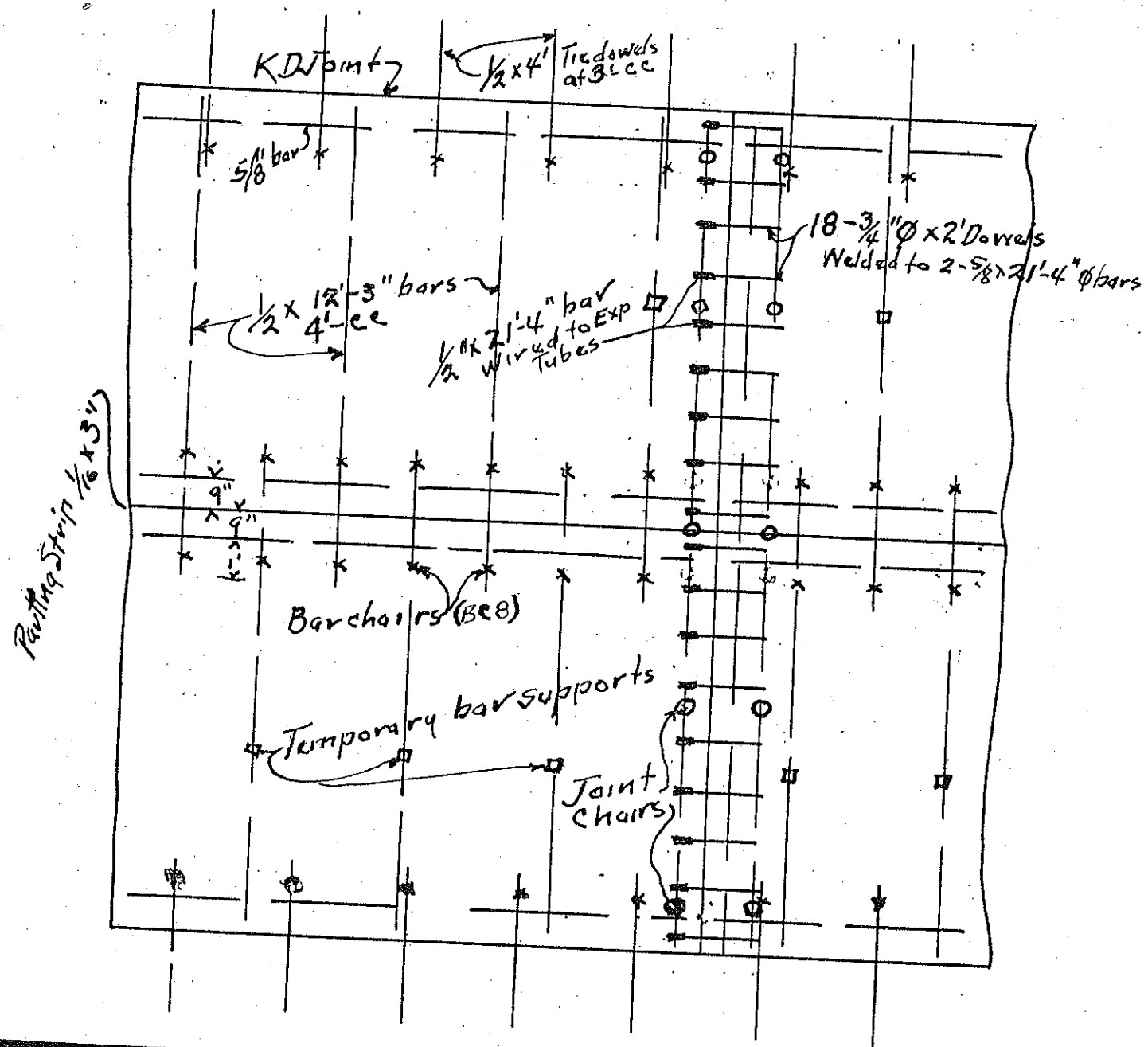
Design No 60 Width 22 Ft 10-8-10

First used in letting of 6-6-50

Muscatine U 372(2) 0.502 Miles 1950

#60
Miscellaneous
4372(3)



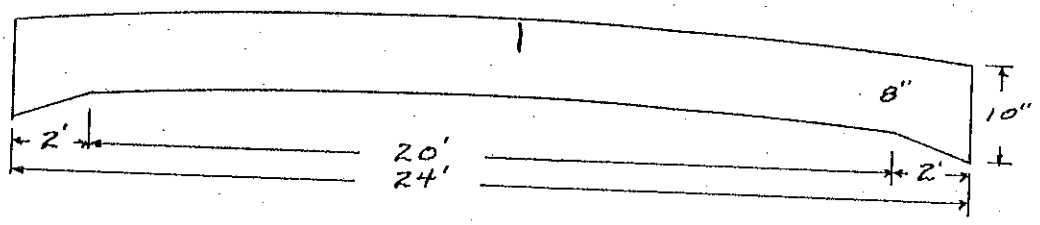


Design No. 61 Width 24 ft 10-8-10
First used in Letting of 7-8-48

Blackhwak U-2.0 (4) 0.458 Miles 1948

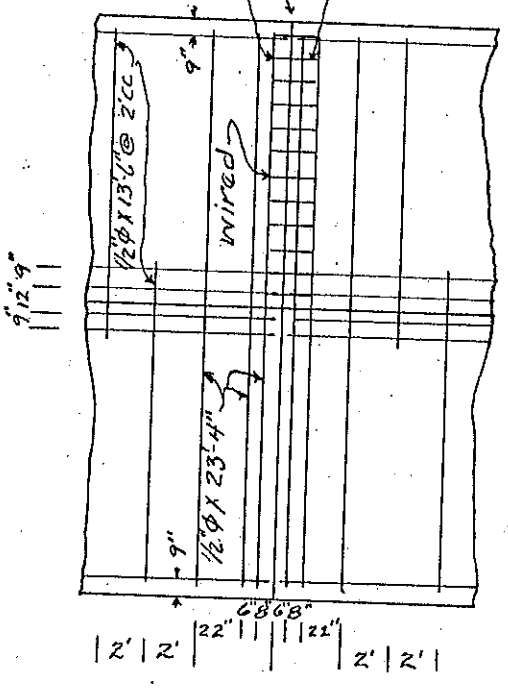
1+1

61



All transverse joints
Exp. tubes at E.J.

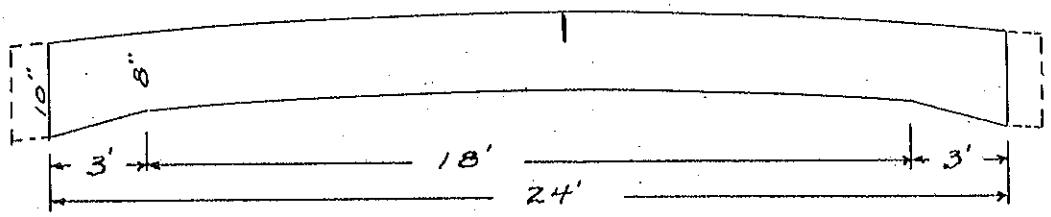
Welded Assembly - 24-3/4"ϕ x 24" dowels
@ 1'c.c. to 2-5/8"ϕ x 23'-4" bars.



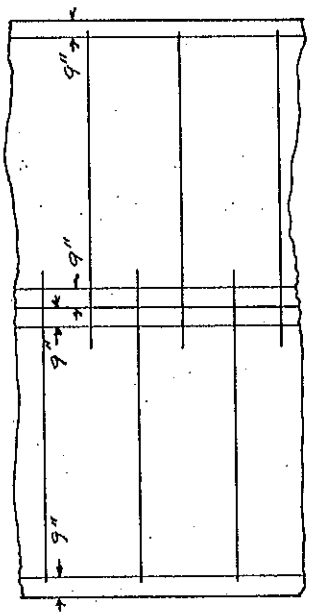
Cover 3" over long. bars.
Dowels in center of 8" sec.
Longitudinal bars 5/8ϕ

Design No. 62 Width 24 ft. 10-8-10
First used in Letting of 9-14-48

Blackhawk	P-994	0.053 Miles	1948



1'x10" fill in each side

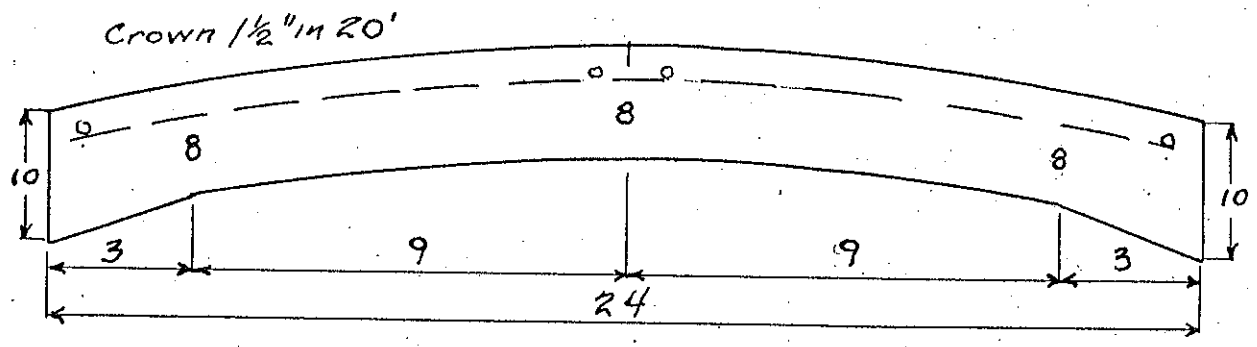


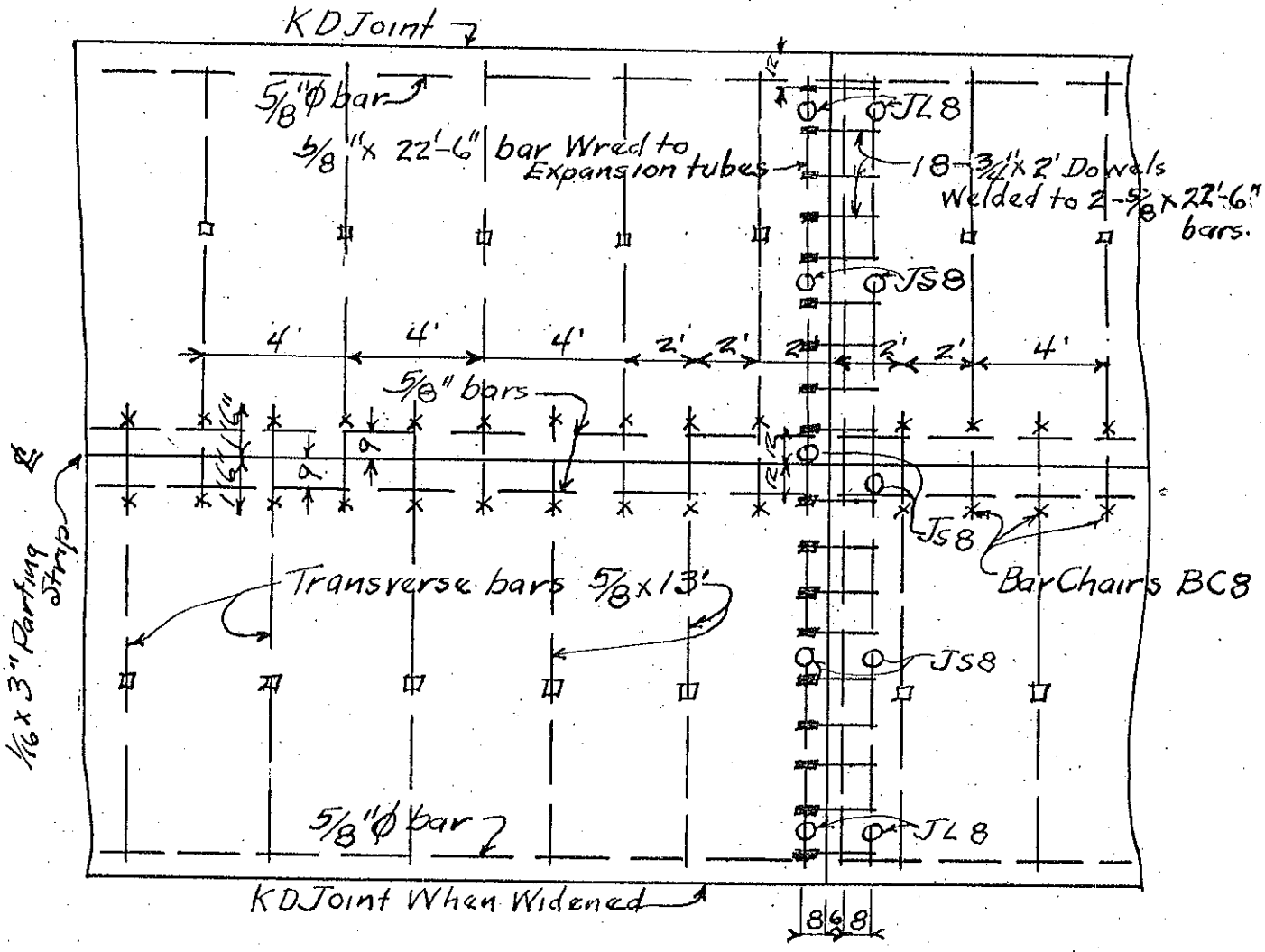
Transverse steel 1/2"ϕ x 13'-3"
Longitudinal " 5/8"ϕ.
Cover 3" over long. steel.

P.S. 1/16"x3"

Design 63 Width 24 10-8-10
First used in letting of 7-6-50

Page U 651(4) 0.989 Miles 1950

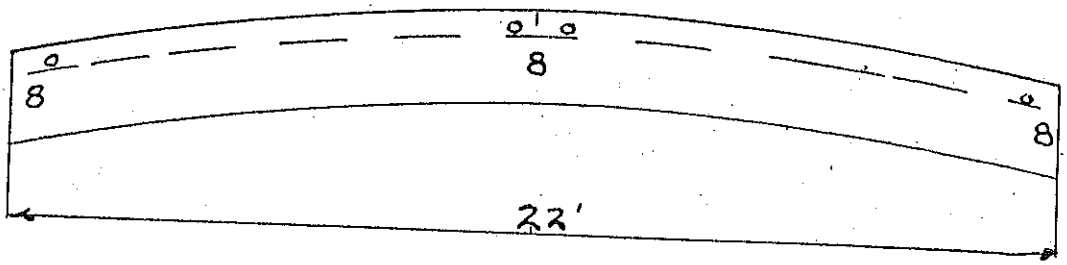

Crown 1½" in 20'
8
8
8
10
10
3
9
9
3
24

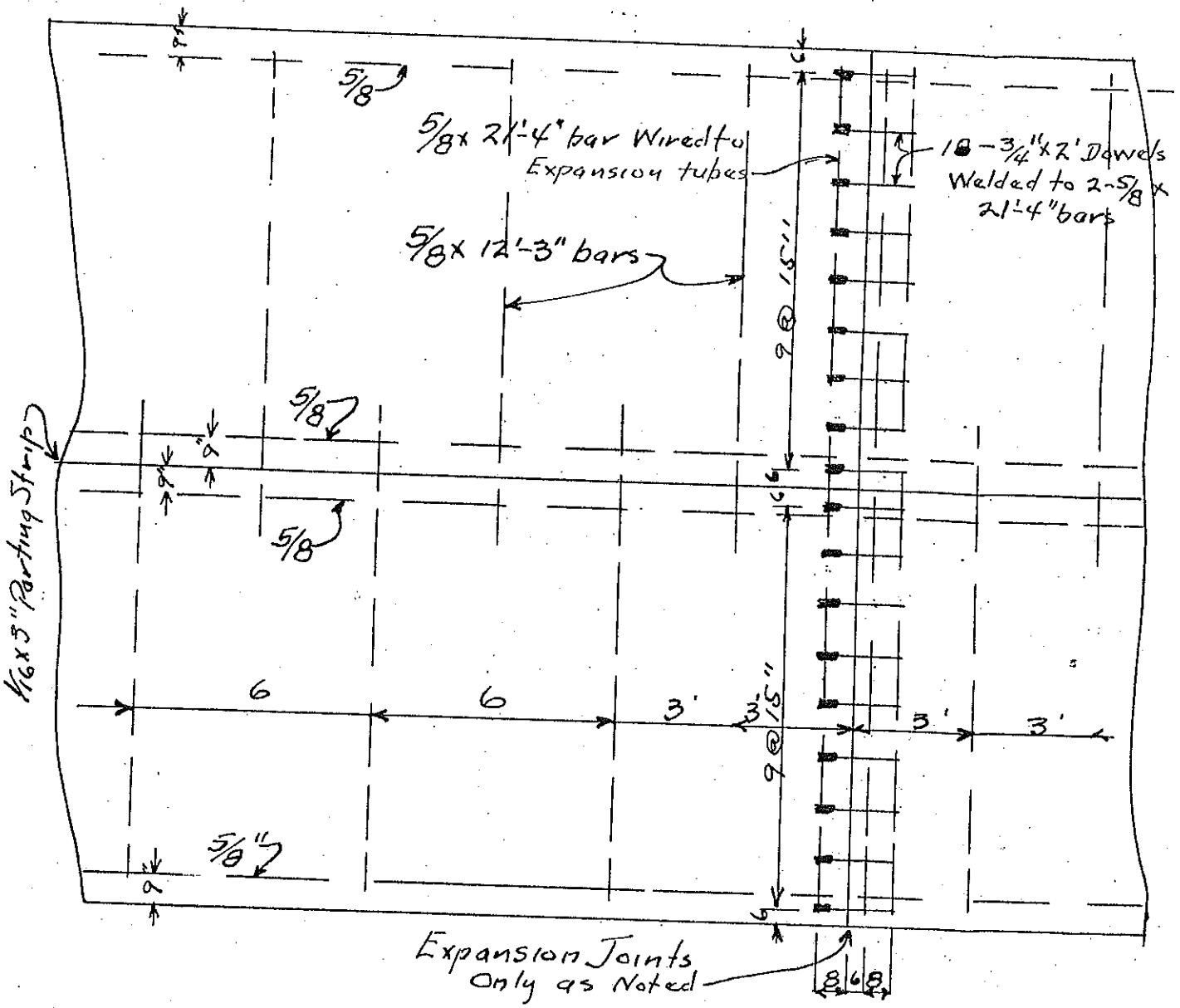

KD Joint
5/8" ϕ bar
5/8" x 22'-6" bar Wred to Expansion tubes
JL8
18-¾" x 2' Dowels Welded to 2-5/8 x 22'-6" bars.
JS8
4'
4'
4'
2'
2'
2'
2'
2'
4'
5/8" bars
JS8
Bar Chairs BC8
Transverse bars 5/8 x 13'
JS8
5/8" ϕ bar
JL8
KD Joint When Widened
8
6
8
1/16 x 3" Parting Strip

Design No 64 Width 22 ft 8 In uniform.
First used in Letting Of 1-23-51

Appanoose	F 399(1)	2.575 Miles	1951
Carroll	F 99(4)	7.359 Miles	1951
Johnson	F 9 (7)	14.635 Miles	1951

Crown 2" in 22'

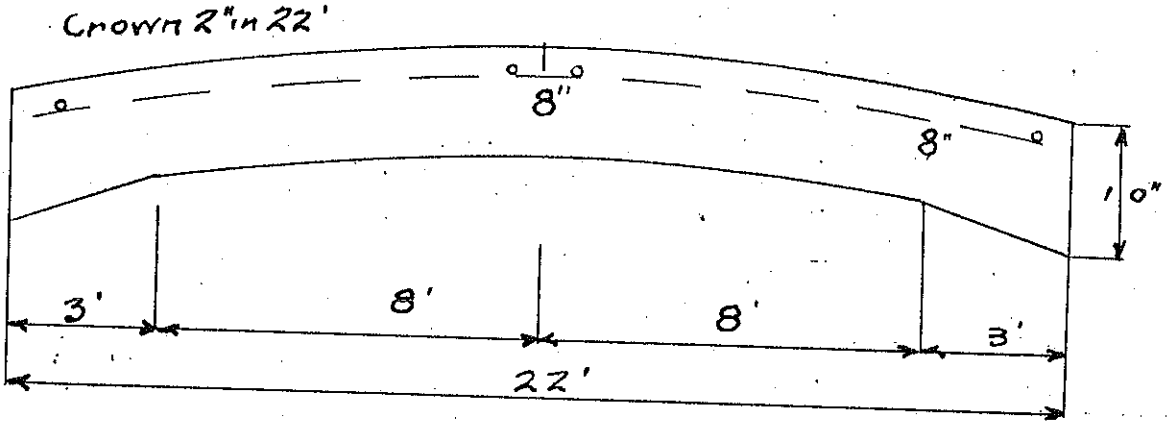

8
8
8
22'

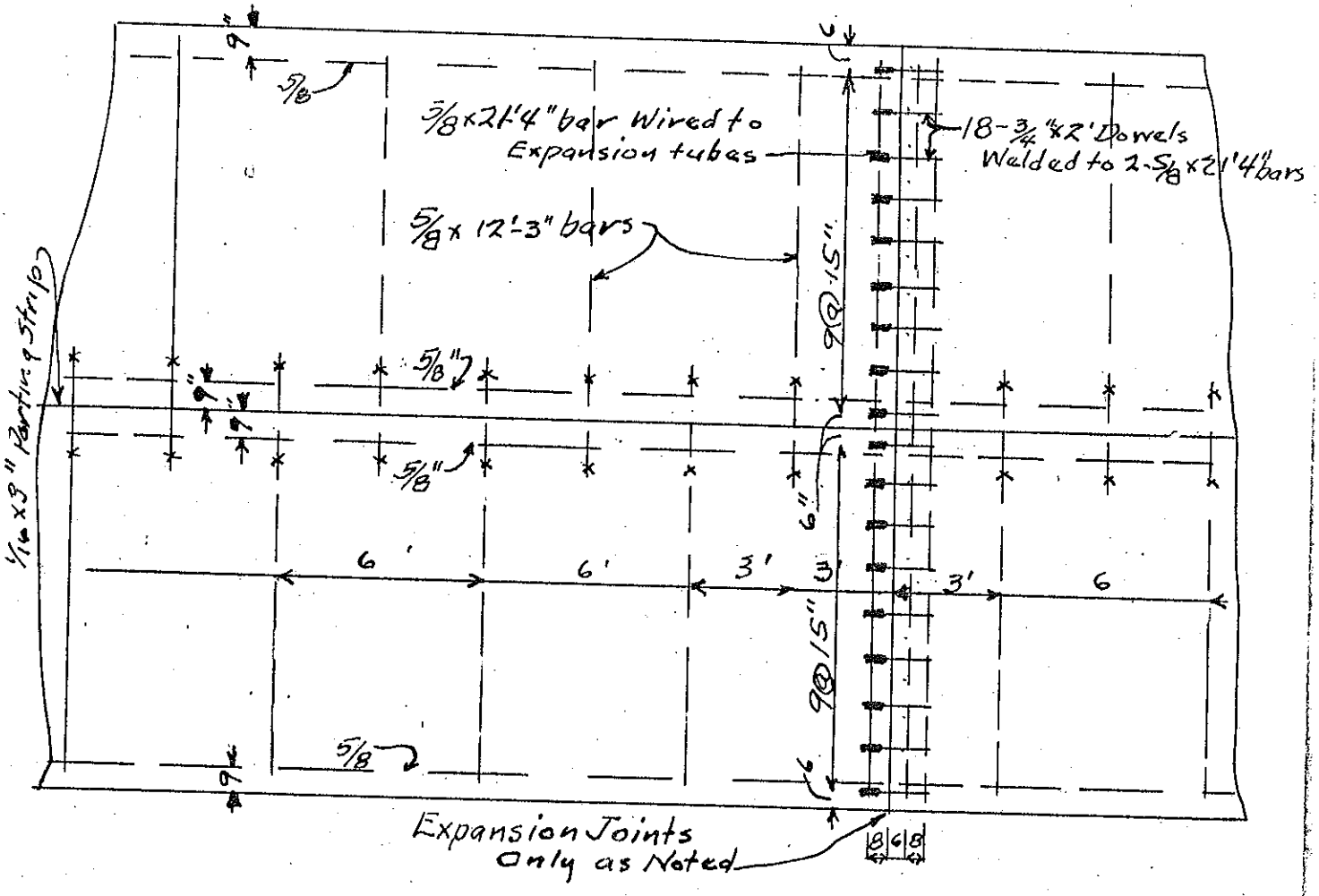

5/8
5/8 x 21'-4" bar Wired to Expansion tubes
18 - 3/4" x 2' Dowels Welded to 2-5/8 x 21'-4" bars
5/8 x 12'-3" bars
9 @ 15"
5/8
5/8
1/16 x 3" Parting Strip
6
6
3'
3'-15"
3'
3'
9 @ 15"
5/8"
Expansion Joints Only as Noted
8
6
8

Design No 65 Width 22 ft 10-8-10

First used in Letting of 1-23-51

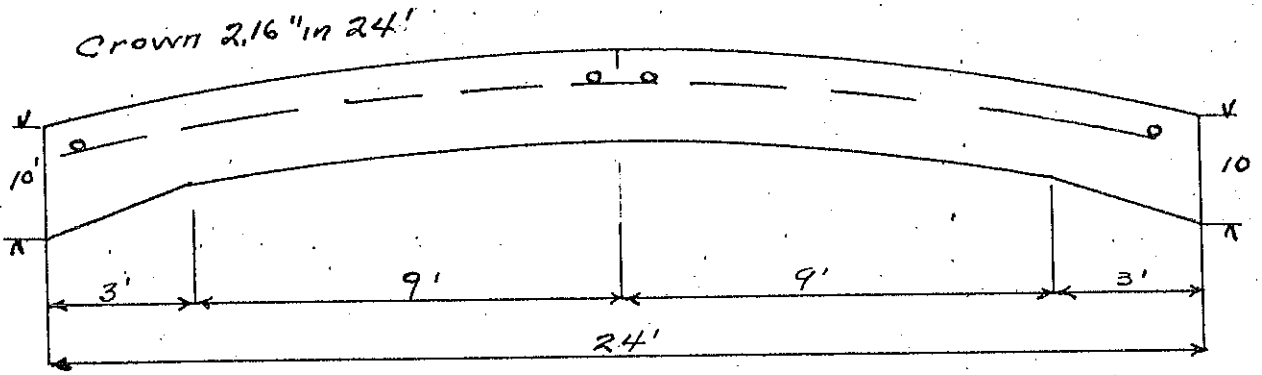
Chickasaw Winneshiek	FN	357(8)	6.546	Miles	1951
Dallas	F	366(6)	6.562	Miles	1951
Carroll	F	99(4)	7.339	Miles	1951

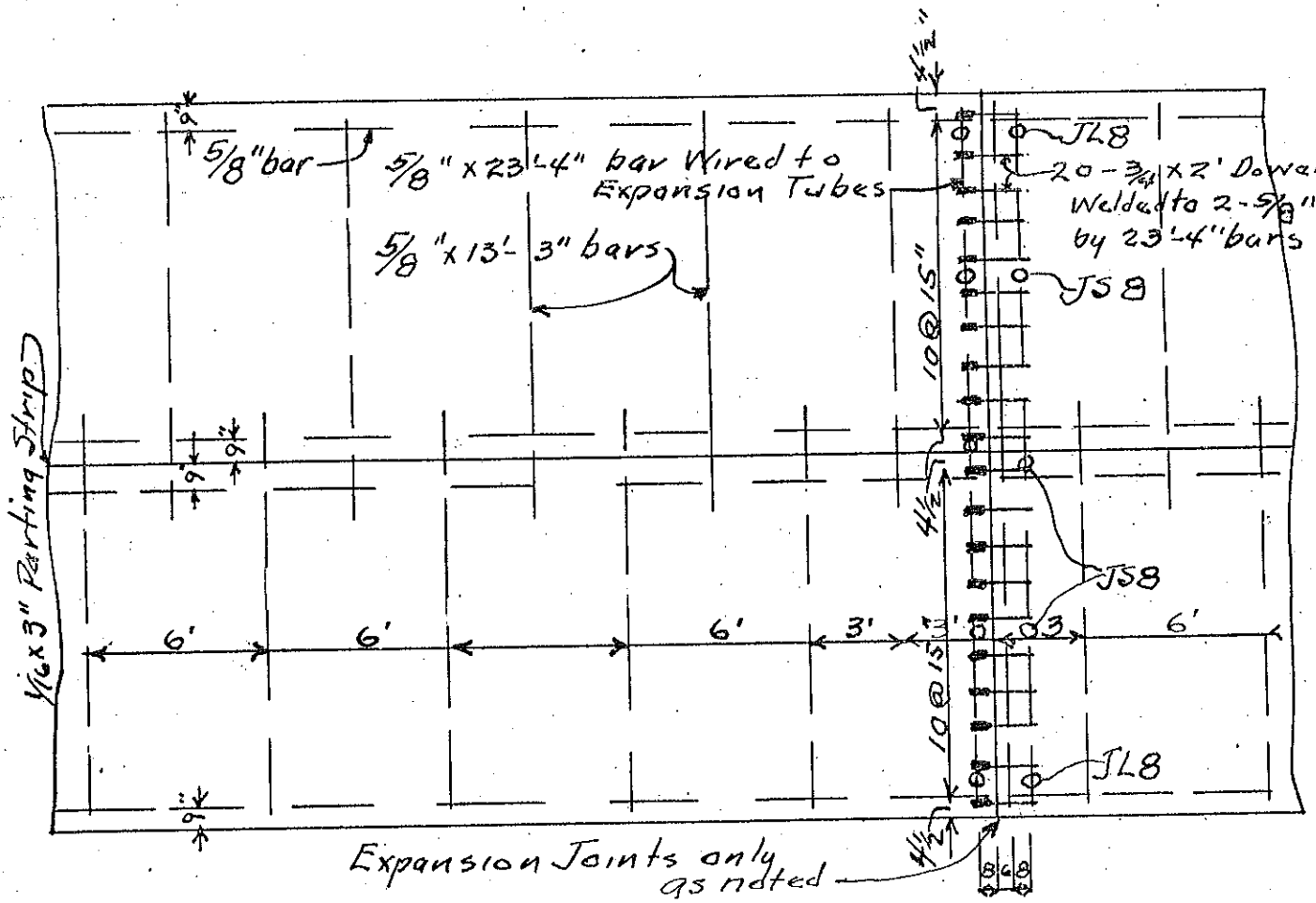

Crown 2" in 22'
8"
8"
10"
3'
8'
8'
3'
22'


9"
5/8
5/8 x 21'4" bar Wired to Expansion tubes
18-3/4" x 2' Dowels Welded to 2-5/8 x 21'4" bars
5/8 x 12'-3" bars
9@15"
5/8"
9"
9"
5/8"
6"
1/16 x 3" Parting Strip
6'
6'
3'
3'
3'
6
9@15"
5/8
9"
6"
Expansion Joints Only as Noted
8 6 8

Design No 66 Width 24 Ft 10-8-10
First used in Letting of 4-17-51

Johnson U I 128(3) 2387 Miles 1951

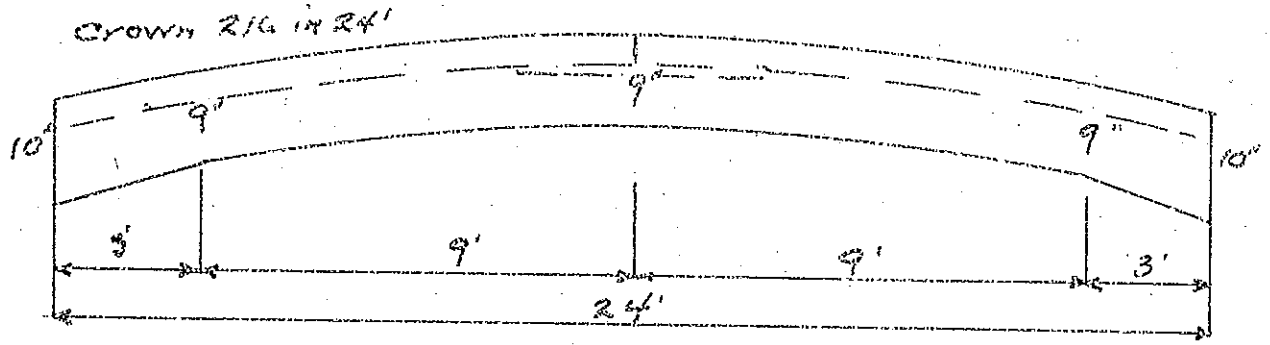

Crown 2.16" in 24'
10'
10
3'
9'
9'
3'
24'

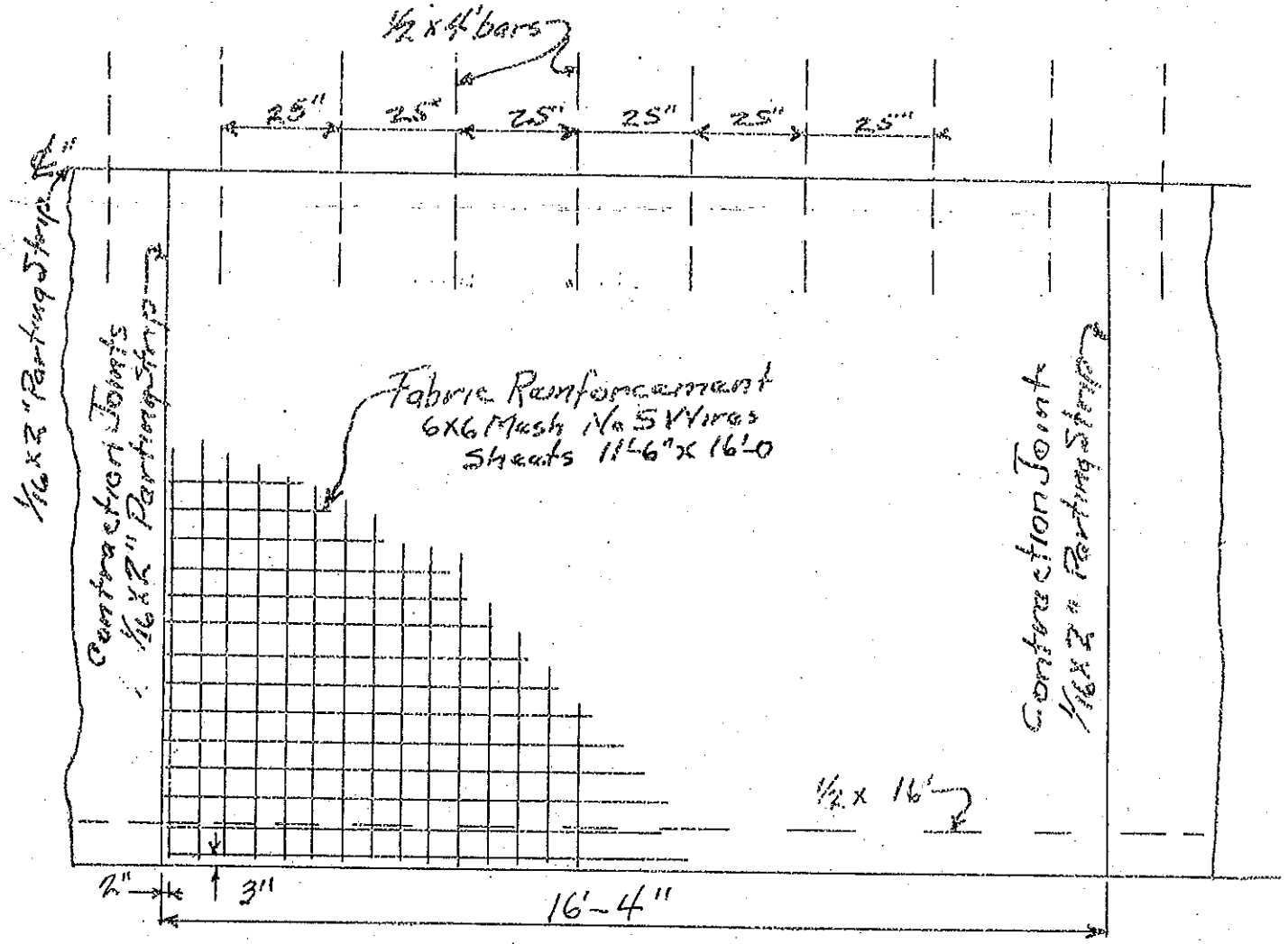

5/8" bar
5/8" x 23'-4" bar Wired to Expansion Tubes
5/8" x 13'-3" bars
JL8
20-3/4" x 2' Dowels Welded to 2-5/8" by 23'-4" bars
JS8
JS8
JL8
10@15"
10@15"
4½"
4½"
4½"
6'
6'
6'
3'
3'
3'
6'
½" x 3" Parting Strip
Expansion Joints only as noted

Design No 67 Width 24 Ft 10-8-10
First used in Letting of 1-23-51

67

Jasper	FN	64	1.310 Miles	1951
Jasper	F	64 (16)	6.396 Miles	1951
Tama	F	276(5)	5.031 Miles	1951
Boone	F	203(6)		1952?


Crown 2½ in 24'
10"
9"
9"
9"
10"
3'
9'
9'
3'
24'


½ x 4' bars
2.5"
2.5"
2.5"
2.5"
2.5"
2.5"
Fabric Reinforcement
6x6 Mesh W5 x W5 Wires
Sheets 11'-6" x 16'-0
Contraction Joint
Contraction Joint
½ x 16'
2"
3"
16'-4"